

# Internet

## Competition and Regulation of Online Platforms



Edited by: **Aitor Ortiz**

# Internet Competition & Regulation Of Online Platforms

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# PREFACE

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**Daniel O'Connor,**

*Vice-President of Public Policy - CCIA*

Dear Readers,

Currently, there is a robust debate on how to police a relatively new economic actor: the online platform. As competition regulators and policymakers have this debate, it has become increasingly clear that the basics of online competition and how companies compete is not widely understood. In this ebook, authors explore Internet business models and the economic phenomena associated with them. Furthermore, contributors examine competition law concepts and regulatory approaches to these new actors.

In traditional brick-and-mortar markets, economists and regulators have become relatively comfortable with understanding how competition works. Not to say controversies do not exist, or antitrust lawyers cannot quibble over the exact borders of a relevant market, but mattress suppliers, car manufacturers, and airlines do not present a paradigm shift in understanding who a company's likely competitors are. Furthermore, large brick-and-mortar market shares tend to be relatively durable. For example, eight of the ten top global pharmaceutical companies by revenue trace their roots back to the 19th century. Eight of the top ten car companies were founded before World War II. Although innovation has been a hallmark of both these industries, it is largely incremental and competition is relatively predictable. Since the companies are durable, market shares are fairly accurate gauges of market power. The toolkits of competition enforcers and the general outlook of regulators has been shaped by understandings developed in the study of these markets.

However, understanding Internet competition, where new product categories are created every month, revenue models are complicated (and in some cases, non-existent), multi-sided business models are common and disruption is the norm, proves to be a more complicated task.

Presently, there are two major conceptual themes in the robust discussion over competition policy approaches to online platforms: whether traditional competition enforcement is sufficient to police Internet markets, or whether the particular characteristics of the Internet call for new ex ante regulation. Also, within competition enforcement circles, there is discussion of how to refine traditional economic tools to reflect new understandings of how markets, particularly online platforms, operate.

Unsurprisingly, proponents of new sectorial regulation argue that competition enforcement is not well tailored to these markets and that the underlying characteristics of the Internet invariably lead to global information monopolies, which they have likened to public utilities, and called on regulators and competition enforcers to treat them as "essential facilities." They tend to place significant weight on the role of network effects in online markets, where the value of the platform increases each time a new user is added. When a network gets large enough, it hits a tipping point at which point competition against the market leader is futile and market failure is endemic.

In this simplified view of Internet competition, numerous, powerful monopolists are virtually untouchable and therefore free to act in an anticompetitive manner without the usual disciplinary threats posed by competition. As Tim Wu, a U.S. competition enforcer and legal professor noted in a Wall Street Journal editorial, "it's hard to avoid the conclusion that we are living in an age of large information monopo-

lies." As a result, those with this worldview often call for an overhaul of competition law and specialized sectorial regulation. However, as several authors in this book argue, this stylized view of Internet competition is misleading and Internet markets are incredibly competitive. Problematic market definitions, a lack of nuance in the understanding of network externalities, the failure to account for the interconnectedness of markets connected via a multi-sided platform, and an overemphasis on the competitive significance of data are some common mistakes that contributors in this book highlight.

And, to be fair, policymakers and regulators are not monolithic in their thinking. Some see no need for new regulatory intervention, pointing to the flexibility of modern competition law to ensure competitive online markets. As the bipartisan U.S. Antitrust Modernization Commission concluded, there is "no need to revise the antitrust laws to apply different rules to industries in which innovation, intellectual property, and technological change are central features." Furthermore, the Commission expressed skepticism about claims that antitrust enforcement was not well suited to new sectors, saying legislators "should be skeptical of claims that economic regulation can achieve an important societal interest that competition cannot achieve." Similar thoughts were voiced by the head of the UK's Competition and Markets Authority, Alex Chisholm, who with a co-author noted in another CPI publication that the "significant risks associated with premature, broad-brush ex-ante legislation or rulemaking point towards a need to shift away from sector-specific regulation to ex-post antitrust enforcement, which is better adapted to the period we are in, with its fast-changing technology and evolving market reactions."

This is not to say that traditional competition enforcement alone is enough. Robust competition enforcement, divorced from an understanding

of the economic realities of the Internet, can do more harm than good. Increasingly, legacy industries and displaced competitors have turned to regulators as a means of hobbling more efficient Internet-based competitors. And, given that online platforms are often multi-sided markets that by definition involve multiple constituencies that often share the costs and benefits of the platform asymmetrically, the temptation is always present for constituencies on one side to organize politically in an attempt to shift cost burdens to different constituencies on the platform. It is up to competition enforcers and regulators to sort out when behavior is truly anticompetitive versus merely disruptive to established companies. As the essence of competition law is the protection of consumers, an emphasis should be placed on identifying clear consumer harm when a firm's behavior is called into question. Furthermore, as online platforms need to balance the needs of multiple constituencies, weighing the pros and cons of the behavior in question and determining the net effect of that behavior is crucial.

Compared to traditional markets, the Internet has unleashed a boom of entrepreneurship and competition, which is arguably unrivaled in history. When it comes to the Internet, enforcers should consider employing what some have called "regulatory humility" when faced with conduct that is alleged to be anticompetitive but that also has plausible benefits for dynamic competition or consumers, even if these benefits cannot be quantified with specificity. Chilling the incredible dynamism in these markets is the last thing a competition enforcer wants to do.

# ARTICLE SUMMARIES

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## **Understanding Online Platform Competition: Common Misunderstandings**

*By Daniel O'Connor*

The Internet is arguably the most powerful force in the global economy. Similar to the printing press, electricity and the steam engine, the Internet has become, in the words of the OECD, a “general purpose technology enabler,” a once-in-a-generation technology that reorganizes world economic activity and spurs productivity. Although the positive effects of this reorganization are apparent, the rapid pace of innovation and the subsequent restructuring of economic activity have placed pressure on regulators to understand this vital but rapidly changing new economic sector.

## **Can Big Data Protect a Firm from Competition?**

*By Anja Lambrecht & Catherine E. Tucker*

There is plenty of hype around big data, but does it simply offer operational advantages, or can it provide firms with sustainable competitive advantage? To answer this question, we look at big data using a classic framework called the ‘resource-based view of the firm,’ which states that, for big data to provide competitive advantage, it has to be inimitable, rare, valuable, and non-substitutable. Our analysis suggests that big data is not inimitable or rare, that substitutes exist, and that by itself big data is unlikely to be valuable. There are many alternative sources of data available to firms, reflecting the extent to which customers leave multiple digital footprints on the internet.

## **The Move to Smart Mobile and its Implications for Antitrust Analysis of Online Markets**

*By David S. Evans, Hermant K. Bhargava & Deepa Mani*

Online markets have changed as a result of people shifting massively from using personal computers and browsers to using technologically powerful mobile devices and apps. These changes cover leading online players, consumer behavior, and products. The use of smartphones and mobile apps, and the speed of change, vary between countries and in particular between countries based on their stage of development. Mobile app use is lower in fast-growing countries, such as India, than in developed ones, such as the United States. However, as smart mobile phones with mobile broadband connections become ubiquitous among consumers in developing countries, mobile app use in these countries is likely to leapfrog the use of personal computers and browsers.

## **Failed Analogies: Net Neutrality vs. “Search” and “Platform” Neutrality**

*By Marvin Ammori*

While many have lamented that the term “network neutrality” is boring and unclear, that concept has inspired millions around the world to file comments with national regulators, and led those regulators to take action in much of the Americas, Europe, and Asia. Perhaps as a sign of net neutrality’s success in public debate, some thinkers have started borrowing the word “neutrality” for concepts that are supposedly analogous to net neutrality, but really have very little in common with it. The two best-known expressions are “search neutrality” and “platform neutrality” (which apparently also encompasses “app store neutrality”), all of which have prompted discussion before regulators.

## **Antitrust Regulation and the Neutrality Trap: A plea for a Smart, Evidence-Based Internet Policy**

*By Andrea Renda*

When they look at Internet policy, EU policy-makers seem mesmerized, if not bewitched, by the word 'neutrality'. Originally confined to the infrastructure layer, today the neutrality rhetoric is being expanded to multi-sided platforms such as search engines and more generally online intermediaries. Policies for search neutrality and platform neutrality are invoked to pursue a variety of policy objectives, encompassing competition, consumer protection, privacy and media pluralism. This paper analyses this emerging debate and comes to a number of conclusions.

## **Multisided Platforms, Dynamic Competition, and the Assessment of Market Power for Internet-Based Firms**

*By David S. Evans*

Market power on each side of a multisided platform, whether in the form of increasing prices or decreasing quality, is constrained by the risk of losing sales on the other sides. That tends to weaken market power on each side and encourages platforms to keep prices lower and quality higher than they would absent these feedback effects. In some cases the nature of the business model, and competition, result in the platform allowing one type of customers to participate in the platform for free or even to subsidize their participation. Non-price methods of attracting customers are especially important in this case, particularly when the business model adopted by the industry makes it difficult for platforms to move from free participation.

## **The Double Duality of Two-Sided Markets**

*By Alfonso Lamadrid de Pablo*

The increasing relevance of multi-sided markets and business models in the economy has over the past few years been mirrored in academic writings, mostly in economic literature, and increasingly in competition law enforcement. The intention of this brief intervention is not to incorporate novel theories into the discussion of multi-sided platforms nor to summarize the main findings of the literature that is currently available. As an avid reader of academic works on the subject, and although I much appreciate their lessons, when I read them I realize that the vast majority of papers have been authored by economists, mostly academics, and only in very rare cases by lawyers in private practice.

## **Should Uber be Allowed to Compete in Europe? And if so, How?**

*By Damien Geradin (Juan M. Delgado & Anna Tzanakis, ed.)*

Uber's arrival in Europe has generated massive demonstrations by taxi drivers and a number of court judgments banning or restricting Uber's services on the ground that the company engaged in "unfair competition". Uber and other online-enabled car transportation services to connect passengers with drivers offer an attractive alternative to regular taxi services. The difficulty is that these services are protected by regulatory measures that create significant barriers to entry. Uber's business model presents many efficiencies and there is little doubt that it will prevail over time. Regulatory authorities thus face two options. One option is to resist the market entry of Uber and other similar companies. This approach would deprive users of attractive services and trigger many years of litigation. The other option is to embrace technological change and allow Uber to compete on a level playing field with taxi companies.



## **Online Intermediation Platforms and Free Trade Principles – Some Reflections on the Uber Preliminary Ruling Case**

*By Damien Geradin*

Commercial Court No 3 of Barcelona sent a request for a preliminary ruling to the CJEU regarding the extent to which Uber, which operated its uberPOP service in Spain without an authorization from the Spanish authorities, should be protected by EU law provisions designed to ensure the free movement of services in the European Union. The paper demonstrates that uberPOP is not a “transport service” falling under Title VI TFEU, but an “information society service” within the meaning of the E-commerce Directive. Therefore, uberPop benefits from the protection against undue trade restrictions provided by this directive, as well as by Article 56 TFEU.

## **Competition Policy in Consumer Financial Services: The Disparate Regulation of Online Marketplace Lenders and Banks**

*By Thomas P. Brown and Molly E. Swartz*

The tension between regulated entities and new entrants is particularly acute in the context of online marketplace lending. While bank lenders enjoy regulatory privileges that enable them to lend immediately to consumers in all 50 states, non-bank lenders are forced to engage in resource-intensive analyses to satisfy state-specific compliance requirements. As non-bank lenders expand access to credit to those currently underserved by banks—providing new underwriting methodologies, real-time data transmission and new financing mechanisms—disparate regulation of banks and non-bank lenders appears problematic.

## **Platform Competition in Two-Sided Markets**

*By Jean-Charles Rochet & Jean Tirole*

Many if not most markets with network externalities are two-sided. To succeed, platforms in industries such as software, portals and media, payment systems and the Internet, must “get both sides of the market on board”. Accordingly, platforms devote much attention to their business model, that is to how they court each side while making money overall. The paper builds a model of platform competition with two-sided markets. It unveils the determinants of price allocation and end-user surplus for different governance structures (profit-maximizing platforms and not-for-profit joint undertakings), and compares the outcomes with those under an integrated monopolist and a Ramsey planner.

## **Legal Boundaries of Competition in the Era of the Internet: Challenges and Judicial Responses**

*By Zhu Li*

Some new characteristics of competition in the Internet industry, e.g., competition for attention, innovation competition, cross-market competition etc., have brought about new challenges and difficulties for the legal regulation of competition. In virtue of the theoretical innovation and the innovation of law applicability, Chinese courts gave creative judicial responses in the scopes of Anti-Unfair Competition Law and Anti-Monopoly Law, clarified the legal boundaries of competition and effectively regulated competition in the online environment. Certain trends and rules implicit in this kind of judicial responses are worth noting.



# Understanding Online Platform Competition: Common Misunderstandings

By: Daniel O'Connor\*

## I. Introduction

The Internet is arguably the most powerful force in the global economy. Similar to the printing press, electricity and the steam engine, the Internet has become, in the words of the OECD, a “general purpose technology enabler,”<sup>1</sup> a once-in-a-generation technology that reorganizes world economic activity and spurs productivity. Although the positive effects of this reorganization are apparent, the rapid pace of innovation and the subsequent restructuring of economic activity have placed pressure on regulators to understand this vital but rapidly changing new economic sector.

Currently, there is a robust debate on how to police a relatively new economic actor: the online platform. While there is often a lack of clarity involving exactly what is considered an online platform, the term generally refers to any online

service that can function as an intermediary between two or more clearly identified groups.<sup>2</sup> Examples include Amazon, eBay, Facebook, Google and Uber. Both the number and size of Internet platforms, many of which displace parts of the brick-and-mortar economy, have grown rapidly in recent years.

