
competition law as a vehicle to address emerging issues related to privacy and data security. Either approach would create new rules of the road for competition law.

I believe there is relatively broad international consensus, however, that antitrust enforcers can and should play a vital role in protecting competition (but not competitors) in the high-tech, digital economy by preserving the process of innovation and keeping markets open for innovators. This is particularly true in the digital economy where innovation is often disruptive of (or even destroying) existing markets. For example, disruptive innovators can create new markets, displace established incumbents (smartphones rapidly replaced other mobile handsets) or change markets by providing services in a new way (such as ride sharing).

It is true that our ever expanding connectivity is enabling disruption and expansion at extraordinary speed. But competition enforcers should not turn a blind eye toward anticompetitive behavior in high-tech markets simply because we cannot predict the future with certainty or because these markets are fast-moving and dynamic. Doing so could not only result in harms to consumers and competition going unchecked – it could also harm innovation.

What is the relationship between antitrust enforcement and innovation? Frequently, these concepts are thought of as somehow in tension or opposition to one another. That is perhaps true if we focus just on the targets of antitrust investigation. A firm with a strong market presence in a digital market may indeed feel constrained in some respects by potential antitrust exposure.

But we must also consider the effect of antitrust enforcement – or of antitrust under enforcement – on potential entrants and new competitors. This is particularly true in the digital economy where disruptive innovations often take place outside established firms and wary incumbents may have incentives to slow or even prevent new entrants. If we wish to maximize innovation in digital markets, we must ensure that new entrants have the opportunity to test their ideas in the marketplace.

That doesn't mean that most new entrants will succeed – the data suggest that most will not. But a potential entrant must be confident that competition enforcers will respond to anticompetitive exclusionary vertical conduct or other monopolistic behavior by a dominant incumbent. If we stand idly by for fear of disturbing the innovation incentives of current market participants, we diminish the incentives for disruptive innovation and new entry.

Gotts, Scott Sher & Michelle Lee, *Antitrust Merger Analysis in High-Technology Markets*, 4 Eur. Competition J. 463, 464-5 (2008), <https://www.wsgl.com/PDFSearch/sher1208.pdf>.

operates as a barrier to entry on the one hand, or by categorically exempting it from antitrust scrutiny on the other.

In the big data world, there's a lot of data that anyone can obtain for a fairly nominal cost. But there is also a lot of valuable data that is proprietary and could operate as a barrier to entry. An incumbent may have a significant advantage over new entrants if it possesses a valuable database that would be difficult, costly, or time consuming for a new firm to match or replicate. In those situations, competition enforcers can and should assess the competitive implications of data. The FTC has treated data as a relevant market in one recent case and found it to be a barrier to entry in others based on the specific facts and circumstances of those cases.¹² But a one-size-fits-all view of data holdings is not the right approach in a world where so much data is available and so easily gathered.¹³

Another important topic when it comes to big data is the relationship between antitrust law and privacy and data protection concerns. Some have suggested that competition law should focus more on privacy and data protection issues in analyzing platforms and other high-tech industries. Others have suggested that competition law should be used as a tool to improve privacy and data protections for consumers.

In general, I see antitrust enforcement and the broader policy concerns regarding privacy and data protections as two separate, but important areas of consumer protection. Privacy is a

¹² In *Dun & Bradstreet-Quality Education Data* (2010), the FTC determined that data, itself, was the relevant product. The FTC found that the parties “were the only significant U.S. suppliers of [K-12] educational marketing data.” Analysis of Agreement Containing Consent Order to Aid Public Comment, In the Matter of The Dun & Bradstreet Corporation, Dkt. No. 9342, at 1 (Sept. 10, 2010), <https://www.ftc.gov/sites/default/files/documents/cases/2010/09/100910dunbradstreetanal.pdf>.

In *Nielsen-Arbitron* (2013), the FTC determined that the proprietary data of Nielsen and Arbitron was a key input to offering downstream cross-platform audience measurement services. The FTC found access to television audience data with individual-level demographic information to be a significant barrier to entry in that matter. Analysis of Agreement Containing Consent Order to Aid Public Comment, In the Matter of Nielsen Holdings N.V. and Arbitron Inc., File No. 131-0058 (Sept. 20, 2013) at 3, <https://www.ftc.gov/sites/default/files/documents/cases/2013/09/130920nielsenarbitronanalysis.pdf>.

And in *Reed Elsevier-ChoicePoint* (2008), the FTC treated data as an input in the market for electronic public records services for law enforcement customers. Reed Elsevier's Lexis-Nexis and ChoicePoint were the largest suppliers of public records services, with a combined 80% market share. The FTC found that the parties' combination of data and analytics were unique among electronic public records services and that other firms lacked the data and analytics to compete effectively for law enforcement customers. Analysis of Agreement Containing Consent Order to Aid Public Comment, In the Matter of Reed Elsevier and ChoicePoint, File No. 081-0133 (Sept. 16, 2008) at 2, <https://www.ftc.gov/sites/default/files/documents/cases/2008/09/080916reedelseviercpanal.pdf>.

