

The Era of “Big Data” and EU/U.S. Divergence for Refusals to Deal

BY PAUL LUGARD AND LEE ROACH

AS THE FEDERAL TRADE COMMISSION recently observed, “We are in the era of big data.”¹ Thanks to the proliferation of smartphones, computers, and Internet connectivity, “the amount of consumer data flowing throughout the economy continues to increase rapidly.”² What is known as “big data” could be described as “the growing technological ability to capture, aggregate, and process an ever-greater volume, velocity, and variety of data.”³ This data involves “large, diverse, complex, longitudinal, and/or distributed datasets generated from instruments, sensors, Internet transactions, email, video, click streams [and other sources].”⁴

Undoubtedly, big data may have big economic value. “[I]t can guide the development of new products and services, predict the preferences of individuals, help tailor services and opportunities, and guide individualized marketing.”⁵ Not surprisingly, the big data concept as a value-laden commodity has piqued the interest of antitrust authorities in both Europe and the United States. European authorities have publicly contemplated the notion that big data ought to be subject to EU abuse of dominance law. On the other hand, U.S. authorities have resisted the idea of big data as anything like an “essential facility” triggering a “duty to deal” concepts and have instead suggested consideration of big data only as an asset within the existing merger review context. All signs now point in the direction of major cross-Atlantic divergence of thinking on this subject, divergence that should be concerning to affected parties on both continents.

Last September, European Commissioner for Competition Margrethe Vestager strongly implied on several occasions that big data ought to fall within the scope of the EU’s abuse of dominance law. According to Vestager, “If data can help you compete, by improving your services and cutting costs,

then having the right set of data could make it almost impossible for anyone else to keep up.”⁶ For this reason, in her view, the EU “need[s] to be sure that companies which control that sort of data don’t use it to stop others from competing.”⁷

Less than a week after those remarks, Vestager commented on a German investigation into whether Facebook’s terms of service amounted to an abuse of its market power as a social network by forcing customers to agree to unfair conditions on the use of their data.⁸ According to Vestager, this investigation fell into a “gray zone between competition and privacy,” as the social networking site has “a very dominant position.”⁹ She added that “[d]ata as such is . . . the new line of business” because “[b]oth knowledge and data are another kind of currency, another asset than just the [revenues] of the company.”¹⁰

Meanwhile, in spring 2016, French and German antitrust authorities published a joint study on the interaction between competition law and big data. It concluded that big data could qualify as an essential facility and that the failure to share it with a competitor could therefore be an abusive practice.¹¹ This French-German collaboration was preceded by a report of the UK Competition and Market Authority on the commercial use of consumer data, discussing the possibility that firms may leverage their market power into related markets by conditioning the purchase of their datasets on use with their own data analytics services.¹² Finally, this past January, the European Commission’s initiative to establish the European single digital market has led the Commission to propose a FRAND licensing regime to facilitate greater access to the ever-growing volumes of machine-generated data.¹³

Antitrust authorities in the United States have also commented that the emergence of big data has implications for antitrust law. For example, in December 2015, during remarks analyzing the FTC’s merger review process, FTC Commissioner Terrell McSweeney asked rhetorically whether one company “controlling vast amounts of data” might “possess[] a kind of market power that creates a barrier to entry.”¹⁴ According to Commissioner McSweeney, “It may be that an incumbent has significant advantages over new entrants when a firm has a database that would be difficult, costly, or time

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consuming for a new firm to match or replicate.”¹⁵ The Council of Economic Advisers to the President later cited these comments in suggesting that the antitrust agencies may want to consider whether big data “is a critical resource, without which new entrants might have a difficult time marketing to or otherwise attracting customers.”¹⁶

Nevertheless, as indicated above, U.S. antitrust officials have generally limited their thinking about big data to the merger enforcement context.¹⁷ They have not taken the aggressive position that Commissioner Vestager staked out when she implied that big data might constitute an essential facility and businesses that aggregate big data may thereby have an obligation to share it with their competitors. Their silence likely reflects an important difference of opinion on duty to deal claims and the essential facilities doctrine. In short, it portends strikingly different treatment of big data between the two jurisdictions. Given that the largest aggregators of big data carry on business operations on both continents, these differences are important to consider and could have significant ramifications for how such companies interact with both consumers and competitors.