One area of debate involves questions about how existing laws should be applied to regulate the behavior of online platform operators. Another area of debate is more fundamental and controversial. It questions the adequacy of existing bodies of law to deal with the challenges presented by online platforms, and raises the prospect of new ex ante regulation of online platforms.<sup>3</sup>

Proponents of new online regulations argue that the fundamental characteristics of the Internet invariably lead to global information monopolies,<sup>4</sup> which they have likened to public utilities, and called on regulators and competition enforcers to treat them as “essential facilities.”<sup>5</sup> They tend to place significant weight on the role of network effects in online markets, where the value of the platform increases each time a new user is added. When a network gets large enough, it hits a tipping point at which point competition against the market leader is futile. These network effects are then compounded by the extensive user data possessed by large

\* Daniel O'Connor is the Vice President of Public Policy at the Computer & Communications Industry Association (CCIA), a technology trade association with a focus on global competition and Internet policy. Views expressed in the paper are those of the author and should not be attributed to any individual members of CCIA.

1 Organisation for Economic Co-Operation and Development, Directorate for Science, Technology and Industry Committee for Information Computer and Communications Policy, Broadband for the Economy, Ministerial Background Report, (2007) (“OECD Report”), <https://www.oecd.org/sti/ieconomy/40781696.pdf>.

2 Martha Ivanovas, Towards a Definition of Online Platforms in the European Digital Single Market (2015), <http://crninet.com/2015/paper/A2a.pdf>.

3 Alex Chisholm & Nelson Jung, *Platform Regulation—Ex-Ante versus Ex-Post intervention: evolving our antitrust tools and practices to meet the challenges of a digital economy*, Competition Policy Int'l. Vol. 11, No. 1, (Spring-Autumn 2015), 7-21 (“Chisholm & Jung”).

4 Tim Wu, In the Grip of the New Monopolists, Wall St. J. (Nov. 13, 2010), <http://www.wsj.com/articles/SB10001424052748704635704575604993311538482>.

5 Jakob Kucharczyk, Essential vs Useful: Can Online Services be ‘Essential’ or Are They Simply Very Useful?, Disruptive Competition Project (June 16, 2015) (“Kucharczyk”), <http://www.project-disco.org/competition/030415-essential-vs-useful-can-online-services-essential-simply-useful>; see also French Senate Report (March 20, 2013), <http://www.senat.fr/rap/r12-443/r12-4431.pdf>.

online networks. Since Internet companies utilize data to refine and improve their offerings, having access to more data reinforces and accelerates this unbreakable positive feedback loop.<sup>6</sup>

In this oversimplified view of Internet competition, numerous, powerful monopolists are virtually untouchable and therefore free to act in an anticompetitive manner without the usual disciplinary threats posed by competition. As a result, these markets require a reworking of antitrust law and specialized sectoral regulation.<sup>7</sup>

As Professor Tim Wu, formerly at the U.S. Federal Trade Commission (FTC) and now in the New York Attorney General's office, put it in an oft-cited opinion piece in the *Wall Street Journal*, "it's hard to avoid the conclusion that we are living in an age of large information monopolies."<sup>8</sup> An official 2014 presentation by the French government likewise argued that "competition law is not efficient enough" to deal with Internet platforms. As such, it recommended both "new tools" for competition law, including "interim precautionary measures" and the implementation of a specific "legal regime applicable to such platforms" with no fewer than ten different policy prongs.<sup>9</sup> As with the French,

the German government has also called on the European Commission to consider ex ante regulation of online platforms.<sup>10</sup> Calls for platform neutrality obligations,<sup>11</sup> platform regulatory agencies,<sup>12</sup> and a complete overhaul of competition enforcement emanate from this line of thinking.

Other public bodies have not made such bold pronouncements but are studying online markets with an eye toward possible future regulation. The European Commission, in its sweeping reconsideration of Internet regulation as part of its Digital Single Market initiative, conducted a public consultation on online platforms.<sup>13</sup> Briefing memos indicate it is considering a range of options, including an array of new laws that would govern the behavior of online platforms, rework competition law, and expand telecommunications regulation to encapsulate online platforms.<sup>14</sup> Although the Commission is

6 See Atlantic Council, *Building a Transatlantic Digital Marketplace: Twenty Steps Toward 2020*, (2016) at 22, [http://www.atlanticcouncil.org/images/publications/Building\\_a\\_Transatlantic\\_Digital\\_Marketplace\\_web\\_0406.pdf](http://www.atlanticcouncil.org/images/publications/Building_a_Transatlantic_Digital_Marketplace_web_0406.pdf) ("Some observers believe that online platform services benefit from self-perpetuating network effects. Greater usage leads to better data and increased confidence in the service, which reinforces—by design—the propensity for future use. This can lead to questions about whether data monopolies exist and—to the extent that they do—can lead to anticompetitive behavior.")

7 See, e.g., Adam Thierer, *Perils of Classifying Social Media Platforms as Public Utilities*, 7-19, available at <http://mercatus.org/publication/perils-classifying-social-media-platforms-public-utilities>.

8 See Wu, *supra* n. 4. A longer version of Professor Wu's opinion piece presented a less pessimistic view of Internet competition. See Mathew Ingram, *Should We be Afraid of Apple, Google and Facebook?*, *Gigaom* (Nov. 25, 2010), <https://gigaom.com/2010/11/25/tim-wu-google-facebook/>.

9 Direction Générale des Entreprises (DGE), French views regarding digital platforms of structural importance for the economy (April 2015); see also Sigmar Gabriel and Emmanuel Macron, Letter to

European Commission Vice President Andrus Ansip (April 28, 2015), [http://www.economie.gouv.fr/files/files/PDF/28042015\\_-\\_Lettre\\_A.\\_ANSIP.PDF](http://www.economie.gouv.fr/files/files/PDF/28042015_-_Lettre_A._ANSIP.PDF).

10 Jeevan Vasager et al., *Europe's Demands on Google Mount*, *Fin. Times* (Nov. 26 2014), <http://www.ft.com/intl/cms/s/0/66b5149e-758a-11e4-b082-00144feabdc0.html>.

11 See Conseil National du Numérique, *Platform Neutrality: Building and open and sustainable digital environment*, (May 2014), [http://www.cnnumerique.fr/wp-content/uploads/2014/06/PlatformNeutrality\\_VA.pdf](http://www.cnnumerique.fr/wp-content/uploads/2014/06/PlatformNeutrality_VA.pdf) ("Platform Neutrality Report"); see also Jake Levine, *It's Time for Social Network Neutrality*, *Business Insider* (July 18, 2011), <http://www.businessinsider.com/its-time-for-a-social-network-neutrality-2011-7> (discussing calls for calls for "Social Network Neutrality").

12 See Frank A. Pasquale III & Oren Bracha, *Federal Search Commission? Access, Fairness and Accountability in the Law of Search*, *Cornell Law Review*, Sept. 2008; U of Tex. Law, Public Research Paper No. 123; Seton Hall Public Law Research Paper No. 1002453; Greg Sterling, *France Trying To Force Disclosure Of Google Algorithm, Wants To Regulate the SERP* (Apr. 20, 2015), <http://searchengineland.com/france-trying-to-force-disclosure-of-google-algorithm-wants-to-regulate-serp-219243> (discussing French bill to allow telecom regulator to monitor and regulate the algorithms of search engines).

13 European Comm'n, *A Digital Single Market Strategy for Europe*, <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52015DC0192&from=EN>.

14 Leo Mirani, *These documents reveal the EU's thoughts on regulating Google, Facebook, and other platforms*, *Quartz* (Apr. 23, 2015), <http://qz.com/389905/these-documents-reveal-the-eus-thoughts-on-regulating-google-facebook-and-other-platforms>.

still considering how to proceed, it seems that some of the more expansive ideas, such as a new category of regulation for online platforms, have been tempered.<sup>15</sup> Given the prominence of the European Union among international regulators, it is not surprising that this conversation on online platform regulation has spread to other parts of the world.<sup>16</sup>

Other policymakers see no need for new regulatory intervention, pointing to the flexibility of modern antitrust law to ensure competitive online markets. As the bipartisan U.S. Antitrust Modernization Commission concluded, there is “no need to revise the antitrust laws to apply different rules to industries in which innovation, intellectual property, and technological change are central features.”<sup>17</sup> This is not to say, as they noted, that new economic understandings should not be incorporated when applying time-tested competition law concepts. Work certainly needs to be done there, but refining the application of the law is different than scrapping it or significantly altering it. The Commission also noted the relative merits of competition law versus economic regulation:

Public policy should favor free-market competition over industry-specific regulation of prices, costs, and entry. Such economic regulation should be reserved for the relatively rare cases of market failure, such as the existence of natural monopoly characteristics in certain segments of an industry, or where economic regulation can address an important societal interest that competition cannot address. In general, Con-

gress should be skeptical of claims that economic regulation can achieve an important societal interest that competition cannot achieve.<sup>18</sup>

In this paper, I examine common mistakes that policymakers, regulators, and competition enforcers make when evaluating Internet competition. Defining markets based on a static view of competition, applying one-sided analysis to multi-sided markets, not recognizing the limits of network effects, and an overemphasis on the role of big data are common pitfalls that often lead observers to conclude that the Internet is far less competitive than it actually is. These mistakes lead to the misapplication of competition law itself, and fuel the perception that competition law is not sufficient and additional regulation is needed to police online platforms.

## II. Dynamic Markets Living in Static Worldview

Competition in online markets, including for online platforms, differs from that of traditional brick-and-mortar markets in important ways with implications for antitrust enforcement. Determining which firms compete against each other can be more challenging because firms with varied origins and different business models may nevertheless provide a similar service to consumers. Market shares for online services say little about durable market power: the last decade is riddled with examples of regulators or policymakers believing an online firm to be entrenched, only to become competitively irrelevant a few years later. The next market leader can not only come from a startup entrepreneur, but also repositioning by existing online firms into adjacent markets. The current wave of online platforms has helped lower entry costs even further for new entrants, sometimes even challenging the platforms on which they run.

<sup>15</sup> Id.

<sup>16</sup> See, e.g., Yuji Nakamura, *Airbnb Faces Major Threat in Japan, Its Fastest-Growing Market*, Bloomberg (Feb. 18, 2016), <http://www.bloomberg.com/news/articles/2016-02-18/fastest-growing-airbnb-market-under-threat-as-japan-cracks-down>;

<sup>17</sup> See Report and Recommendations, Antitrust Modernization Comm’n (Apr. 2007) at 9, available at [http://govinfo.library.unt.edu/amc/report\\_recommendation/amc\\_final\\_report.pdf](http://govinfo.library.unt.edu/amc/report_recommendation/amc_final_report.pdf) (“AMC Recommendations”).

<sup>18</sup> AMC Recommendations at 22.

Online platforms differ from traditional markets in several respects. Product cycles are short, borders between “markets” are blurry, barriers to entry are low, and competition is often for the market: new companies with better ideas can quickly come to market and dethrone industry leaders.

When one looks at the technological foundations on which the Internet is built, these economic phenomena make sense. First, the Internet is an open network with a common series of communications protocols anyone can utilize. TCP/IP, the Internet protocol suite, gives entrepreneurs a toolset they can use to transmit data to anyone connected to the Internet. The creators consciously decided not to patent the technology to ensure that it was available to anybody to use.<sup>19</sup> This decision paved the way for its rapid deployment and universal popularity. Second, Internet connectivity is rapidly expanding and the hardware that powers the Internet has been commoditized and is becoming cheaper, smaller and more powerful. Whereas 35 million people were connected to the Internet in 1995,<sup>20</sup> that number is nearly 3 billion today.<sup>21</sup> The Internet is no longer a technology available only to the affluent; it is rapidly becoming a worldwide market. In 2014, for example, India added 63 million Internet users making it the third largest Internet market in the world with 232 million users. It is expanding at a 37 percent year-over-year rate.<sup>22</sup> Third, software platforms and programming languages that allow people to build new platforms, apps and websites have evolved and proliferated. Innovators have a better, and constantly ex-

panding, toolkit to build with. Combine these “turbochargers,” as David Evans and Richard Schmalensee refer to them,<sup>23</sup> and you have the ingredients for a supercharged market.

#### A. Blurred Market Borders: Focus on Who Companies Compete with, Not How They Do It

Because of these dynamics, it is perhaps not surprising that competition agencies and other regulators have struggled to define online markets accurately. Lines between markets are often drawn based on how companies compete, rather than on whom customers could turn to for alternatives. For example, a person needing transportation from Washington, DC to New York can drive, fly, take a train or bus, or use an online carpooling app. Consumers decide by evaluating the price, quality and speed of those offerings and will substitute between these options accordingly. A ridesharing app’s closest competitor in this context may be a bus, train, or airplane—none of which looks or operates anything like a ridesharing app. In fact, in France, the national state-owned railroad provider, SNCF, sees the online carpooling platform Blablacar as its main competitor.<sup>24</sup>

The FTC appears to have made precisely this error in its Google “search bias” investigation, which it closed in 2013. In its closing statement, the Commission suggested that it considered “general purpose search” as the relevant market.<sup>25</sup> This neglected to consid-

19 Ryan Singel, Vint Cerf: We Knew What We Were Unleashing on the World, *Wired Business* (Apr. 23, 2012), <http://www.wired.com/2012/04/epicenter-isoc-famers-qa-cerf>.

20 Mary Meeker, Internet Trends 2015 Code Conference, Kleiner Perkins Caufield Byers (May 27, 2015) at 4 (“Meeker Report”).

21 Victor Luckerson, Internet Users Surge to Almost 3 Billion Worldwide, *TIME* (Nov. 25, 2014), <http://time.com/3604911/3-billion-internet-users>.

22 Meeker Report, *supra* n. 20, at 166.

23 David S. Evans & Richard Schmalensee, *Matchmakers: The New Economics of Multisided Platforms* 40-45 (2016) (“Matchmakers”).