¹³ For example, the FTC decided to close its *Google-DoubleClick* investigation in 2007. Staff examined whether the combination would enhance Google's power in the ad intermediation market and concluded that it would not. The FTC found that “neither the data available to Google, nor the data available to DoubleClick, constitutes an essential input to a successful online advertising product.” Statement of the Fed. Trade Comm'n Concerning Google/DoubleClick (Dec. 20, 2007), File No. 071-0170 at 12, <https://www.ftc.gov/system/files/documents/public>

multidimensional issue involving the collection, use, retention and securing of consumer information – and the transparency and choices offered to consumers. Of course, competition enforcement and privacy can intersect. For example, the U.S. antitrust agencies routinely analyze non-price considerations in merger review where there is evidence that those non-price considerations are important to competition. The FTC has yet to challenge a merger specifically based on the likelihood that it would lead to a diminution in privacy protections, but we have recognized the possibility that consumer privacy can be a non-price dimension of competition.

Absent a clear nexus to competition, however, privacy and data protection concerns are best handled as consumer protection issues.¹⁴ I recognize that the FTC has an advantage in this regard since it is both a competition enforcer and a data protection enforcer. For example, in Facebook-WhatsApp (2014), staff from the FTC’s Bureau of Consumer Protection (BCP), which handles privacy and data security cases, focused on how the merger would affect the promises that WhatsApp had made to consumers about the limited nature of the data it collects, maintains, and shares with third parties – promises that exceeded those of Facebook at the time the merger was announced. BCP concluded it was appropriate to alert the companies about these privacy

One could argue that allowing the combination to move forward chilled the innovation from a disruptive entrant. While it is impossible to know, I view WhatsApp’s announcement that it is providing end-to-end encryption as a positive, privacy enhancing innovation in its product.¹⁸

This is a complex issue – and one that consumer protection and competition enforcers will no doubt continue to wrestle with in the digital economy. The European Data Protection Supervisor has recently suggested that consumers do not appreciate the actual costs associated with “free” products – and that “it may therefore be necessary to develop a concept of consumer harm, particularly through violation of rights to data protection, for competition enforcement in digital sectors of the economy.”¹⁹ I’m open to the possibility that consumers may systematically underestimate the effects of privacy or data protection practices – or that they may simply make the rational decision that it isn’t worth the time to fully evaluate those costs. The FTC has advocated for greater transparency and choice for consumers with respect to privacy and data protection policies, including recommending that Congress consider enacting general privacy legislation, data security and breach notification legislation, and data broker legislation.²⁰

At the same time, I believe that it is dangerous to engage in competition analysis based on what we think consumers should want or value, independent of market realities. To do so is to cross the line from antitrust enforcement to market regulation. However well intentioned, I do not believe that this is the appropriate role of antitrust law.

If market participants are competing on the basis of privacy or data policies to attract consumers, that would certainly be an element of our competition analysis. But if they aren’t, and if there isn’t evidence that those dimensions

Rise of the Machines: The Frontiers of the Digital Economy

I am going to conclude my remarks today by briefly noting a digital economy frontier for competition enforcers: the rise of the machines. I'm looking forward to having my house robot manage the pantry and sending my self-driving car to pick up the kids as much as the next person. No doubt, the disruptive innovations enabled by artificial intelligence will be glorious. But the rise of high-velocity computerized markets also present some interesting challenges for competition enforcers.

First, enforcers must be able to understand the tech and algorithms with which they are dealing. At the FTC, we have taken steps to expand our in-house expertise by adding the Office of Technology, Research and Investigations which includes technologists and computer scientists.²¹ This is just a first step, however, and I believe we will need to significantly expand the role technologists play in our high-tech cases in the future.

There is also the possibility that the human role in anticompetitive conduct may become less clear - posing a challenge for competition enforcers. For example, last year DOJ brought a case for price fixing against two e-commerce sellers who agreed to align their pricing algorithms to increase online prices for posters.²² In that case the humans reached an agreement to use technology to fix prices. But as algorithms and the software running them become more sophisticated they may be more likely to engage in consciously parallel behavior. Yet challenging that conduct absent anticompetitive intent by humans using the technology may be difficult.²³

An increase in the sophistication of pricing algorithms could also lead to narrower product market definitions in the future. Under the 2010 Horizontal Merger Guidelines, we specifically evaluate the possibility of price discrimination against targeted customers. Big data and algorithms enable sellers to more effectively target certain consumers. Thus, even though a company may not have been able to effectively target certain consumers for higher prices in the past, there is no guarantee that it may not be able to do so in the future.

²¹ See Jessica Rich, BCP's Office of Technology Research and Investigation: The next generation in consumer protection, Fed. Trade Comm'n business blog, Mar. 23, 2015, <https://www.ftc.gov/news-events/blogs/business-blog/2015/03/bcps-office-technology-research-investigation-next>.

²² See Press Release, U.S. Dep't of Justice, Former E-Commerce Executive Charged with Price Fixing in the Antitrust Division's First Online Marketplace Prosecution (Apr. 6, 2015), <http://www.justice.gov/opa/pr/former-e-commerce-executive-charged-price-fixing-antitrust-divisions-first-online-marketplace>.

²³ See Ariel Ezrachi & Maurice E. Stucke, Artificial Intelligence & Collusion: When Computers Inhibit Competition (U. Oxford Centre for Competition Law and Policy, Working Paper CCLP (L) 40, 2015), <https://www.law.ox.ac.uk/sites/files/oxlaw/cclp40.pdf>.

Conclusion

New innovations, business models, and technologies of the digital economy will present new challenges for competition enforcement. We must be mindful of these challenges, yet we must also continue to be aggressive in our role in advancing our mission to protect consumers and to promote competition. I look forward to the presentations of the panelists in the upcoming session and would be happy to take any questions following their remarks.