Background on the Essential Facilities Doctrine in the U.S. and EU

In the United States, exclusionary conduct is governed by Section 2 of the Sherman Act. According to the Supreme Court’s longstanding Section 2 case law, companies—even dominant firms—have no general duty to deal with or aid competitors. As the Court wrote in *Colgate* almost a century ago, the Sherman Act “does not restrict the long recognized right of a trader or manufacturer engaged in an entirely private business freely to exercise his own independent discretion as to parties with whom he will deal.”¹⁸

As in the United States, a firm’s refusal to deal with a competitor is not necessarily illegal under the European competition rules. However, when compared to the United States, the EU is far more open to imposing duties to deal with competitors and to the essential facilities doctrine as a basis for liability under European abuse of dominance law. Article 102 of the Treaty on the Functioning of the European Union (TFEU) provides that “any abuse by one or more undertakings of a dominant position within the common market . . . shall be prohibited as incompatible with the common market in so far as it may affect trade between Member States.” Establishing a violation of this prohibition involves three elements: the existence of a dominant position in a properly identified relevant market; the abuse of that position; and the possibility that, through the abusive conduct, trade between EU Member States may be affected.¹⁹

Ultimately, although the American and European competition law regimes share much common ground, they operate from a different set of underlying principles, objectives, and priorities when it comes to taking steps that might require a dominant firm to engage with competitors. Why that is so requires a closer look at case law in the two jurisdictions.

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The Essential Facilities Doctrine in U.S. Antitrust Law

After percolating in lower courts for a long time, the essential facilities doctrine seemed to find some support in the Supreme Court’s 1985 decision in *Aspen Skiing*.²⁰ In that case, the defendant owned three of the four ski resorts in Aspen, Colorado, and had a joint lift-ticket package with its smaller rival, which owned the fourth resort and was the only other competitor in the market. The defendant discontinued the multi-resort package and then refused to sell any lift tickets to its rival, effectively preventing the rival from creating its own bundles. The Supreme Court affirmed a jury verdict for the plaintiff, finding that the defendant lacked any legitimate business reason for its refusal to sell to the rival and had thereby violated Section 2 of the Sherman Act. Writing for the Court, Justice Stevens observed that “[t]he jury may well have concluded that [the defendant] elected to forgo these short-run benefits because it was more interested in reducing competition . . . over the long run by harming its smaller competitor.”²¹

Nevertheless, almost two decades later the Supreme Court in *Trinko* virtually eliminated the essential facilities doctrine as a meaningful basis for liability under American antitrust law.²² There, Verizon, an incumbent local telephone monopolist, faced a private class action brought by a customer alleging that the company had violated Section 2 of the Sherman Act by discriminating against a competing local exchange carrier. According to the plaintiff, Verizon failed to provide its competitor with adequate access to its facilities, resulting in poor quality and overpriced telephone service for the plaintiff. The plaintiff sought to ground this Sherman Act claim in provisions within the 1996 Telecom Act that required incumbent local carriers like Verizon to share certain portions of their networks with competitors. The plaintiff argued that these access provisions implied a cause of action under the Sherman Act.

Writing for the Court, Justice Scalia distinguished *Aspen Skiing* as limited to its facts and cautioned that it represented only a “limited exception” to the general rule against duty to deal claims.²³ The defendant in *Aspen Skiing* decided to cease participating in a profitable venture, suggesting “a will-

ingness to forsake short-term profits to achieve an anticompetitive end.”²⁴ Thus, *Aspen Skiing* exists “at or near the outer boundary of § 2 liability.”²⁵ The Court had “never recognized” the essential facilities doctrine, but likewise found “no need either to recognize it or to repudiate it” in *Trinko*.²⁶

Still, Justice Scalia identified three critical harms that the essential facilities doctrine could create. First, compelling parties with a competitive advantage to share resources undermines the purpose of antitrust law by reducing incentives to invest in those resources. Indeed, the Court’s opinion in *Trinko* explicitly described the Sherman Act as “the Magna Carta of free enterprise.”²⁷ Second, compelled sharing would require federal courts to act as central economic planners, a role they are ill-equipped to play.²⁸ Third, compelled sharing might actually create opportunities for collusion, which the Court characterized as the “supreme evil of antitrust.”²⁹