24 Matt Cowan, Blablacar Has Turned Ride-Sharing Into a Multi-Million-Euro Business, *Wired UK* (Apr. 15, 2014), <http://www.wired.co.uk/magazine/archive/2015/05/features/blablacar/viewall>. Airbnb is also an online platform with a sharing economy business model. It allows people to quickly and easily rent out short-term space in their own houses and apartments. It competes principally against hotels.

25 Fed. Trade Comm’n, Statement of the Federal Trade Commission Regarding Google’s Search Practices, File No. 111-0163 (Jan.

er that online search engines are just one way for consumers to get answers and find information.<sup>26</sup> A consumer can, for example, search for Italian restaurants in New York City on Google or Bing, or can use apps like Yelp, TripAdvisor or Foursquare. The German Federal Cartel Office appears to be repeating this mistake in investigating Facebook for abuse of dominance in an alleged “market for social networks.”<sup>27</sup> Consumers can turn to a wide array of substitute services such as blogs and microblogs, professional networks, online forums, photo and video sharing services, news aggregators, messaging services, product review sites, social gaming apps, and virtual worlds.<sup>28</sup>

## B. Ephemeral Success: Static Analysis Misses Internet Dynamism

Even in a properly defined relevant market, market shares may tell us little about durable market power in online markets. The same underlying fundamentals that allow innovative new firms to grow their user base quickly also empower rapid movement away from a widely-used incumbent when a better alternative comes along. Yahoo! was the unquestioned market leader in search before Google came along with a better idea for ranking websites, analyzing hyperlink relationships instead of textual web search.<sup>29</sup> Facebook overtook both

Friendster and Myspace because it organized social networking in a way that provided better value to users.<sup>30</sup> At the time, many believed that Yahoo!<sup>31</sup> and Myspace<sup>32</sup> were unbeatable.

Competition regulators have at times overestimated the ability of online firms to maintain their leading positions. As Adam Thierer has noted, the temptation to fixate on the current “market” structure is all too commonplace and “reflects the short-term, static snapshot thinking we all too often see at work in debates over media and technology policy. That is, many cyber-worrywarts are prone to taking snapshots of market activity and suggesting that temporary patterns are permanent disasters requiring immediate correction.”<sup>33</sup>

In 2002, competition enforcers in the United States worried about the market power a combined AOL-Time Warner would have, including AOL’s “dominant” instant messaging platform. In fact, they were so worried that they imposed conditions on instant messaging as part of the merger approval. One FCC Commissioner noted:

AOL’s dominant instant messaging platform should be interoperable. Instant messaging is far more than a narrowband text messaging service; it’s an

3, 2013), [https://www.ftc.gov/system/files/documents/public\\_statements/295971/130103googlesearchstntofcomm.pdf](https://www.ftc.gov/system/files/documents/public_statements/295971/130103googlesearchstntofcomm.pdf). The Commission did not formally define a relevant market or determine market shares, but the statement noted that “[g]eneral purpose search engines are distinct from ‘vertical’ search engines.” Id.

26 Daniel O’Connor, The Fast Evolving Market for ‘Answers’, Disruptive Competition Project (June 8, 2012), <http://www.project-disco.org/competition/the-fast-evolving-market-for-answers/>.

27 German Fed. Cartel Office (Bundeskartellamt), Bundeskartellamt initiates proceeding against Facebook on suspicion of having abused its market power by infringing data protection rules, (Feb. 3, 2016), [http://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02\\_03\\_2016\\_Facebook.html?nn=3591568](http://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02_03_2016_Facebook.html?nn=3591568).

28 European Union Law, Definition of relevant market, (last updated Apr. 20, 2011), <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=URISERV%3A126073>.

29 Tom Hormby, The Rise of Google: Beating Yahoo at Its Own

Game, Low End Mac (Aug. 15, 2013), <http://lowendmac.com/2013/the-rise-of-google-beating-yahoo-at-its-own-game>.

30 Matchmakers, *supra* n. 23, at 145-48.

31 Tair-Rong Sheu & Kathleen Carley, Monopoly Power on the Web -- A Preliminary Investigation of Search Engines (Oct. 27, 2001), available at <http://arxiv.org/pdf/cs/0109054.pdf> (“If there were to be only a few search engine sites, who are they likely to be? This analysis suggests that Yahoo would be a contender. It ranks high on all indicators and it is an old site, offering a variety of services, with a powerful network position and high audience reach.”).

32 Victor Keegan, Will Myspace Ever Lose its Monopoly?, The Guardian (Feb. 8, 2007), available at <http://www.theguardian.com/technology/2007/feb/08/business.comment>.

33 Adam Thierer, Twitter, the Monopolist? Is this Tim Wu’s “Threat Regime” In Action?, The Technology Liberation Front (July 1, 2011), <https://techliberation.com/2011/07/01/twitter-the-monopolist-is-this-tim-wus-threat-regime-in-action>.



essential platform for the development of future high-speed Internet-based services that rely on real-time delivery and interaction.<sup>34</sup>

Despite these predictions, AOL Instant Messenger quickly faded into obscurity, replaced by mobile messaging apps like WhatsApp, Viber and WeChat. The merged mega-company did not have durable market power in the Internet communications space as predicted.<sup>35</sup>

### C. Repositioning: Competition from Established Players

New competition frequently emerges not only from unknown Internet startups with a better idea, but also from established Internet companies repositioning into new lines of business. The same dynamics that make it easy for a startup to enter also mean that a successful Internet company with skilled engineers, data centers, cash reserves, and a good idea on how to do something better can use its advantages to enter new markets and inject new competition.

Amazon is a perfect example. Amazon began as an e-retailer. Fifteen years ago, few people thought that Amazon would be competing directly against Microsoft and Google. But the expertise that Amazon acquired running the world's largest e-commerce website and the enormous, flexible infrastructure that powered it gave Amazon the knowledge and skill to create a cloud platform that it could offer to others to power their own websites. As Amazon's CFO said in a 2006 earnings call:

The reason we're doing the web services that we are doing is because they are things that we've gotten good at over the last 11 years in terms of building out this web scale application called Amazon.com. So as we go about exposing the guts of Amazon, there are other developers out there who require those same sorts of web scale services. So these are assets and skills that we needed to build for ourselves anyway. What we're doing here is exposing those and, over time, build that into a meaningful business.<sup>36</sup>

What started off as a side project that some market analysts dismissed as a "distraction"<sup>37</sup> quickly led to Amazon becoming the world's largest provider of cloud services, generating nearly \$8 billion in revenue in 2014.<sup>38</sup> Two of Amazon's closest competitors in cloud hosting today are Microsoft and Google, neither of which began as cloud infrastructure companies either.<sup>39</sup> Now, all three (and many others) fiercely compete for each other's customers.<sup>40</sup> Ama-

<sup>34</sup> Evan Hansen, AOL, Time Warner complete merger with FCC blessing, CNET, (Jan. 11, 2002), <http://www.cnet.com/news/aol-time-warner-complete-merger-with-fcc-blessing>.

<sup>35</sup> In addition, the AOL-Time Warner combination was seen as one of the worst mergers in recent history. See Tim Arango, How the AOL-Time Warner Merger Went So Wrong, N.Y. Times (Jan. 10, 2010), <http://www.nytimes.com/2010/01/11/business/media/11merger.html>.

<sup>36</sup> Amazon.com Q3 2006 Earnings Call Transcript, (Oct. 24, 2006), available at <http://seekingalpha.com/article/19142-amazon-com-q3-2006-earnings-call-transcript?part=single>.

<sup>37</sup> Jeff Bezos' Risky Bet, Bloomberg Businessweek Cover Story (Nov. 13, 2006), <http://www.bloomberg.com/news/articles/2006-11-12/jeff-bezos-risky-bet>.

<sup>38</sup> Robert Hof, Ten Years Later, Amazon Web Services Defies Skeptics, Forbes, (Mar. 22, 2016), <http://www.forbes.com/sites/roberthof/2016/03/22/ten-years-later-amazon-web-services-defies-skeptics/#4fc19d7b4dcf>. Amazon Web Services (AWS) is the fastest growing part of Amazon's revenue stream. Despite only constituting seven percent of Amazon's revenue, AWS accounts for a third of Amazon's total profits.

<sup>39</sup> Eric Knorr, 2016: The year we see the real cloud leaders emerge, InfoWorld (Jan. 4, 2016), <http://www.infoworld.com/article/3018046/cloud-computing/2016-the-year-we-see-the-real-cloud-leaders-emerge.html>.

<sup>40</sup> Ari Levy, Can Google catch Amazon and Microsoft in cloud?, CNBC (Mar. 23, 2016), <http://www.cnbc.com/2016/03/23/google-aims-to-catch-amazon-microsoft-in-cloud.html>; Marco della Cava, Cloud warriors led by Amazon, Microsoft battle for \$300B in spoils, USA TODAY, (Mar. 25, 2016), <http://www.usatoday.com/story/tech/news/2016/03/25/cloud-warriors-battle-2016s-300b-spoils/82134082>.

zon's disruptive march is not over. It is using its knowledge and data from running the world's largest online store to offer an advertising platform that is competing with Google, Facebook and Yahoo!.<sup>41</sup>

The Amazon example is far from unique. The Internet allows companies to quickly reposition assets and compete in new arenas, particularly if their current business operations give them unique insights into new lines of business. Apple and Google were once so non-threatening to each other that Google's CEO, Eric Schmidt, sat on Apple's board. Now, they are direct competitors in mobile platforms. Facebook, once seen as a desktop-focused social network, is now a leader in mobile advertising and messaging, has developed search technology, and is even challenging YouTube in video sharing.<sup>42</sup> It is also exploring ways to capitalize on its user base in e-commerce.<sup>43</sup>

However, these efforts do not always work, as Google's failed attempt to get a foothold in social networking through Google+ (and Orkut and Google Buzz before that)<sup>44</sup> and Amazon's unsuccessful foray into the mobile phone market with its Fire Phone<sup>45</sup> demonstrate. Big companies without a better idea or solid execution

can still fail, even as startups succeed in the same space (compare Pinterest's success<sup>46</sup> to Google+'s failure). This applies to new markets too, as Uber was able to pioneer a ride-sharing app several years after Google failed in a similar venture.<sup>47</sup> In 2004, eBay acquired the largest Chinese online auction company and was the unquestioned online auction leader in China, but Taobao gave users a more useful e-commerce exchange and eBay shut down Chinese operations in 2006.<sup>48</sup>

#### D. New Tools: Platforms Build on Other Platforms

The frequency of new online entry and repositioning owes much to the ever-declining cost and difficulty of developing and marketing a new online service. Instead of the Internet drifting towards a world where Internet giants cement their market positions, each successful wave of Internet platform development has given would-be entrepreneurs new tools. Now, Internet companies can build on top of an increasing array of other platforms providing global reach. Maria Aspan, Senior Editor at *Inc. Magazine*, discussed this phenomenon:

Websites, billing, payment processing, cloud computing, communications, funding—all have been made simpler by the likes of Squarespace, Slack, Kickstarter, Dropbox, Amazon's ubiquitous Web services division, and PayPal.... In the past 10 years, these building blocks have greatly reduced the time—

41 Kelly Liyakasa, Behind Amazon's Pitch To Advertisers, *AdExchanger*, (Oct. 7, 2013), <http://adexchanger.com/e-commerce-2/behind-amazons-pitch-to-advertisers>.

42 Julia Greenberg, We Thought Mobile Ads Were Doomed, Now It's a \$32B Business, *Wired Business* (Aug. 14, 2015), <http://www.wired.com/2015/08/thought-mobile-ads-doomed-now-32b-business>. Lara O'Reilly, Facebook Video Is Driving YouTube Off Facebook, *Business Insider* (Dec. 9, 2014), <http://www.businessinsider.com/facebook-video-v-youtube-market-share-data-2014-12>.

43 Ryan Mac, Facebook Goes All In On E-Commerce By Bringing Businesses Into Messenger, *Forbes*, (Mar. 25, 2015), <http://www.forbes.com/sites/ryanmac/2015/03/25/facebook-goes-all-in-on-e-commerce-by-bringing-businesses-onto-messenger/#5dbb7d0d4747>.

44 Garrett Sloane, A Look Back at Google's History of Social Media Failures, *AdWeek* (July 1, 2014), <http://www.adweek.com/news/technology/look-back-googles-history-social-media-failures-158700>.

45 J.P. Mangalindan, Why Amazon's Fire phone failed, *FOR-TUNE* (Sept. 29, 2014), <http://fortune.com/2014/09/29/why-amazons-fire-phone-failed>.

46 Katie Roof, Matthew Lynley, Leaked Pinterest Documents Show Revenue, Growth Forecasts, *TechCrunch* (Oct. 16, 2015), <http://techcrunch.com/2015/10/16/leaked-pinterest-documents-show-revenue-growth-forecasts/>.

47 Drew Olanoff, Remember When Google Tried to Start Uber In May 2005?, *TechCrunch* (Nov. 4, 2015), <http://techcrunch.com/2015/11/04/remember-when-google-tried-to-start-uber-in-may-2005>.

48 Hanna Halaburda & Felix Oberholzer-Gee, The Limits of Scale, *Harvard Bus. Rev.* (April 2014) ("Limits of Scale").



and cost—involved to start a business, especially high-tech ones. Thanks to 'the emergence of the internet, open-source software, cloud computing, and other trends,' some experts estimate tech-reliant ideas 'that would have cost \$5 million to set up a decade ago can be done for under \$50,000 today,' according to a 2014 paper from the National Bureau of Economic Research.<sup>49</sup>

Netflix, for example, uses Amazon Web Services (AWS) as its cloud infrastructure.<sup>50</sup> It also uses Hadoop's open source data platform to handle its highly complex data crunching operation.<sup>51</sup> Shopify, a fast growing Canadian e-commerce company listed on the New York Stock Exchange, has made integration with other web platforms a key to its growth strategy. Instead of designing all the functionality its customers need, it fosters its own app developer platform to encourage others to make its offering more useful to Shopify customers.<sup>52</sup> By both integrating with other online platforms, such as cloud hosting providers, CRM platforms, and online payment processors, and encouraging app developers to build more functionality for Shopify users, Shopify has harnessed the robust online platform ecosystem to build a better product more quickly than it could have a decade ago. Furthermore, Shopify has grown quickly despite competing with e-commerce leader Amazon. In fact, Amazon's own platform for small and medium-sized enterprises (SMEs), Amazon Webstore, is shutting down<sup>53</sup> on account of losing the

competitive battle with Shopify and other SME e-commerce platforms.<sup>54</sup>

Uber is another example of a successful company enabled by other platforms. When Uber started, it used Amazon's AWS<sup>55</sup> and Google Maps<sup>56</sup> to power its product. Needless to say, if Uber had to painstakingly assemble its own comprehensive mapping infrastructure and build its own data centers, it is highly unlikely Uber would have achieved viability quickly enough to become the \$62 billion company that it is today.<sup>57</sup> And in another twist that illustrates the dynamism of online markets, not only did Uber later begin acquiring mapping companies<sup>58</sup> and rolling out its own fleet of mapping vehicles (purchased from Microsoft)<sup>59</sup> to develop its own mapping solution to rival Google's and Apple's, but Uber and Google are set to become fierce competitors in the self-driving car, ride-hailing market of the future.<sup>60</sup>

In sum, successful online firms are anything

49 Maria Aspan, Inside the \$5 Billion Company That Will Launch Your Business, Inc., <http://www.inc.com/magazine/201604/maria-aspan/stripe-online-payments-patrick-john-collison.html>.

50 Eva Tse, Netflix Case Study, <https://aws.amazon.com/solutions/case-studies/netflix/>.

51 Sriram Krishnan & Eva Tse, Hadoop Platform as a Service in the Cloud, The Nextflix Tech Blog (Jan. 10, 2013), <http://techblog.netflix.com/2013/01/hadoop-platform-as-service-in-cloud.html>.

52 See Shopify Developers, <https://developers.shopify.com/>.

53 Amy Gesenhues, Amazon To Close Its E-Commerce Platform Website in 2016, Marketing Land (Mar. 19, 2015) <http://marketingland.com/amazon-to-close-its-e-commerce-platform-webstore-in-2016-122170>

54 Rich Duprey, How Did Shopify and Bigcommerce Beat Amazon At Its Own Game?, The Motley Fool (Mar. 25, 2015), <http://www.fool.com/investing/general/2015/03/25/how-did-shopify-and-bigcommerce-beat-amazon-at-its.aspx>.

55 Although Uber is now migrating off of Amazon's cloud, it used Amazon's Cloud during its initial phase of operations. See Cade Metz, Why Some StartUps Say The Cloud Is A Waste of Money, Wired Business (Aug. 15, 2013) <http://www.wired.com/2013/08/memsql-and-amazon>.

56 Jillian D'Onfro, An influential Google Maps exec just got poached to build products at Uber, Business Insider (June 16, 2015), <http://www.businessinsider.com/google-exec-brian-mcclendon-goes-to-uber-to-work-on-mapping-technology-2015-6>.

57 Eric Newcomer, Uber Raises Funding at \$62.5 Billion Valuation, Bloomberg Technology (Dec. 3, 2015, 1:21 PM, updated Dec. 3, 2015), <http://www.bloomberg.com/news/articles/2015-12-03/uber-raises-funding-at-62-5-valuation>.

58 Joel Zand, Why Uber is buying map companies, The NextWeb (2015), <http://thenextweb.com/insider/2015/07/15/why-uber-is-buying-map-companies/#gref>.

59 Edgar Alvarez, Uber starts rolling out its own mapping cars, Engadget (Oct. 19, 2015), <http://www.engadget.com/2015/10/19/uber-maps-car>.

60 Andrew J. Hawkins, Google vs Uber and the race to self-driving taxis, The Verge (Dec. 16, 2015), <http://www.theverge.com/2015/12/16/10309960/google-vs-uber-competition-self-driving-cars>.

but insulated from competition. New rivals can emerge from unexpected places—including startups, firms in complementary verticals, and even former partners—and new entrants can quickly gain access to hundreds of millions of potential customers without having to set up physical stores, build large manufacturing plants, or establish complex global supply chains.

### III. New Thinking on Multi-sided Platforms

Around the time the number of worldwide Internet users passed 600 million, two French economists made an important breakthrough. After studying telecommunications networks, credit cards and operating systems, Jean Tirole and Jean-Charles Rochet began to see key similarities in what they once viewed as very different markets.<sup>61</sup> Instead of being traditional markets subject to a standard supply and demand function, many markets actually involved platforms that brought together different groups of interdependent customers. Pricing and rules on one side of the platform affected the demand on other sides of the platform.<sup>62</sup> Other economists, recognizing that traditional economics did not explain platform markets, quickly built upon Tirole and Rochet's work. As Evans and Schmalensee note:

The old formulas—including the ones we have taught generations of undergraduates in Econ 1—do not give the right answers for multi-sided platforms.

The math is simply wrong. Traditional economics holds, for example, that it's never profitable to sell products at less than cost. The new multi-sided economics shows that even paying some customers rather than charging them anything can be profitable in theory.<sup>63</sup>

This realization has important implications for competition enforcers and regulators. Business decisions that could traditionally be viewed as anticompetitive and predatory—such as below cost pricing and rules that limit user flexibility—could in fact be welfare-enhancing behavior in a competitive environment. As a result, looking at prices on only one side of the market can lead regulators astray and indicate competition problems when there are none. Economist Julian Wright notes that, far from representing predatory pricing, below-cost pricing is often used to attract users that provide the greatest benefit to other users of the platform.<sup>64</sup> Evans and Schmalensee also note that, for the same reasons, pricing above marginal cost on one side of the platform is not indicative of market power, thus examining pricing on just that side of the market alone “would result in a false positive test result for market power.”<sup>65</sup> Problems with one-sided analysis can extend beyond just the platform's price structure. As discussed in Part IV, a platform's restrictive terms for one side of the market can often be explained not as an abusive practice but instead by the need to attract participants or maintain the platform's value on the other sides of the platform.

Multisided platform analysis has become

<sup>61</sup> Platform Economics even has a Nobel Prize as Jean Tirole received the honor largely on account of his work on the economics of platforms. See Matthew Yglesias, One paper by Nobel Prize winner Jean Tirole that every internet user should know, Vox Technology (Oct. 13, 2014), <http://www.vox.com/2014/10/13/6968423/jean-tirole-platform-competition>.

<sup>62</sup> Take OpenTable as an example. OpenTable, an Internet platform that facilitates restaurant reservations, needed to get restaurants to participate in order to attract users, but the platform also needed users to get restaurants to participate. OpenTable solved this problem by subsidizing users (free use and rewards) and providing participating restaurants with table management software. Matchmakers, *supra* n. 23, at 13-14.

<sup>63</sup> Id. at 15.

<sup>64</sup> Julian Wright, One-Sided Logic in Two-Sided Markets (Sept. 2003) at 5, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=459362](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=459362) (“Wright”). Wright identified eight assumptions from traditional economics that are problematic when applied to multi-sided platforms.

<sup>65</sup> David S. Evans & Richard Schmalensee, The Antitrust Analysis of Multi-sided Platform Businesses at 20 (Feb. 2013), <http://www.nber.org/papers/w18783.pdf>.

"well within the economic mainstream"<sup>66</sup> with "no serious controversy among economists on the topic."<sup>67</sup> Yet, competition law and regulatory policy still have not incorporated fundamental insights from this line of work.<sup>68</sup> Recent regulatory investigations and intervention in credit and debit card platforms, for example, were based on "conventional wisdom rather than the logic of two-sided markets."<sup>69</sup>

Others have raised concerns about over-enforcement and the resulting harm to consumers due to a failure to understand multi-sided market dynamics. After examining both regulatory guidelines and recent competition cases, Alfonso Lamadrid observes that the "lack of reliable measures to quantify the [positive cross-network externalities]" has led courts to overemphasize the negatives of supposed anticompetitive behavior in platform markets and discount the positive effects of the behavior on the entire system. As a result, the practices of multi-sided platforms that tend to be targeted are "precisely the same ones [that] may yield benefits for consumers."<sup>70</sup> And, given that multi-sided markets by definition involve multiple constituencies that often share the costs and benefits of the platform asymmetrically, the temptation is always present for constituencies on one side to organize politically in an attempt to shift cost burdens to different constituencies on the platform.<sup>71</sup>

The growth of the Internet and its many

multi-sided platforms make incorporation of two-sided market analysis into competition policy increasingly important. If not, competition enforcement and regulation will increasingly penalize behavior that is beneficial, ultimately leading to consumer harm.<sup>72</sup> Although positive externalities and cross-group benefits can sometimes be difficult to quantify using traditional economic tools, this should not serve as an excuse to ignore what is now accepted economic doctrine.

#### IV: Networks Effects, Nuance, and Rules

Historically, economists and competition agencies viewed network effects as a significant barrier to entry and protective of strong market positions. More modern economic thought has recognized the various limits of network effects and negative consequences of platform growth. There is also increasing recognition that a successful platform must balance the interests of the various platform adopters, which may involve imposing restrictions on platform participants to minimize negative externalities. Companies such as Friendster and Myspace that failed to set and enforce rules to maximize the value of their platform to all users failed despite early rapid growth, while companies such as Google (with respect to Android), Facebook, Yelp, and Uber that enforced rules to maintain the value of their networks continue to succeed and grow. Regulatory efforts that would prevent platform managers from setting and enforcing restrictions on platform participants risk the competitive viability of these platforms.

Early economic literature, often discussing the telephone network, focused on the positive

66 David S. Evans, *The Consensus Among Economists on Multisided Platforms and its Implications for Excluding Evidence that Ignores It* at 3 (Apr. 13, 2013), <https://www.competitionpolicyinternational.com/assets/Uploads/EvansJune-3.pdf>.

67 *Id.*

68 See generally Alfonso Lamadrid de Pablo, *The double duality of two-sided markets ("Lamadrid")*, available at [https://anti-trustlair.files.wordpress.com/2015/05/the-double-duality-of-two-sided-markets\\_clj\\_lamadrid.pdf](https://anti-trustlair.files.wordpress.com/2015/05/the-double-duality-of-two-sided-markets_clj_lamadrid.pdf). To be sure, some efforts have been made to incorporate two-sided market analysis in international competition enforcement, such as the 2009 OECD roundtable on two-sided markets, but even that discussion illustrated significant differences and confusion on how to proceed. OECD Policy Roundtables, *Two-Sided Markets* (2009) at 11-15, available at <https://www.oecd.org/daf/competition/44445730.pdf> ("OECD Two-Sided Markets").

69 Wright, *supra* n. 64, at 1.

70 Lamadrid, *supra* n. 68, at 8.

71 OECD *Two-Sided Markets*, *supra* n. 68 at 226.

72 Take Interchange fees for credit card platforms as an example. Australia's decision to limit interchange fees charged to merchants resulted in higher fees for banks and card holders on the other sides of the platform and relatively modest cost savings for merchants. See Howard Change, David S. Evans & Daniel D. Garcia Swartz, *The Effect of Regulatory Intervention in Two-Sided Markets: An Assessment of InterChange-Fee Capping In Australia*, LECG, LLC (Sept. 26, 2005), <http://www.marketplatforms.com/wp-content/uploads/Downloads/The-Effect-of-Regulatory-Intervention-in-Two-Sided-Markets-An-Assessment-of-Interchange-Fee-Capping-in-Australia.pdf>.

externalities conferred by adding new users (or “nodes”) on a network.<sup>73</sup> This literature examined direct network effects, which, in the case of a telephone network, is the idea that every telephone user gets a direct benefit from additional telephone users. The widespread view was that once a telephone network achieved scale, it made little sense to build a competing telephone network, and, as a result, the telephone network operator would have significant market power. This understanding of network externalities permeated competition law and regulatory economics for many years. Markets with high upfront costs, significant economies of scale and network effects lend themselves to ex ante regulation, as disciplinary competition is thought to be unrealistic. Furthermore, competition enforcers tend to view the presence of network effects as an indication of market power.<sup>74</sup>

Indeed, most attention paid to network effects by antitrust enforcers and scholars—later consolidated in precedents and guidelines—eminently relates to their characteristic as a barrier to entry. As a result, network effects have proved to be, in practice, a most effective basis for legal arguments challenging allegedly anti-competitive conduct.<sup>75</sup>

Modern economic literature on network effects has added several new wrinkles to this analysis, with network effects scholarship paralleling the advances in the understanding of multi-sided platforms. As Tirole and Rochet noted, network effects are a common component

of multi-sided markets.<sup>76</sup> More recent economic literature has also examined both direct and indirect network effects. Matthew Clements discussed the difference between the two types of network effects:

A telephone becomes more valuable to an individual as the total number of telephone users increases. This is a direct network effect. A DVD player becomes more valuable as the variety of available DVDs increases, and this variety increases as the total number of DVD users increases. This is an indirect network effect. Network effects have generally been modeled in a direct sense—individual utility increases with the total number of users—even when the effect is thought to operate in an indirect sense, through a complementary good.<sup>77</sup>

Online platforms often exhibit both direct and indirect network effects. Xbox users benefit from the existence of additional Xbox users because of the ability to play against additional people online—a direct network effect. The Xbox platform also exhibits indirect network effects: more Xbox users attract more video game developers and accessory makers to the platform.

### A. The Perils of Growth: Multi-directional Network Externalities

Economists have recognized that the existence of network effects does not necessarily ensure the success of the first mover. Networks can have negative externalities as much as they have positive externalities. Network effects may not be uniform (or even in the same

73 See, e.g., Jeffrey Rohlfs, *A Theory of Interdependent Demand for a Communication's Service*, Bell Labs. (1974), [http://www.stern.nyu.edu/networks/phdcourse/Rohlfs\\_A\\_theory\\_of\\_interdependent\\_demand.pdf](http://www.stern.nyu.edu/networks/phdcourse/Rohlfs_A_theory_of_interdependent_demand.pdf).