Subsequent court decisions appear to confirm that *Trinko* amounted to something of a death knell for the essential facilities doctrine in the United States. In *Pacific Bell*, for example, the Supreme Court addressed a claim from Linkline Communications, an independent retail DSL Internet service provider, alleging that Pacific Bell had unlawfully monopolized the market for DSL services by imposing a “price squeeze.”³⁰ Much like in *Trinko*, Pacific Bell faced substantive obligations under telecom law and regulations to provide wholesale access to its network to competitors like Linkline that also sold DSL services to retail customers. Linkline essentially claimed that Pacific Bell had raised the wholesale prices by which Linkline gained access to the network but then cut retail DSL prices, such that Linkline could not simultaneously market to retail customers without losing money. The Court held that this price-squeeze claim had no basis because Pacific Bell had no antitrust obligation to sell its inputs to Linkline in the first place. The Court reasoned that “*Trinko* . . . makes clear that if a firm has no antitrust duty to deal with its competitors at wholesale, it certainly has no duty to deal under terms and conditions that the rivals find commercially advantageous.”³¹

While the Supreme Court has “never recognized” the essential facilities doctrine,³² some lower courts do. The Ninth Circuit’s recent decision in *Honeywell*, however, indicates that as a practical matter the circumstances under which such a claim may be found are exceedingly rare.³³ In that case, Aerotec International, which services Auxiliary Power Units (APU) used in commercial aircraft, sued Honeywell, an APU manufacturer that also sells APU parts and service. Aerotec sought to halt some of Honeywell’s policies, including its policy to afford best pricing for parts only to “affiliates” and thus to charge higher rates to independent servicers like Aerotec. Among its claims, Aerotec alleged that Honeywell’s proprietary APU parts were essential facilities, and that Honeywell’s pricing policies amounted to a refusal to deal that violated the essential facilities doctrine.

The Ninth Circuit rejected that claim. It observed that the Sherman Act does not restrict the right of a business to freely

determine with whom it will deal, quoted *Trinko*, and reiterated the harms that can flow from imposing a duty to deal. It then stated that *Aspen Skiing* offered “no relief” to Aerotec because that case did not even recognize a duty to deal, but only a duty to refrain from practices the purpose of which are “to sacrifice short-term benefits in order to obtain higher profits in the long run from the exclusion of competition.”³⁴ The court went on to hold that, even under Ninth Circuit precedent that recognized the essential facilities doctrine, “a facility is only essential where it is otherwise unavailable.”³⁵

The Essential Facilities Doctrine Under Abuse of Dominance Law in the European Union

In the EU, a unilateral refusal to grant access to an essential facility is just one example of a potentially unlawful refusal to deal. The essential facilities doctrine has been applied for over 40 years by the European Commission, the General Court, the Court of Justice, and increasingly competition agencies and courts of the 27 Member States.

Something resembling the essential facilities doctrine first provided a basis for EU abuse of dominance liability in *Commercial Solvents v. Commission*.³⁶ There the European Court of Justice determined that a dominant supplier abused its position when it declined to supply a customer who was simultaneously a competitor in a downstream market for a derivative product. Perhaps not surprising in light of the fact that in Europe many essential infrastructures are the legacy of past state ownership and exclusive privileges granted by the Member States, the European Commission subsequently applied the doctrine to a number of situations where owners of ports, harbors, tunnels, and related facilities prevented access to their infrastructure to block the emergence of downstream competition.³⁷

Later, in *Oscar Bronner*, the European Court of Justice set forth more clearly the necessary elements for successfully advancing such a claim, including indispensability, i.e., the “essential” character of the product or facility that a dominant firm refuses to share.³⁸ The case involved a regional newspaper demanding access to a national newspaper’s distribution network. According to the Court, such a claim required showing that (1) the refusal to deal was likely to eliminate all competition in the downstream market; (2) the refusal was not capable of being justified; and (3) access to the facility was indispensable to the competitor’s business, there being no actual or potential substitutes.³⁹ The Court established in this respect that the indispensability test has an objective character; the fact that it may not be economically viable for the firm requesting access to replicate the facility because of its smaller size is not enough to support the conclusion that the refusal to give access is illegal under Article 102 TFEU.