74 European Comm'n, *Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings*, ¶¶ 17, 20, [http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52009XC0224\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52009XC0224(01)&from=EN).

75 Lamadrid, *supra* n. 68, at 9.

76 Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. Eur. Econ. Ass'n, 990 (2003).

(“[M]any if not most markets with network externalities are characterized by the presence of two distinct sides whose ultimate benefit stems from interacting through a common platform.”).

77 Matthew T. Clements, *Direct and Indirect Network Effects: Are They Equivalent?* (Jan. 30, 2014) at 2, available at <http://sites.stedwards.edu/mattclements/files/2011/08/indirect.pdf>.

direction) for different groups utilizing the same platform. For a search engine, more users make the network more attractive for advertisers, but more advertisers (or more users) have little to no effect on user demand.<sup>78</sup> In other multi-sided platforms, like newspapers, the effect can be negative. More readers create more value to advertisers, but more advertising actually diminishes the value of the platform to readers.<sup>79</sup> For social networks, more people mean more potential connections, which is positive, but also network congestion, increased search costs, and more users trying to use the platform for disruptive or illegal activities. In these instances, growth can invite competition, not foreclose it.<sup>80</sup>

Several other aspects of Internet services counter the effects of positive network externalities. Use of online platforms is inexpensive or free, which prevents consumer “lock in.” Furthermore, consumers can participate in several online networks at once, a practice called “multi-homing.”<sup>81</sup> For example, many Facebook users also use Twitter, Instagram, LinkedIn or YouTube. Online dating platform users frequently keep profiles on multiple services. Given low switching costs and user multi-homing, the presence of network effects do not represent a significant barrier to competition in many cases.

As networks grow, incentives for different groups on a multi-sided platform can diverge. Negative externalities, such as congestion, increased search costs, and platform fragmentation, proliferate and can lead to the demise of

a company or product.<sup>82</sup> As Hanna Halaburda and Felix Oberholzer-Gee found, operators of expanding platforms frequently neglect “to take into account differences among [their] customers,” which often leads to the quick collapse of a platform.<sup>83</sup> Operating a successful multi-sided market requires platform operators to capture as many positive externalities as possible while mitigating the negative effects of growth.

## B. Balancing Incentives: Guarding Against Fragmentation

Android, Google's open source mobile operating system, is a case study in managing this dynamic. Android was initially very attractive to phone handset manufacturers who either had to develop their own mobile operating systems (something that is expensive, difficult, and not necessarily a competitive strength of hardware companies), or license expensive proprietary operating systems from other companies. In addition, hardware manufacturers would not need to cultivate their own networks of app developers. Instead, the Android platform was intended to allow developers to write apps across devices of multiple mobile phone manufacturers. However, as the platform increased in popularity, the incentives for individual phone manufacturers to differentiate their products from other Android companies increased.<sup>84</sup> But, if different implementations of Android are not compatible with one another, Android's value to app developers decreases, as it becomes harder to design apps that function correctly on different phones. This dynamic is known as operating system fragmentation. If an operating system such as Android fragments, the value—and ultimately, the adoption—of the network will disintegrate. Governance rules can help

78 Giacomo Luchetta, *Is Google Platform a Two-Sided Market?* (Apr. 30, 2012), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2048683](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2048683).id=2048683.

79 E. Glen Weyl, *A Price Theory of Multi-sided Platforms*, *Am. Econ. Rev.*, Vol. 100, Issue 4 (2010).

80 Andrew Hagiu & Simon Rothman, *Network Effects Aren't Enough*, *Harvard Bus. Rev.* (Apr. 2014), <https://hbr.org/2016/04/network-effects-arent-enough>.

81 Rochet & Tirole, *supra* n. 76, at 992.

82 Ingram, *supra* n. 8.

83 Limits of Scale, *supra* n. 48.

84 Gordon Kelly, *Samsung is hurting Android*, *Trusted Reviews* (May 10, 2013), <http://www.trustedreviews.com/opinions/samsung-is-hurting-android>.



limit fragmentation and maintain the value of the platform to software developers and end users, which in turn enhances inter-brand competition and allows open source platforms “to compete against rivals that have a proprietary model in which the platform owner has complete control.”<sup>85</sup>

Tech journalists fretted that the Android open source operating system was doomed to fail on account of fragmentation.<sup>86</sup> There was historical precedent for this fear. Symbian was the leading smartphone platform in the mid-2000s. It started as a joint venture between several handset manufacturers who wanted an alternative to Microsoft. The jointly developed operating system originally achieved great success: 60 percent of smartphones sold between 2004 and 2008 ran Symbian OS.<sup>87</sup> However, several manufacturers eventually developed their own versions of Symbian, creating a hopelessly fragmented operating system.<sup>88</sup> By 2015, Symbian had gone from the market leader to having one-tenth of one percent share of the mobile platform installed base.<sup>89</sup> UNIX, a popular desktop and server operating system originally developed in 1969, had a similar fate.<sup>90</sup>

85 David S. Evans, *The Antitrust Analysis of Rules and Standards for Software Platforms* (2014) at 32, [http://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2389&context=law\\_and\\_economics](http://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2389&context=law_and_economics)

86 Steven J. Vaughan, *Five reasons Android can fail*, ZDnet (June 22, 2011), <http://www.zdnet.com/article/five-reasons-android-can-fail/>; Adrian Kingsley-Hughes, *Android fragmentation is real*, ZDNet (June 4, 2010), <http://www.zdnet.com/article/android-fragmentation-is-real>.

87 Matchmakers, *supra* n. 23, at 111.

88 For an extended discussion of Symbian, see *id.* at 110-113.

89 comScore Reports July 2015 U.S. Smartphone Subscriber Market Share, comScore, Inc. (Sept. 3, 2015), <https://www.comscore.com/Insights/Rankings/comScore-Reports-July-2015-US-Smartphone-Subscriber>.

90 Tineke M. Egyedi & Ruben van Wendel de Joode, *Standards and Coordination in Open Source Software*, at 2 available at <http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=1251198&url=http%3A%2F%2Fieeexplore.ieee.org%2Fiel5%2F8864%2F28013%2F01251198.pdf%3Farnumber%3D1251198> (“The classic example of fragmentation is UNIX, a multi-user operating sys-

tem and an open source initiative avant la lettre. UNIX was a de facto standard in the late 1970s. However, different UNIX variants developed, which fragmented the market.”).

Google recognized the risk of fragmentation from the start. If the platform were to fragment, the negative externalities associated with growth could quickly destroy the viability of the platform. As a result, when it launched the Android project, it required companies participating in the Open Handset Alliance<sup>91</sup> to agree to platform governance rules in the form of anti-fragmentation agreements. These agreements allow participants to modify and customize Android but not so much as to cause incompatibilities. In addition, Google offered app distribution agreements, allowing phone manufacturers to provide their customers a baseline suite of Google apps and the Play applications store.<sup>92</sup> The fact that Google has offered anti-fragmentation and app distribution agreements since the launch of the Android platform is compelling evidence that these agreements are intended to ensure the viability of Android.

### C. Follow the Rules: Managing Chaos on Social Networks

Social networks face similar problems in controlling the negative externalities associated with growth. Instead of the chaos of fragmentation, social network operators must guard against a variety of anti-social and illegal behavior, which

tem and an open source initiative avant la lettre. UNIX was a de facto standard in the late 1970s. However, different UNIX variants developed, which fragmented the market.”).

91 According to its website, “The Open Handset Alliance is a group of 84 technology and mobile companies who have come together to accelerate innovation in mobile and offer consumers a richer, less expensive, and better mobile experience. Together we have developed Android™, the first complete, open, and free mobile platform. We are committed to commercially deploy handsets and services using the Android Platform.” See <http://www.openhandsetalliance.com/>. As part of its efforts to promote a unified Android platform, OHA members are contractually forbidden from producing devices that are based on incompatible forks of Android. Edward Moyer, *Alibaba: Google just plain wrong about our OS* (Sept. 15, 2012), <http://www.cnet.com/news/alibaba-google-just-plain-wrong-about-our-os/>.

92 Daniel O’Connor, *Time To Stick a Fork In These Android Competition Complaints*, Disruptive Competition Project (June 16, 2015), <http://www.project-disco.org/competition/061615-time-to-stick-a-fork-in-these-android-competition-complaints>.

reduce the value of the networks for most users. The demise of Friendster and Myspace are vivid examples of this phenomenon. Friendster and Myspace beat Facebook to market with similar social networking products. However, their failure to enforce rules that maximized the value of their networks led to their demise.

Friendster was the first popular modern online social network. It was launched in 2002 and had over three millions users in a matter of months.<sup>93</sup> Friendster wanted to make the online world more “authentic” and “accountable,” where people would post real pictures and real profiles. Although the idea worked in the beginning, “fakesters” started to proliferate on its network. Creative users created fake profiles of celebrities, objects and even concepts.<sup>94</sup> Not surprisingly, the funniest and most clever fake profiles quickly became the most popular. Because Friendster highlighted the most popular profiles, even more users gravitated to them. Soon the website’s servers were overrun, and the network slowed.<sup>95</sup> Fearing that its network was spiraling out of control and losing value to the average user, Friendster took steps to rid its network of fakes profiles and limit users responsible for significant network activity. This created a backlash among some users, particularly the owners of fake profiles who had built large followings.<sup>96</sup> Friendster never recovered.

During the peak of Friendster’s turmoil in 2003, Myspace launched. Thinking that Friendster was making a mistake by banning fake profiles,

Myspace’s founders welcomed them. Several high profile “fakesters” publicly migrated to Myspace and the social network grew rapidly. The website grew so rapidly, in fact, that market analysts labeled it a “natural monopoly,”<sup>97</sup> and newspaper columnists discussed whether Myspace “would ever lose its monopoly.”<sup>98</sup> Nevertheless, Myspace’s more open environment spiraled out of control. Partial nudity and obscene content became commonplace. News reports of minors who lied about their age and child sex predators who preyed on them caused public concern.<sup>99</sup> Although some people were attracted to the Wild West of the Web, advertisers were not and the site floundered.<sup>100</sup>

Facebook launched in 2004, a year after Myspace. It started off as a small network of students at a limited number of colleges. Facebook realized from the start that anonymous online activity can lead to general misbehavior and harassment. It enforced “real” profiles by requiring valid college email addresses. Facebook gradually expanded to other colleges and to wider networks, and zealously enforced its real name policy. Furthermore, the company rigorously enforced its terms of service and outlawed obscene and objectionable content and nudity.<sup>101</sup> Needless to say, the strategy worked, and the company grew exponentially. In 2015 it collected nearly \$18 billion in revenue, almost entirely from advertising.<sup>102</sup>

93 Gary Rivlin, *Wallflower at the Web Party*, N.Y. Times (Oct. 15, 2006), [http://www.nytimes.com/2006/10/15/business/yourmoney/15friend.html?pagewanted=1&\\_r=2](http://www.nytimes.com/2006/10/15/business/yourmoney/15friend.html?pagewanted=1&_r=2).

94 See, e.g., danah boyd, *None of this is Real*, at 22, <http://www.danah.org/papers/NoneOfThisIsReal.pdf>. One particularly creative user created a “War” profile, which listed its profession as “resolving disputes.” Lessley Anderson, *Attack of the Smartasses*, SF Weekly (Aug. 13, 2003), <http://www.sfweekly.com/sanfrancisco/attack-of-the-smartasses/Content?oid=2149018&showFullText=true>.

95 boyd, *supra* n. 94.

96 Id.

97 John Barrett, *MySpace Is a Natural Monopoly*, TechNews-World (Jan. 17, 2007), <http://www.technews-world.com/story/55185.html>.

98 Keegan, *supra* n. 32.

99 Sam Jones, *MySpace removes 90,000 sex offenders*, The Guardian (Feb. 9, 2009), <http://www.theguardian.com/technology/2009/feb/04/myspace-social-networking-sex-offenders>.

100 Matchmakers, *supra* n. 23, at 145-48.

101 Even famous people, like Lindsay Lohan, were kicked off the platform for violating its policies. Duncan Riley, *Lindsay Lohan Banned By Facebook*, Inquisitr (Dec. 2, 2008), <http://www.inquisitr.com/10537/lindsay-lohan-banned-by-facebook>.

102 Yahoo! Finance, <http://finance.yahoo.com/q/ks?s=F-B+Key+Statistics>.



## D. Regulating Fairness: Platform Neutrality Not the Answer

The rapid growth of online platforms has led to antitrust investigations and litigation related to platform governance mechanisms.<sup>103</sup> Anti-trust complaints, such as those leveled against Google Search, Android's mobile platform, and interchange fees targeting restrictions on merchant pass throughs,<sup>104</sup> have targeted platform operators for practices aimed at balancing interests between different constituencies on their networks. Websites that are demoted for low-quality scores may object, but search operators need to ensure that consumers receive high-quality search results. Some mobile carriers might want to force Android users to utilize their proprietary apps, but consumers and app developers benefit from a standard array of APIs and services on different implementations of Android. Merchants might want the freedom to pass on interchange fees to consumers, but consumers benefit from the clarity of the standardized pricing of products.