Subsequent cases have applied a “duty to deal” to intellectual property.⁴⁰ For an American audience, the *Microsoft* case is perhaps the most well-known European decision to apply a duty to deal or essential facilities basis for liability in a case

involving intellectual property as the facility at issue. There, the Commission determined that Microsoft had abused its dominant position in the market for computer operating systems by refusing to share information necessary for competitors in the server operating system market to interoperate with its Windows operating system. The Commission determined that this information was essential for other firms to compete with Microsoft. The Commission expanded on prior rulings in other cases, imposed unbundling obligations and established monitoring requirements on Microsoft. The EU Community Courts upheld the Commission's decision.⁴¹

The Commission's 2008 Guidance on its enforcement priorities in applying Article 102 TFEU to dominant firms' abusive conduct makes clear that the concept of anticompetitive refusal to deal is broad.⁴² It covers a variety of practices, including the refusal to supply products to existing or new customers, refusal to license intellectual property rights, and refusal to grant access to an essential facility or a network. For an anticompetitive refusal to deal to exist, the Commission does not regard it as necessary for the refused product to have been already traded—it is sufficient that there is demand from potential purchasers and that a potential market for the input at stake can be identified. Likewise, it is not necessary for there to be actual refusal on the part of a dominant undertaking—"constructive" refusal is sufficient. In its Guidance Paper the Commission identifies three criteria to be considered: (1) the refusal relates to a product or service that is objectively necessary to be able to compete effectively on a downstream market; (2) the refusal is likely to lead to the elimination of effective competition on the downstream market; and (3) the refusal is likely to lead to consumer harm.

Why More Divergence?

As identified above, there is substantial existing divergence between U.S. and EU law on the extent to which each imposes antitrust obligations to deal with competitors. There are at least three reasons why this divergence is unlikely to narrow and is more likely to grow in the years ahead. The first reason relates to the strength of existing U.S. precedent on this doctrine. The case law leaves little room to accommodate forced sharing by competitors.

The second reason concerns the EU's increased use of the commitment procedure in Article 9 of Regulation 1/2003. The Article 9 procedure provides the European Commission with a powerful enforcement tool by enabling it to accept commitments by the parties involved in a possible violation of the European competition rules in exchange for termination of the investigation. As has been observed elsewhere, the Article 9 procedure provided the Commission with more discretion to tailor the remedies offered to the perceived competitive problem than it enjoys under the conventional procedure governing prohibition decisions, while the intensity and scope of judicial review is minimal.⁴³ As a result, the Commission's leverage to structure (or "engineer") and impose tailor-made remedies is significant.

A review of Article 9 commitment decisions confirms the Commission's willingness to accept commitments involving inputs important for downstream competitors and, more importantly, whether intentionally or unintentionally, tends to extend the scope of a duty to deal under the European competition rules. For instance, in 2009 the Commission adopted a commitment decision involving ENI to open up access to Italy's natural gas market.⁴⁴ The Commission found that ENI did not invest in additional capacity because third-party access to increased capacity would have boosted competition on the downstream gas supply market to the detriment of ENI's own downstream business. This decision may be seen as an attempt to extend the indispensability requirement of *Bronner* to "potential" inputs that would be profitable to develop if the market power rents of the downstream division of the dominant firm are not considered.

Another more recent illustration is the Commission's 2016 commitment decision involving credit default swaps (CDS).⁴⁵ While mainly based on the presumed existence of an anticompetitive agreement within the meaning of Article 101 TFEU (not on an Article 102 TFEU anticompetitive refusal to deal theory), it raised important issues regarding access to data necessary to offer credit default trading services. In an attempt to facilitate the transition from over-the-counter trading of CDS to exchange trading platforms, the Commission held that investment banks breached EU rules by, inter alia, refusing to license "Final Price" information and various indices necessary for exchange trading. To alleviate these concerns, the parties offered—and the Commission accepted—access to the data by licensing the rights on FRAND terms. Again, the decision may be seen as broadening refusal to deal/essential facilities obligations of dominant companies and illustrating that mandating access may in some cases also be based on Article 101 TFEU.

The third reason for greater divergence within this area of competition law relates to actions by individual countries within the EU. Individual countries are not bound by case law under Article 102 TFEU and are thus entitled to impose stricter rules on abusive conduct by dominant companies. Individual countries have, in fact, required or sought to require dominant firms to share customer data with their competitors. In September 2014, France's antitrust authority, *Autorité de la Concurrence*, ordered the former incumbent French energy utility monopolist, GDF Suez, to provide competitors access to parts of its customer database and asserted that GDF Suez might have violated abuse of dominance laws.⁴⁶ A rival energy company, *Direct Energie*, complained in April 2014 that GDF Suez was offering its regulated gas customers both gas and electricity at market prices, which allowed it to leverage its dominant position in gas to win new customers in the electricity market. Another example is the AC's challenge in 2014 of *Cegedim*, a French company, for refusing to sell information from a medical database over which it had exclusive control to any customers that use software from one of its main competitors.⁴⁷

Will Big Data Become Subject to an Antitrust Duty to Deal with Competitors?