There have also been increasing calls for platform regulation premised on an amorphous goal of platform neutrality.<sup>105</sup> In introducing its public consultation on platforms, the European Commission discussed platforms being powerful intermediaries who have the "power to shape the online experience of its customers on a personalized basis and to filter what the customer sees."<sup>106</sup> In testimony before the British House of Lords, Charly Berthet, Rapporteur for the French Government's Digital Council (Conseil National

du Numérique), complained that the decisions of online platforms to curate and present content on their networks were threats to "pluralism" and to "freedom of expression" and called for a regulatory response.<sup>107</sup>

The examples above are not isolated circumstances. All platform operators eventually grapple with how to balance interests and how to enforce rules that maintain the value of their networks as they grow. As noted by Parker et al. in their book *Platform Revolution*, "multi-sided platforms involve interests that don't always align. This makes it difficult for platform managers to ensure that various participants create value for one another, and make it likely that conflicts will emerge that governance rules must resolve....This is a juggling act that even giants and geniuses get wrong."<sup>108</sup>

Yelp bans fake reviews that can make the platform less useful to users, and it spends significant resources removing questionable reviews and punishing violators of its terms of service.<sup>109</sup> eBay has strict terms and conditions that, among other things, prevent transactions

103 Mark Scott, Facebook Faces German Antitrust Investigation, N.Y. Times (Mar. 2, 2016), <http://www.nytimes.com/2016/03/03/business/international/facebook-faces-german-antitrust-investigation.html>.

104 AmEx Limits on Merchants Violate US antitrust Laws, Judge Says, LA Times (Feb. 19, 2015), <http://www.latimes.com/business/la-fi-american-express-antitrust-lawsuit-20150219-story.html>

105 See, e.g., Platform Neutrality Report, supra n. 11.

106 DSM Staff Working Document, pg. 53

107 He pointed to the controversy surrounding Facebook's original decision to ban posts of Gustave Courbet's painting "The Origin of the World" because it featured nudity as an example of this threat, stating: "[o]nline platforms define their own rules regarding what content is authorised and what content can be withdrawn." See Revised transcript of evidence taken before The Select Committee on the European Union Internal Market Sub-Committee Inquiry on Online Platforms and the EU Digital Single Market (Nov. 9, 2015) at 13, available at <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/oral/24970.pdf> ("Berthet Testimony"); see also Facebook could be sued for censoring this 19th-century nude painting, The Associated press (Feb. 12, 2016), <http://mashable.com/2016/02/12/french-court-facebook-nude-painting/>. The fact that Courbet's painting could be seen in thousands of other places online, at the slightest touch of a mouse or swipe of a smartphone, did nothing to prevent this argument.

108 Geoffrey Parker, Marshall W. Van Alstyne and Sangeet Paul Chaudry, *The Platform Revolution: How Networked Markets Are Transforming the Economy And How to Make Them Work For You* 159 (2016).

109 Judy Woodruff, Spotting the fakes among the five-star reviews, PBS (Jan. 19, 2015), <http://www.pbs.org/newshour/bb/spotting-fakes-among-five-star-reviews>.

from migrating off its platform, ban sellers from bidding on their own items to drive up the price, and outlaw misrepresenting your identity. These terms restrict behavior on individual users on various sides of its platform to ensure a "safe and fair environment" for all. Sellers might want the freedom not to disclose their identity or to finalize the sale outside of eBay's platform to avoid commissions, but buyers would have no protection in case of fraud.<sup>110</sup> Airbnb mandates that its hosts adopt one of three of its cancellation policies<sup>111</sup> and meet minimum hospitality standards<sup>112</sup> to guarantee a baseline user experience across its offerings. As more drivers come onto its platform, Uber aggressively screens them through background checks and utilizes user feedback to quickly drop low-rated drivers from its platform. Despite complaints that the ratings system is harsh and unfair,<sup>113</sup> all it takes is a few negative experiences before riders flee to competitive offerings like Lyft or taxis.

As these examples illustrate, platform operators must make delicate judgments, particularly when different platform constituencies have diverging interests, to keep their platforms valuable to all users. Attempting to mandate platform neutrality or penalize behavior based on its effects on one side of the platform can easily throw off this balance to the detriment of consumers. Furthermore, treating online platforms as "essential facilities," which would limit the ability of online platform operators to choose who accesses their platform and on what terms, could have similar negative effects and harm

competition and innovation.<sup>114</sup> As noted by Alex Chisholm and Nelson Jung from the United Kingdom's Competition and Markets Authority in a discussion of the essential facilities doctrine, "concepts applying to ports cannot simply be copy-pasted into the digital world."<sup>115</sup>

## V. Can Controlling User Data Lock Out Competitors?

Some enforcers and academics have identified control over data as a potential antitrust concern in recent years.<sup>116</sup> While their statements are not always clear as to what they mean by "big data," these advocates usually focus on user data that is collected by online firms as part of their business operations—for example, a shopping site collecting data about which products its users have looked at, which ones they have purchased and how much they have paid, or a search engine collecting data about which results users clicked on after prior searches.

The theory postulates that data is a necessary input for online firms—many have analogized it to the oil of the 21st Century<sup>117</sup>—as many Internet businesses rely on user data to improve their services. This creates what some have described as a "feedback loop," whereby a firm needs a large body of user data to create a product

110 eBay Inc. Rules and Policies, <http://pages.ebay.com/help/policies/overview.html>

111 Airbnb, Inc. Cancellation Policies, [https://www.airbnb.com/home/cancellation\\_policies](https://www.airbnb.com/home/cancellation_policies)

112 Airbnb, Inc. Hospitality Standards, <https://www.airbnb.com/hospitality>

113 Polly Mosendz, Uber Drivers Are Fighting for Better Treatment from the Company, *The Wire* (June 25, 2014), <http://www.thewire.com/business/2014/06/uber-drivers-protest-their-employer/373388>.

114 See Kucharczyk, *supra* n. 5.

115 Chisholm & Jung, *supra* n. 3, at 11.

116 See, e.g., Maurice E. Stucke & Allen P. Grunes, *Debunking the Myths over Big Data and Antitrust*, CPI Antitrust Chronicle (May 2015); European Data Protection Supervisor, *Privacy and competitiveness in the age of big data: The interplay between data protection, competition law and consumer protection in the Digital Economy* (Mar. 2014), available at [https://secure.edps.europa.eu/EDPSWEB/webdav/shared/Documents/Consultation/Opinions/2014/14-03-26\\_competition\\_law\\_big\\_data\\_EN.pdf](https://secure.edps.europa.eu/EDPSWEB/webdav/shared/Documents/Consultation/Opinions/2014/14-03-26_competition_law_big_data_EN.pdf); Nathan Newman, *Search, Antitrust and the Economics of the Control of User Data* (Sept. 14, 2013), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2309547](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2309547).

117 Nathan Newman, *Taking on Google's Monopoly Means Regulating Its Control of User Data* (Nov. 24, 2013), [http://www.huffingtonpost.com/nathan-newman/taking-on-google-monopol\\_b\\_3980799.html](http://www.huffingtonpost.com/nathan-newman/taking-on-google-monopol_b_3980799.html).

that will attract new users, leading to significant economies of scale and causing the market to permanently “tip” in favor of already dominant platforms.<sup>118</sup> Of course, using more and better inputs like user data to improve products and services is generally the essence of competition, so regulators should tread carefully when faced with complaints that such conduct is leading to anticompetitive effects.<sup>119</sup>

In online markets, the competitive harms that could arise from large firms’ access to extensive user data usually exist only in the realm of theory. To properly evaluate claims that a firm’s control over data operates as a barrier to entry, one must understand how data does and does not work for a particular online business. Real-world experience has illustrated several reasons why even a dominant firm’s collection and use of user data is very unlikely to create any meaningful barriers to entry, for several reasons.

First, and perhaps most importantly, data is just one of many inputs that dictate success for online businesses, and ultimately it is not the data, but what a company does with it, that really matters. Many online firms have successfully entered markets with large, well-established players without having access to significant user data. For example, Spotify was able to successfully enter the ad-supported streaming music space notwithstanding Pandora’s early success, by offering a different model. Whereas Pandora relies on user data—which artists a user selects and which songs a user has “liked”—to determine which songs will be played, Spotify opted for a less curated approach that allows users to select their own songs from a wider library, reducing the need to rely on user data where Pandora had a substantial advantage. Firms

can also enter and quickly extract the data they need from the initial user base.<sup>120</sup> In some cases, firms have eschewed the collection or use of personal information and have attracted privacy-sensitive consumers on that basis. For example, the search engine DuckDuckGo markets itself as not collecting query data, and thereby does not use that data to generate such search results, even though other traditional search engines do.<sup>121</sup>

Second, data is non-rivalrous and non-exclusive. Non-rivalrous means that one party’s use of data does not prevent another party from collecting and using that same data, even from the same source.<sup>122</sup> When a consumer uses of a gallon of gasoline, another driver cannot use that same gas. As a result, it is said to be rivalrous in consumption. When Netflix uses knowledge of a subscriber’s preferences to highlight shows she might like, Hulu can still use knowledge of her preferences to highlight similar shows. Non-exclusive means that a firm cannot exclude others from collecting that same data. As a result, no single firm controls all, most, or even a significant amount of the total universe of user data. Many online firms have access to vast swaths of information about users, including data brokers who make that information potentially available to startups.<sup>123</sup>

In addition, users frequently “multi-home.” Because consumers use multiple online services, even for the same task, multiple providers have the ability to collect data on the same user. In social networking, multi-homing has resulted in Facebook continuing to flourish while also

118 Andres Lerner, *The Role of Big Data in Online Platform Competition* (Aug. 26, 2014) at 19-20, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2482780](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2482780).

119 For a discussion of procompetitive benefits of user data collection, see *id.* at 10-15.

120 Darren Tucker & Hill Wellford, *Big Mistakes Regarding Big Data*, Antitrust Source, Dec. 2014, at 7, available at [http://www.americanbar.org/content/dam/aba/publishing/antitrust\\_source/dec14\\_tucker\\_12\\_16f.authcheckdam.pdf](http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/dec14_tucker_12_16f.authcheckdam.pdf).

121 DuckDuckGo Internet Privacy Review (Dec. 12, 2014), <https://www.expressvpn.com/blog/duckduckgo-internet-privacy-review/>.

122 Lerner, *supra* n. 118, at 21.

123 Tucker & Wellford, *supra* n. 120, at 3.

allowing many new entrants, which often focus on particular types of content (Instagram, Twitter, Pinterest) or interests (Reddit, LinkedIn), rather than offering a broader Facebook-like approach. But this also plays out across static market boundaries too, as with the example of using either Google, Yelp or an alternative service to find a restaurant for dinner.

Third, data quickly becomes stale. As Tucker and Wellford note, “[h]istorical data can be analyzed for trends but has comparatively little value when used for real-time decisions, such as which ad to serve. As one study found, ‘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.’”<sup>124</sup> A new entrant need not replicate an incumbent’s vast storehouse of old, stale data. What an upstart cares about—if it cares about data at all—is the fresh material that the new entrant has the same opportunity to obtain as the incumbent. Thus any data advantage by incumbent firms is likely to be ephemeral at best.

Fourth, data has diminishing returns to scale. As Lerner discusses in detail, there is substantial empirical evidence of rapidly diminishing returns to scale in two markets that have been cited as potential areas where data could be a barrier to entry: online search (where user data can improve the quality of search results) and advertising (where better user data might allow better targeting of ads to users).<sup>125</sup> Because of diminishing returns, the relevant question for an entrant is not whether it can obtain the same amount of data as the incumbent, but merely whether it can obtain enough data to make its product work. In online markets, there is frequently a vast gap between what might be had and what is needed.

## Online Dating: A Case Study

124 Id. at 4.

125 Lerner, *supra* n. 118, at 35-45.

Online dating has become an almost ubiquitous feature of the social lives of singles. The National Academy of Sciences reported in 2013 that more than a third of people who married in the U.S. between 2005 and 2012 met their partner online, and half of those met on dating sites. Online dating sites now comprise a \$2.1 billion per year industry in the U.S. alone.<sup>126</sup>

Besides helping to find a potential partner, online dating is a good match for those wanting to examine competitive dynamics among Internet companies for two reasons: (1) it is one of the longest-existing online industries; and (2) on the surface, online dating exhibits many of the theoretical bases that should have caused the market to “tip” to a single dominant firm long ago.

- Network Effects. Single, heterosexual men want to find an online dating platform that has a lot of female members, and vice-versa. This is a classic example of network effects, specifically cross-side network effects in a two-sided market.<sup>127</sup> A site that has a large user base should, therefore, have a strong advantage in attracting new users.
- Data. User data has long played a role in online dating, through various forms of “algorithmic matchmaking.”<sup>128</sup> This takes place in a variety of ways. Some sites allow (OkCupid) or require (eHarmony) users to

126 Steve Yoder, How online dating became a \$2 billion industry, *The Week* (Feb. 19, 2014), <http://theweek.com/articles/450841/how-online-dating-became-2-billion-industry> (“Yoder”).

127 See, e.g., Voigt & Hinz, Network effects in two-sided markets: why a 50/50 user split is not necessarily revenue optimal (July 2015), available at <http://download.springer.com/static/pdf/118/art%253A10.1007%252Fs40685-015-0018-z.pdf> (“Users may derive positive cross-side network effects (CNEs) from the participation of members on the other side of the market, which means the larger the installed user base on one side of the platform, the more attractive the service for the opposite side’s users.”).

128 James Bridle, The algorithm method: how internet dating became everyone’s route to a perfect love match, *The Guardian* (Feb. 9, 2014), <http://www.theguardian.com/lifeandstyle/2014/feb/09/match-e-harmony-algorithm-internet-dating>.

answer extensive questionnaires designed to help the users find compatible matches. In addition to data provided by users, on-line dating sites also have data about what those users actually do—whose profiles they browse, for how long, who they do (and do not) message, and with what results. They use that information, to varying degrees, to recommend potential matches to their users, theoretically improving outcomes for existing users and thereby making the platform more attractive to potential future users.