The emergence of big data is likely to bring to a head the divergent treatment of essential facilities in the United States and EU. This is due to big data's inherent characteristics—i.e., that it arises precisely at the confluence of various business-to-business and business-to-consumer relationships and that it can rapidly establish and reinforce mutually dependent relationships, often through direct or indirect network effects.

As antitrust enforcement agencies race to understand big data and try to develop tools and a coherent analytical framework to identify and balance its benefits and costs, there is a growing focus on whether and how it may present legitimate antitrust concerns. But this journey is not without obstacles. To start, one problem is that the whole notion of big data “seems to mean different things to different people.”⁴⁸ Second, and as suggested above, big data displays a number of unique features—volume, variety, velocity, and value—the importance of which must be clearly identified and then must inform the antitrust analysis in each case at hand. Yet volume, variety, and velocity would be of little consequence without the ability to extract information and thereby derive value from it. Thus, a critical component of big data is the use of sophisticated analytics (including deep learning) to extract information “by revealing the context in which the data is embedded and its organisation and structure,” separating the “signal from the noise,” and identifying “hidden relations (patterns), e.g., correlations among facts, interactions among entities, [and] relations among concepts.”⁴⁹

It is clear that in some exceptional cases big data and, more precisely, the knowledge extracted from it may constitute a source of significant competitive advantage.⁵⁰ But this observation in and of itself does not warrant a broad application of the essential facilities doctrine. In fact, the application of the doctrine in this context has received strong opposition from incumbents⁵¹ but also from antitrust practitioners⁵² and academics.⁵³ Those espousing this view typically argue that data is not a crucial input for the success of any company, as innovative entrants have been able to establish themselves without it. Facebook, Snapchat, and Tinder are just a few examples where a simple insight into customer needs enabled entry and rapid success, disrupting established network effects and related advantages held by incumbents.⁵⁴

Critics of the application of the essential facilities doctrine to big data argue that data is cheap, ubiquitous, and easy to obtain, with near-zero marginal costs of production and distribution.⁵⁵ The cost of collecting, storing, and analyzing big data is low and declining.⁵⁶ Users are constantly leaving digital footprints, while companies generate massive quantities of “exhaust” as a byproduct of customer interactions.⁵⁷ Data can be readily purchased from a range of third parties, including large data brokers, and firms can access a variety of off-the-shelf software tools for analytics.⁵⁸ In addition, data is non-rivalrous in that the collection of user data by one firm

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does not occur at the expense of other firms and their access to the same or similar data.⁵⁹ The non-rivalrous quality of data is reinforced by the common practice of “multi-homing,” in which consumers use (and share data with) multiple different providers for the same service.⁶⁰ Finally, they argue that the value of data is ephemeral,⁶¹ such that any competitive advantage gained through its acquisition is fleeting.

The harms from forced sharing outlined in *Trinko* provide a helpful framework for evaluating whether or when big data ought to be deemed an essential facility that a dominant firm must share with competitors. The requirement may discourage the sort of innovation that is the hallmark of developing technologies. This could in turn lead to firms devoting fewer resources to developing ways of acquiring and using big data.

The comparison between *Trinko* and *GDF Suez* may illustrate this point. Both cases involved dominant incumbent public utilities. In both instances, procompetitive reforms had pulled these former monopolists into the era of open competition. These companies then faced criticism for not sufficiently cooperating with their new competitors in further hastening competition.

The precise legal ground for requiring these two incumbents to share assets with competitors is quite telling. In *Trinko*, the obligation to share assets arose as a requirement under the 1996 Telecom Act. It did not, in other words, arise as an obligation under the Sherman Act—it was not an *anti-trust* violation for Verizon to refuse competitors access to its facilities. In contrast, in *GDF Suez*, abuse of dominance law was the precise vehicle for requiring a former incumbent monopolist to provide competitors access to its facilities. To the degree that big data implicates data privacy issues, for example, it is more appropriate to develop regulatory tools geared towards those concerns within the context of consumer protection laws, and not in the context of competition law.

Requiring companies to share big data also places courts in the position of determining whether and to what extent

rivals should share complicated sets of data with one another, and at what price and other terms. This implicates not only difficult economic questions but also fundamentally vexing technological problems.

The third possible harm identified in *Trinko* is probably the most cogent: the forced sharing of big data could create opportunities for collusion. The role of big data in online shopping presents a common-sense example. An individual who uses Google to search for items to purchase online equips Google—knowingly or unknowingly—to collect, aggregate, analyze, and use data associated with that search. This can lead to further services that the consumer may then find appealing, or annoying, such as targeted online advertising. But that data also plays an increasingly critical role in price setting. In short, whether a consumer is willing to pay an advertised price for an item for which she is actively searching is a relatively rich source of information about how that same good ought to be priced going forward. Forced sharing of such data or analytics raises the possibility of price collusion.⁶² It establishes direct communication among rivals regarding price-setting processes and the research that informs how prices are set. Such communications are rife with incentives to collude on prices themselves by enabling competitors to know whether their customers are price sensitive.

Conclusion

The risks identified in *Trinko* warrant thoughtful study. Application of the essential facilities doctrine or abuse of dominance standards to an asset like big data—one which appears to be driving significant activity in various fields—could have far-reaching consequences, not all of which are now fully understood or realized. In the meantime, companies will continue amassing such data and, along with it, some of them will amass a significant amount of leverage over consumers and their rivals. So competition law will continue to grapple with big data both in the United States and in the EU. Consistency would benefit both consumers and businesses in both jurisdictions. As we discuss above, however, there is greater likelihood of increasing divergence on this issue. The complexity of these issues calls for competition authorities in both jurisdictions to collaborate in a search for modes of analysis that make forced sharing of big data assets a rare occurrence. ■

NSF 12-499 (2012), <https://www.nsf.gov/pubs/2012/nsf12499/nsf12499.htm>.

- ⁵ FTC BIG DATA REPORT, *supra* note 1.
- ⁶ Margrethe Vestager, Making Data Work for Us—Data Ethics Event on Data as Power (Sept. 9, 2016), https://ec.europa.eu/commission/2014-2019/vestager/announcements/making-data-work-us_en.
- ⁷ *Id.*
- ⁸ Aoife White & Francine Lacqua, *Facebook Probe Is in Antitrust, Privacy Gray Zone, EU Says*, BLOOMBERG TECH. (Sept. 14, 2016), <https://www.bloomberg.com/news/articles/2016-09-14/facebook-probe-in-antitrust-and-privacy-gray-zone-vestager-says>.
- ⁹ *Id.*
- ¹⁰ *Id.*
- ¹¹ AUTORITÉ DE LA CONCURRENCE AND BUNDESKARTELLAMT, BIG DATA: FRENCH AND GERMAN AUTHORITIES EXPLORE ANTITRUST ISSUES (2016) [hereinafter FRENCH AND GERMAN BIG DATA REPORT], http://www.bundeskartellamt.de/SharedDocs/Publikation/DE/Berichte/Big%20Data%20Papier.pdf;jsessionid=0D702D369EA11A51984A7B91489F2CA9.1_cid387?__blob=publicationFile&v=2.
- ¹² DotEcon with Analysys Mason, The Commercial Use of Consumer Data, Research Report for the Competition Markets Authorities (June 2015), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/435777/The_Commercial_Use_of_Consumer_Data_-_DotEcon_and_Analysys_Mason.pdf.
- ¹³ See <https://ec.europa.eu/digital-single-market/en/news/communication-building-european-data-economy>.
- ¹⁴ Terrell McSweeney, Comm'r, Fed. Trade Comm'n, Panel Discussion: Why Regulate Online Platforms: Transparency, Fairness, Competition, or Innovation—Opening Remarks at CRA Conference (Dec. 9, 2015), https://www.ftc.gov/system/files/documents/public_statements/903953/mcsweeney_-_cra_conference_remarks_9-12-15.pdf.
- ¹⁵ *Id.*
- ¹⁶ U.S. WHITE HOUSE COUNCIL OF ECONOMIC ADVISERS, ISSUE BRIEF: BENEFITS OF COMPETITION AND INDICATORS OF MARKET POWER 13 (Apr. 2016), https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160414_cea_competition_issue_brief.pdf.
- ¹⁷ Indeed, AT&T's proposed \$85.4 billion takeover of Time Warner will present U.S. antitrust regulators with an opportunity to clarify what role big data ought to play in merger enforcement review. See, e.g., Eric Kroh, *AT&T-Time Warner Deal to Test Big Data Antitrust Theories*, LAW360 (Oct. 28, 2016).
- ¹⁸ *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919).
- ¹⁹ See, e.g., RENE BARENTS, DIRECTORY OF EC CASE LAW ON COMPETITION, ch. 23 at 309 (2007).
- ²⁰ *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985).
- ²¹ *Id.* at 680.
- ²² *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004).
- ²³ *Id.* at 409.
- ²⁴ *Id.*
- ²⁵ *Id.*
- ²⁶ *Id.* at 410.
- ²⁷ *Id.* at 415.
- ²⁸ *Id.*
- ²⁹ *Id.*
- ³⁰ *Pac. Bell Tel. v. Linkline Commc'ns*, 555 U.S. 438 (2009).
- ³¹ *Id.* at 150.
- ³² *Trinko*, 540 U.S. at 410.
- ³³ *Aerotec Int'l, Inc. v. Honeywell Int'l, Inc.*, 836 F.3d 1171 (9th Cir. 2016).
- ³⁴ *Id.* at 1184 (internal quotes omitted).
- ³⁵ *Id.* at 1185.
- ³⁶ *Joined Cases 6 & 7/73, Istituto Chemioterapico Italiano S.p.A & Commercial Solvents v. Comm'n*, 1974 E.C.R. 223.