Given these characteristics, a regulator that believed that network effects and data barriers cause platforms to tip to a single dominant supplier might well have concluded that the online dating market has been ripe for intervention. In late 2006, for example, Yahoo! Personals had “grabbed the top rank on every measurement” and had almost twice as many active users as its next-closest competitor.<sup>129</sup> But rather than riding a wave of permanent dominance, Yahoo! Personals folded less than four years later. And Yahoo! was not alone. According to the Pew Internet Survey, 6 of the 10 most popular on-line dating sites in 2005 were defunct as of 2013 (and, conversely, 5 of the 10 most popular on-line dating sites in 2013 did not exist in 2005).<sup>130</sup>

Today the market is allegedly “dominated by big name, mass audience sites, like Match.com and eHarmony.”<sup>131</sup> Should we now be concerned that a “dominant” site like eHarmony is abusing a dominant market position by making its users answer private questions about their wants and needs in order to communicate with other users? Or that knowing the answers to those questions will somehow entrench eHar-

mony as a durable monopolist that would not face a threat of new entry? It is hard to see how, given that there currently are more than 2,500 other online dating sites operating in the U.S., and as many as 5,000 worldwide, with new sites popping up seemingly daily.<sup>132</sup>

How have competitors been able to consistently to crack into this business despite what some might consider an impenetrable advantage held by large incumbents? The structural advantages that appear so strong in theory appear not to have mattered much in the real world. The potential network effects in online dating are substantially weakened by widespread multi-homing by users. Many, if not most, online daters maintain profiles on multiple platforms.<sup>133</sup> Because of this, many platforms are able to generate a sufficiently large user base to be attractive to potential users. Apparent network effects are also weakened by the diversity among the user base. If a user is looking for a male aged 21-28, a large pool of men over the age of 40 does not increase that site's value to that user.

Moreover, despite access to substantial amounts of user data, online dating sites might not have gained any particularly significant insights from it.<sup>134</sup> As one recent study confirmed, “no compelling evidence supports matching sites’ claims that mathematical algorithms work.”<sup>135</sup> If the data does not provide com-

129 Max Friert, *Beyond Skin Deep: The real top dating sites, Compete* (Dec. 28, 2006), <https://blog.compete.com/2006/12/28/top-online-dating-sites-yahoo-personals-true-match-plenty-of-fish/>.

130 Pew Research Center, *Online Dating & Relationships* (Oct. 21, 2013), at 50, available at [http://www.pewinternet.org/files/old-media/Files/Reports/2013/PIP\\_Online%20Dating%202013.pdf](http://www.pewinternet.org/files/old-media/Files/Reports/2013/PIP_Online%20Dating%202013.pdf).

131 Yoder, *supra* n. 126.

132 Simon Davies, *The Online Dating Market is Not Oversaturated*, Tech.Co (May 9, 2015), available at <http://tech.co/online-dating-market-not-oversaturated-2015-05>.

133 Molly Wood, *Led by Tinder, a Surge in Mobile Dating Apps*, N.Y. Times (Feb. 4, 2015), available at <http://www.nytimes.com/2015/02/05/technology/personaltech/led-by-tinder-the-mobile-dating-game-surges.html>.

134 See, e.g., Finkel, et al, *Online Dating: A Critical Analysis From the Perspective of Psychological Science*, Psychological Science in the Public Interest (Jan. 2012), available at <http://psi.sagepub.com/content/13/1/3.full?ikey=cK9EB6/4zQ0AM&keytype=ref&siteid=sppsi>.

135 *Dating Site Factors concerning Imperfect Preferences for Efficient Matchings*, Cornell University Networks II Course Blog for INFO 4220 (cited by John Tierney, *A Match Made in the Code*, N.Y. Times (Feb 11, 2013), available at



selling value to the incumbent, competitors should be able to enter successfully without it. And contrary to the claim that data functions as a barrier to entry, for online dating, data has actually facilitated entry by making it easier for users to multi-home. Now, rather than filing out time-consuming profiles, many dating sites allow users to share information from Facebook and other platforms.

But perhaps most importantly, the key to success for online dating services, as it has been in many Internet industries over time, has been to build a better mousetrap by approaching the problem in a new or different way. Rather than focusing on broad-based market leaders like eHarmony and Match, many competitors have succeeded by focusing on smaller niche markets. Today, daters can find sites that match based on age (e.g., OurTime.com), race (BlackPeopleMeet.com), occupation (FarmersOnly.com), and a host of other factors. Those sites have overcome network effects by focusing on quality over quantity of matches: the self-selecting nature of these sites eliminates a lot of the “chaff” users that are not of interest.

The well-known app Tinder chose a different approach, avoiding matching based on algorithm, and focused instead on proximity, showing users other nearby users and offering them a simple “yes or no” choice, and became so popular that “Swipe Left” and “Swipe Right” have now entered common vernacular. Tinder’s “secret sauce”—the “double opt-in,” where users declare secretly who they are attracted to and are only matched after both say yes—was based on the idea that “you feel more comfortable approaching somebody if you know they want you to approach them.”<sup>136</sup> Now, Tinder has millions of users and facilitates 26 million

matches a day.<sup>137</sup>

But Tinder can’t rest on its laurels. It, too, faces the threat of dynamic competition, including sites that have not even launched yet, and quite possibly propelled by rather than inhibited by the collection of user data. As just one example, several sites have proposed improving matches by tapping into Netflix and Pandora user data to identify potential matches with similar tastes in movies and music.<sup>138</sup>

We cannot know what the online dating market will look like in five years, but one thing we can confidently predict is that it will be vastly different than what we see today.

## VI: Conclusion

Compared to traditional markets, the Internet has unleashed a boom of entrepreneurship and competition which is arguably unrivaled in history and definitely unrivaled in the modern era. We continue to see robust investment, huge shares of revenue aimed at research and development, and the successful entry of new competitors—hardly characteristic of stagnant markets under the grip of dominant players.

Investment in the European e-commerce sector, the same market that European Commission focused on in its e-commerce sector inquiry<sup>139</sup> and its Statement of Objections in the Google search investigation,<sup>140</sup> has exploded

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<http://www.nytimes.com/2013/02/12/science/skepticism-as-e-harmony-defends-its-matchmaking-algorithm.html?pagewanted=all>.

136 Emily Witt, Love Me Tinder, GQ (Feb. 11, 2014), available at <http://www.gq.com/story/tinder-online-dating-sex-app?currentPage=4#1>.

137 Tinder, Inc. Press and Brand Assets, <https://www.gotinder.com/press> (last accessed Apr. 8, 2016).

138 See, e.g., G. Clay Gallagher, Could Netflix be the Best Untapped Dating Network Online?, Popular Science (Sept. 14, 2015), available at <http://www.popsoci.com/could-netflix-be-best-untapped-dating-network-online>.

139 European Commission Press Release, Antitrust: Commission launches e-commerce sector inquiry (May 6, 2015), [http://europa.eu/rapid/press-release\\_IP-15-4921\\_en.htm](http://europa.eu/rapid/press-release_IP-15-4921_en.htm).

140 European Commission Fact Sheet, Antitrust: Commission sends Statement of Objections to Google on comparison Shopping service (Apr. 15, 2015), [http://europa.eu/rapid/press-release\\_MEMO-15-4781\\_en.htm](http://europa.eu/rapid/press-release_MEMO-15-4781_en.htm).

over the last few years. An analysis of a diverse sampling of publicly traded European e-commerce companies showed that “the European ecommerce market is in excellent health, with strong levels of investment and innovation, and with a marked upwards trend during the period 2012-2015” with investment increasing by a factor of 27 during that three year period.<sup>141</sup>

According to the National Venture Capital Association, investment in the software and Internet sectors reached their highest level in over a decade in 2014, with nearly \$30 billion invested in over 2,800 separate deals.<sup>142</sup> Out of all industries surveyed by PricewaterhouseCoopers, the “software and Internet sector” exhibited the highest rate of growth in R&D spending in 2014.<sup>143</sup> According to a Battelle study featured in *R&D Magazine*, the ICT sector was the largest R&D spender in 2014 and accounted for one-third of all R&D spending in the U.S. In particular, Battelle noted that “cloud computing and technologies built on it will remain a major R&D thrust for the foreseeable future.”<sup>144</sup>

Furthermore, the Internet is expanding rapidly, and the rest of the world is catching up to the U.S. In 1995, there were 35 million Internet users and the U.S. accounted for 61 percent of that total. As of 2014, there were 2.8 billion Internet users, and the U.S. only accounted for 10

percent of that total. Whereas 13 of the top 15 publicly traded Internet companies were American in 1995, now nearly half of the top 20 publicly traded Internet companies are from outside of the U.S.<sup>145</sup>

Instead of exhibiting signs of market failure that call for extensive regulation, the Internet is a thriving, enormously competitive ecosystem. That is not to say that regulators should turn a blind eye to deceptive or anticompetitive marketplace conduct—quite the opposite. If anything, at this inflection point two decades after the commercialization of the Internet, it is critical for policymakers and regulators to better understand how these markets work and how they differ from their brick-and-mortar predecessors. Competition enforcement remains an important tool to deter and remedy anticompetitive activity in the online sector, as in any other sector. Competition enforcers must, however, incorporate new economic understandings and avoid presumptions about how markets work, how firms compete, or why firms might engage in conduct without precedent in a traditional market. Enforcers should also consider employing what FTC Commissioner Maureen Ohlhausen calls “regulatory humility” when faced with conduct that is alleged to be anticompetitive but that also has plausible benefits for dynamic competition or consumers, even if these benefits cannot be quantified with specificity. Chilling the incredible dynamism in these markets should be the last thing any regulator or competition enforcer should want to do.

141 European Ecommerce, Investment & Innovation A Competitive Marketplace? 4 (Nov. 2015), [http://cdn.ccianet.org/wp-content/uploads/2015/11/European-Ecommerce\\_Investment\\_Study.pdf](http://cdn.ccianet.org/wp-content/uploads/2015/11/European-Ecommerce_Investment_Study.pdf).

142 National Venture Capital Association Press Release, Annual Venture Capital Investment Tops \$48 Billion in 2014, Reaching Highest Level in Over a Decade, According to the Money Tree Report (Jan. 16, 2015), <http://nvca.org/pressreleases/annual-venture-capital-investment-tops-48-billion-2014-reaching-highest-level-decade-according-moneytree-report>.

143 Total R&D spending growth at large companies fell last year to the second lowest rate in a decade, according to new Strategy& study, Strategy& (Oct. 28, 2014), <http://www.strategyand.pwc.com/global/home/press/displays/proven-paths-to-innovation-success>.

144 2014 Global R&D Funding Forecast, Battelle & R&D Magazine, at 24 (2013), [https://www.battelle.org/docs/tpp/2014\\_global\\_rd\\_funding\\_forecast.pdf](https://www.battelle.org/docs/tpp/2014_global_rd_funding_forecast.pdf).

145 Meeker Report, *supra* n. 20.



# The Move to Smart Mobile and Its Implications for Antitrust Analysis of Online Markets

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## Abstract

Online markets have changed as a result of people shifting massively from using personal computers and browsers to using technologically powerful mobile devices and apps. These changes cover leading online players, consumer behavior, and products. The use of smartphones and mobile apps, and the speed of change, vary between countries and in particular between countries based on their stage of development. Mobile app use is lower in fast-growing countries, such as India, than in developed ones, such as the United States. However, as smart mobile phones with mobile broadband connections become ubiquitous among consumers in developing countries, mobile app use in these countries is likely to leapfrog the use of personal computers and browsers.

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As a result of the movement to smart mobile, the analysis of markets that might have made sense several years ago, does not today, and will make even less sense several years hence. The widespread adoption of smart mobile has caused, and continues to result in, significant market disruption, including for incumbent Internet-based companies, which are themselves young compared to the traditional companies they disrupted. These dramatic and unpredictable changes pose several issues for antitrust. They show that antitrust analysis that focuses on static markets is highly prone to error when it comes to dynamic online industries, that authorities risk making assumptions during investigations that are disproven by the markets soon after they have brought charges or decided a case, and antitrust remedies are prone to be ineffective or harmful because they are developed for markets during the investigation but are radically different by the time the remedies are implemented.

## I. Introduction and Summary

The rapid growth of smart mobile devices is changing online markets, and the nature of competition, drastically, around the world. The impact is apparent in developed countries. The introduction of fast and capacious mobile broadband networks in the early 2010s in countries such as the United States spurred the adoption of smart mobile phones for online activities. In the US more than 77 percent of adults had a smart mobile phone as of August 2015.<sup>1</sup> The average American spent more than an hour a day using their smart mobile phones mainly for online activities.<sup>2</sup> In the US, people spent 50 per-

1 comScore, “comScore Reports August 2015 U.S. Smartphone Subscriber Market Share”, <https://www.comscore.com/Insights/Market-Rankings/comScore-Reports-August-2015-US-Smartphone-Subscriber-Market-Share>.

2 This figure is across all US residents 18 and older regardless of whether they own a smart phone. Nielsen, “The Total Audience Report: 2015Q2 2015”, [http://s1.q4cdn.com/199638165/files/doc\\_presentation](http://s1.q4cdn.com/199638165/files/doc_presentation).

cent more time on their mobile phones than on their personal computers as of mid 2015 and, when on their mobile phones, they spent 87 percent of their time using mobile apps compared with just 13 percent of their time using a mobile browser as of June 2015.<sup>3</sup> That shift from using the personal computers and browser to using mobile devices and apps continues at a rapid clip.<sup>4</sup>

Already, smart mobile phones have led to immense changes in consumer behavior. People have their smart mobile phones with them most of the day and have come to depend on them for shopping, communication, entertainment, and more. These mobile devices are changing how people buy goods and services online, and in physical environments, as reflected by the spread of ride-sharing apps globally; how people communicate with each other as seen in the widespread use of diverse messaging apps; and how they consume entertainment as people adopt streaming music and video apps. For example, around 60 percent of the visits American made to websites on November 26, 2015—Thanksgiving Day—were from mobile devices.<sup>5</sup>

The move to smart mobile has resulted in significant changes in the competitive dynamics of the online economy. The increasingly widespread use of mobile apps has accelerated the growth of other companies, from publicly

traded ones such as Facebook, which secures 78 percent of its advertising revenue from mobile,<sup>6</sup> to startups such as Uber that rely entirely on mobile devices for delivering services to drivers and riders. Meanwhile, in the last five years Apple has vaulted to preeminence.<sup>7</sup> In developed countries such as the US around two-thirds of online activity on mobile devices takes place on Apple's mobile devices using its iOS mobile software platform. Meanwhile, companies that were considered central to the online economy a few years ago, such as the Yahoo ad-supported web portal, have struggled to make the transition from the desktop to mobile.