¹ U.S. FEDERAL TRADE COMMISSION REPORT, BIG DATA: A TOOL FOR INCLUSION OR EXCLUSION? at i (2016) [hereinafter FTC BIG DATA REPORT], <https://www.ftc.gov/system/files/documents/reports/big-data-tool-inclusion-or-exclusion-understanding-issues/160106big-data-rpt.pdf>.

² *Id.*

³ U.S. EXEC. OFFICE OF THE PRESIDENT, BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES 2 (2014) [hereinafter WHITE HOUSE MAY 2014 REPORT], https://obamawhitehouse.archives.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf.

⁴ Core Techniques and Technologies for Advancing Big Data Science & Engineering (BIGDATA), National Science Foundation, Program Solicitation

- ³⁷ Case COMP/IV/34.174—Sealink/B&I—Holyhead: Interim measures, Comm’n Decision (June 11, 1992), http://ec.europa.eu/competition/antitrust/cases/dec_docs/34174/34174_2_2.pdf; Case COMP/IV/34.689—Sea Containers v. Stena Sealink—Interim measures, Comm’n Decision, 1993 O.J. (L 15) 9; Case COMP/IV/32.490—Eurotunnel, Comm’n Decision, 1994 O.J. (L 354) 66.
- ³⁸ Case C-7/97, Oscar Bronner GmbH v. Media Print Zesting’s und Zeitschriftverlag GmbH, 1998 E.C.R. I-7791.
- ³⁹ Oscar Bronner ¶¶ 41–46. See also Erika Szyszczak, *Controlling Dominance in European Markets*, 33 FORDHAM INT’L L.J. 1738 (2010).
- ⁴⁰ See, e.g., Joined Cases C-241 & 242/91P Radio Telefis Eireann (RTE) & Indep. Television Pubs. Ltd (ITP) v. Comm’n (*Magill*), 1995 E.C.R. I-743, ¶¶ 10–11, 49–57; Case C-418/01, IMS Health GmbH & Co. OHG v. NDC Health GmbH & Co. KG, 2004 E.C.R. I-5039, ¶¶ 31–52; Case T-201/04, Microsoft v. Comm’n, 2007 E.C.R. II-3601, ¶¶ 284–288, ¶¶ 1329–1330; Szyszczak, *supra* note 39, at 1762.
- ⁴¹ Case T-201/04, Microsoft v. Comm’n, 2007 E.C.R. II-3601.
- ⁴² Eur. Comm’n, Guidance on the Commission’s Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, 2009 O.J. (C 45) 7–20.
- ⁴³ Paul Lugard & Martin Mollman, *A Commitment a Day Keeps the Court Away*, CPI ANTITRUST CHRON. (Mar. 2013).
- ⁴⁴ Case COMP/39.315—ENI, Comm’n Decision (Sept. 29, 2009), http://ec.europa.eu/competition/antitrust/cases/dec_docs/39315/39315_3019_9.pdf.
- ⁴⁵ Case COMP/39745—CDS Information Market, Comm’n Decision (July 7, 2016), http://ec.europa.eu/competition/antitrust/cases/dec_docs/39745/39745_14238_7.pdf and http://ec.europa.eu/competition/antitrust/cases/dec_docs/39745/39745_14237_7.pdf.
- ⁴⁶ Geert De Clercq & Benjamin Mallet, *French Competition Watchdog to Investigate GDF Suez*, DAILY MAIL, Sept. 9, 2014, <http://www.dailymail.co.uk/wires/reuters/article-2749349/French-competition-watchdog-investigate-GDF-Suez.html>.
- ⁴⁷ See Press Release, Autorité de la Concurrence (July 8, 2014), http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=592&id_article=2403.
- ⁴⁸ Robert Mahnke, *Big Data as a Barrier to Entry*, CPI ANTITRUST CHRON. (May 2015).
- ⁴⁹ OECD, Hearing on Big Data—Note By BIAC, DAF/COMP/WD(2016)77, ¶ 7 (Nov. 17, 2016) [hereinafter OECD HEARING ON BIG DATA], [https://one.oecd.org/document/DAF/COMP/WD\(2016\)77/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2016)77/en/pdf).
- ⁵⁰ Mahnke, *supra* note 48.
- ⁵¹ Andres V. Lerner, The Role of “Big Data” in Online Platform Competition (2014), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2482780.
- ⁵² David A. Balto & Matthew C. Lane, Monopolizing Water in a Tsunami: Finding Sensible Antitrust Rules for Big Data (Mar. 22, 2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2753249.
- ⁵³ D. Daniel Sokol & Roisin E. Comerford, *Antitrust and Regulating Big Data*, 23 GEO. MASON L. REV. 1129 (2016).
- ⁵⁴ OECD Hearing on Big Data, *supra* note 49, ¶ 15.
- ⁵⁵ See Sokol & Comerford, *supra* note 53, at 1137 (citing CARL SHAPIRO & HAL R. VARIAN, *INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY* 24 (1999)).
- ⁵⁶ WHITE HOUSE REPORT, *supra* note 3, at 1 (noting that the growth of big data is fueled by “the cratering costs of computation and storage”); Edith Ramirez, Chairwoman, Fed. Trade Comm’n, The Privacy Challenges of Big Data: A View from the Lifeguard’s Chair, Remarks Before the Technology Policy Institute Aspen Forum 3 (Aug. 19, 2013), www.ftc.gov/sites/default/files/documents/public_statements/privacy-challenges-big-data-view-lifeguard%E2%80%99s-chair/130819bigdataaspen.pdf ([T]he “phenomenal growth in storage and analytic power” has been accompanied by a decline in cost.); McKinsey Global Institute, *Big Data: The Next Frontier for Innovation, Competition, and Productivity* 2 (2011 file:///C:/Users/rtonneli/Downloads/MGI_big_data_full_report%20(1).pdf (“The ability to store, aggregate, and combine data and then use the results to perform deep analyses has become ever more accessible as trends such as Moore’s Law in computing, its equivalent in digital storage, and cloud computing continue to lower costs and other technology barriers.”).
- ⁵⁷ Darren S. Tucker & Hill B. Wellford, *Big Mistakes Regarding Big Data* 3, ANTITRUST SOURCE (Dec. 2014), http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/dec14_full_source.authcheckdam.pdf.
- ⁵⁸ *Id.*
- ⁵⁹ *Id.*; see also Sokol & Comerford, *supra* note 53, at 1137.
- ⁶⁰ Tucker & Wellford, *supra* note 57, at 3.
- ⁶¹ Sokol & Comerford, *supra* note 53, at 1138; see also Tucker & Wellford, *supra* note 57, at 4 (“90% of the data in the world today has been created in the last two years 70% of unstructured data is stale after only 90 days.”).
- ⁶² At the same time, the risk of collusion may cut the other way. The French and German study published in 2016 identified ways in which the *failure* to require sharing could also lead to collusion because it could lead to market transparency. That transparency could then result in tacit or explicit collusion. The study also explored the possibility that the use of algorithms in analyzing big data could also facilitate collusion by reducing market uncertainty. See, e.g., FRENCH AND GERMAN BIG DATA REPORT, *supra* note 11.