The story in developing countries will be similar as they become wealthier and deploy faster mobile broadband networks. The penetration and adoption of advanced technologies is growing rapidly and will soon reach the critical levels necessary for igniting the smart mobile ecosystem. In India, for example, only 14 percent of adults have smart mobile phones.<sup>8</sup> But this number represents a 121 percent increase between 2013 and 2015.<sup>9</sup> Only 5.5 percent of households were served by mobile operators that have fast enough broadband for most online activities in 2014, but that too is increasing rapidly—72 percent from 2014 to 2015.<sup>10</sup> Indian

tations/2015/Total-Audience-Report-Q2-2015.pdf.

3 Nielsen Total Audience Report 2015Q2; <https://www.comscore.com/Insights/Presentations-and-Whitepapers/2015/The-2015-US-Mobile-App-Report>; <http://es.slideshare.net/comScoreInsights/the-us-mobile-app-report-comscore-53067374>.

4 comScore, "2015 U.S. Mobile App Report", <https://www.comscore.com/Insights/Presentations-and-Whitepapers/2015/The-2015-US-Mobile-App-Report>.

5 Based on 180 million visits to over 4,500 United States websites on November 26, 2015, as reported by Adobe. Hiroko Tabuchi, "Black Friday Shopping Shifts Online as Stores See Less Foot Traffic," New York Times, November 27, 2015, [http://www.nytimes.com/2015/11/28/business/black-friday-shopping-shifts-online-as-stores-see-less-foot-traffic.html?\\_r=0](http://www.nytimes.com/2015/11/28/business/black-friday-shopping-shifts-online-as-stores-see-less-foot-traffic.html?_r=0).

6 Based on data for 2015 Q3. Facebook Inc., "10-Q for Period Ending September 30, 2015," p. 40.

7 Anuj Srivas, "The Rise and Rise of Apple," The Hindu, February 1, 2015, <http://www.thehindu.com/business/Industry/the-rise-and-rise-of-apple/article6845491.ece>.

8 Pew Research Center, "Internet Seen as Positive Influence on Education but Negative on Morality in Emerging and Developing Nations," March 2015, <http://www.pewglobal.org/2015/03/19/1-communications-technology-in-emerging-and-developing-nations/>.

9 Ambika Choudhary Mahajan, "Worldwide Active Smartphone Users Forecast 2014-2018L Niew than 2 Billion by 2016," DaazeInfo, December 18, 2014, <http://dazeinfo.com/2014/12/18/worldwide-smartphone-users-2014-2018-forecast-india-china-usa-report/>.

10 Broadband Commission, "The State of Broadband 2015: Broadband as a Foundation for Sustainable Development," September 2015, <http://www.broadbandcommission.org/documents/reports/bb-annualreport2015.pdf>; Broadband Commission, "The State of Broadband 2014: Broadband for All," September 2014, <http://www.broadband-commission.org/documents/reports/bb-annualreport2014.pdf>.

telecom operators are expected to increase high-speed (3G and 4G) capacities over the next 5 years at a compounded annual growth rate of 125 percent.<sup>11</sup> Technology entrepreneurs and businesses are innovating towards this new reality. Technology start-ups such as OlaCabs (ride-sharing), Snapdeal (online retail), near.in (at-home fulfillment of local goods and services), and Paytm (financial payments) are examples of recent startups that exploit the capabilities of connected mobile devices to deliver services and goods efficiently to Indian consumers.

The online economy in India and other developing countries will look more like the US and other developed countries but with an important difference: the ratio of mobile technologies and social computing to traditional computing with PCs and fixed broadband is likely to exceed the ratio in developed, more prosperous, economies. This is because less developed countries have exhibited very low penetration of personal computers and fixed broadband connections due to the high cost of these technologies and their dependence on unreliable electricity and fixed Internet connectivity. Only 11 percent of Indian adults have personal computers, for example, compared to 14 percent that have smart mobile phones and 81 percent that have smart or feature phones.<sup>12</sup>

In contrast, mobile devices are available over a wide spectrum of price points stretching to the very inexpensive, are untethered from the burden of continuous electric power and fixed-line Internet connectivity, and universal mobile service can be provided without large scale disruptions to civic infrastructure. For instance, the online shopping site Snapdeal.com

lists the 4G-capable Moto E phone running the Android 5 operating system for Rs. 6,500 (about half the price of the most inexpensive desktop-PC system), and most mobile operators provide voice and data service for a couple hundred rupees per month.<sup>13</sup> As a result, smart mobile devices will leapfrog personal computers in developing countries. In a few years, people in India, and other fast-growing countries, will rely relatively more on smart mobile phones, and mobile apps, than on personal computers and browsers than people in the US and other developed countries. Respected analysts and consulting firms forecast that, in India, the percent of adults with smart mobile phones will reach 22 percent in 2018 from the current 13 percent today.<sup>14</sup>

The growing size and significance of the online economy has attracted the interest of competition authorities, particularly over the role of large multi-national online platforms. The dramatic and continuing shift by online consumers and businesses to smart mobile devices has important implications for the analysis of online markets that would be prudent for competition authorities and courts to consider. The analysis of market definition and market power needs to account for rapid dynamic change resulting from the simultaneous change in consumer behavior, development of new technologies, entry of new players, and integration of online and offline markets.

The enormity of these changes is apparent just by comparing the state of online competition in 2015 versus 2005 in a developed country like the US. Ten years ago, Google was the leading provider of online search on the web, Microsoft controlled desktop computing, four

11 Indian Tower Industries, "The Future is Data," Deloitte India, June 2015, p. 28.

12 Pew Research Center, "Internet Seen as Positive Influence on Education but Negative on Morality in Emerging and Developing Nations," March 2015, <http://www.pewglobal.org/2015/03/19/1-com-munications-technology-in-emerging-and-developing-nations/>.

13 SnapDeal.com, <http://www.snapdeal.com/>. A rupee equals about US\$0.015 or 1.5 cents as of November 29, 2015.

14 Smashing Boxes, "The Smartphone's Impact on Social Change," January 30, 2015, <http://smashingboxes.com/ideas/the-smart-phones-impact-on-social-change>.

telecommunication giants exerted significant control over most aspects of mobile phones, Facebook was a nascent social network used mainly in colleges, and Amazon was an online retailer. Today, search has migrated to online marketplaces, with Amazon serving as a search engine in front of a giant electronic mall, and to social networks, where Facebook is greatly sought after for online advertising because it enables social search and recommendations. Apple and Google have become significant players in the mobile ecosystem, and mobile phones have eroded the sales of PCs and Microsoft Windows. Amazon has become a prominent vendor of cloud computing resources used by many of the websites and apps behind the online economy.

Given the pace of change it is likely that the state of competition will be vastly different in 2020 than in 2015. Changes are likely to occur even more rapidly in fast-growing places like India. While India has lagged the US and other developed nations in adoption and penetration of landline phones, fixed broadband Internet, and PCs—the old technologies—it has leapfrogged into mobile phones, mobile high-speed Internet, and mobile computing, suggesting that these newer technologies will be even more consequential, than they have been in the US, in shaping competition in the online economy. Consequently, the analysis of market definition and market power analysis need to be less rigid, analyze a broader range of competitive dynamics, and be more forward looking.

The move to smart mobile, and the disruptions that shift is causing to the online economy, create four implications for antitrust analysis.

- 1) Changes in consumer behavior, online entry based on mobile apps, and increased competition between mobile app-centric and website-brows-

er centric businesses, lead to crossing and overlap between previously-separate markets, and are likely to reduce the extent to which online providers possess market power.

- 2) Rapid changes in consumer behavior and online entry increase the likelihood of making mistakes in market definition and market power analysis. It has become increasingly difficult to predict the future even a few years ahead.
- 3) The rapid and unpredictable shifts in competitive dynamics, and technologies, caused by the shift to smart mobile make it more difficult to design remedies, which are effectively shooting at a moving target.
- 4) There is a greater likelihood of remedies having negative unintended consequences by, for example, limiting competition by incumbents against fast-moving entrants who quickly emerge as powerhouses. That is particularly so during these times of intense disruptive innovation resulting from the move to using mobile apps.

As the online economy produces innovative new technologies, services, and business models, spurred by the move to smart mobile, it is vital that policy and antitrust analysis account for these four implications, in order to ensure that these innovations continue to improve the functioning of society, business, and the economy.

This paper has four sections including this Introduction. Section II documents the growth of smart mobile and its impact on online and offline businesses and on consumer behavior. It focuses mainly on what's happened in the

US and other developed countries. Section III presents a detailed analysis of how smart mobile is affecting consumers and businesses in the fast-growing Indian economy. India exemplifies countries in which smart mobile is likely to leap frog traditional Internet industries based on using a PC-based browser to access websites. Section IV examines the implications of disruptive innovations surrounding smart mobile for antitrust analysis.

## **II. How Smart Mobile Has Changed Online and Offline Businesses and Consumer Behavior**

During the 2000s mobile feature phones became ubiquitous around the world. They changed how people communicated with each other by untethering phones from fixed lines, by providing text messages, and by making it easy to take and share photos. Initially, these devices primarily served voice communication and a smattering of other features such as text messaging, music, and FM radio. This limited role of mobile devices was transformed around 2005 with the development of “smart” phones. Smartphones employ a full-blown operating system and have essentially unlimited capabilities, because they enable end-users to install third-party application programs (or apps). Leveraging Internet standards and cloud computing, these small portable devices imported the full power of modern computing, through easy-to-use apps connected with powerful computers, software, and data over the Internet. Building on that foundation the rapid spread of smartphones starting around 2010 is having profound changes in every facet of the online economy.

### **A. Why the World is Moving Rapidly to Smart Mobile**

Mobile computing is characterized by a busi-

ness-technology-ecosystem. A high level of adoption and usage requires a combination of a massive user base, affordable but highly capable hardware, fast data networks with affordable access plans, and a large collection of useful services and applications. Four developments have resulted in the widespread use of mobile devices for online activities. In the 2000s, mobile broadband technologies were developed that made it possible for mobile network operators to build mobile broadband networks that were fast enough for conducting online activities. These technologies included methods for making more efficient use of the wireless spectrum for transmitting data and chip technologies for mobile handsets that worked with the new mobile broadband standards and provided powerful computing devices. Although these mobile broadband networks didn't become widely available in developed countries until after 2010 it was apparent earlier in the 2000s that they would be forthcoming.

That anticipation led to the second major development. A number of technology companies started investing in developing mobile phones that could provide online access as well as make basic phone calls. This required developing mobile handsets, mobile operating systems that could run those handsets and support applications, and applications that could make the handset particularly useful. Apple adopted a vertically integrated approach in which it produced the mobile operating system (iOS) and handset (iPhone). Google focused on developing an open source operating system (Android), providing a standard hardware and software framework for third-party handset makers, and organizing the Open Handset Alliance (OHA) to produce mobile phones. Both approaches worked well. Apple launched the iPhone, based on the iOS operating system in June 2007. To help kick off the Android ecosystem, Google, working with a HTC, introduced the HTC Dream phone based on the Android



operating system in October 2008.

Mobile apps made available through “app stores” were the foundation for the third development. Apple, Android, and other mobile operating system providers made it possible for developers to write apps that used the features and functions of the phone, including location-based services, and availed themselves of a connection to the Internet that was usually on so long as the phone was turned on. These mobile apps also enabled people to consume content on the app offline as well as online. The mobile operating system vendors then created “app stores” to provide a convenient way for developers to distribute apps to users and for users to obtain these apps. Consumers and developers saw the iOS and Android-based devices as superior to existing offerings from Blackberry, Microsoft, and Symbian. The positive feedback between consumer adoption and app development propelled Apple and Android mobile adoption. By June 2015, there were around 1.5 million apps for each of these platforms.<sup>15</sup> Consumers had downloaded more than 100 billion apps by June 2015.<sup>16</sup>

The fourth development was cloud computing whose power goes hand-in-hand with the development of faster mobile broadband. There are now 5.3 million server computers connected to the Internet.<sup>17</sup> Companies own or lease servers, on which they store the content that they make available to their customers and

others. Together, these servers, which sit on the edge of the physical network of networks, are called the “cloud.” They provide the computational resources and data for what people do on their personal computer and smart phones. As Internet speeds have increased, there is little difference between using an app on a mobile device connected to the cloud and using a software application installed on a hard drive on a PC. Lightweight apps, many of which can fit on a smart phone, can function as front-ends to elaborate software systems with extensive databases and deep algorithmic search. For instance, ride-sharing services such as Uber use large amounts of historical data (such as about traffic patterns and sharing patterns) as well as real-time data (such as about traffic conditions and the location and preferences of riders) as the fuel for intelligent algorithmic search and optimization programs that produce ride-sharing allocations in real-time.

The rate of adoption of smart mobile devices in the US accelerated with the rollout of faster mobile broadband in the US. The number of mobile broadband subscriptions with speeds of 256 Kbps or more per inhabitant increased from 65.5 in 2011 to 97.9 in 2014.<sup>18</sup> Over those same years, Pew Research Center reports that the percent of people 18 and older with smartphones increased from 35 percent to 64 percent.<sup>19</sup> Likewise, comScore reports that the

15 David Curry, “Apple iOS App Store Reaches 1.5 Million Apps,” June 15, 2015, <http://www.itproportal.com/2015/07/15/apple-app-store-milestone/>; AppBrain, <http://www.appbrain.com/stats/number-of-android-apps>; Jose Maria Delos Santos, “Top 5 Best Native Apps for Project Management,” [project-management.com](http://project-management.com/top-5-best-native-android-apps-for-project-management/), August 18, 2015, <http://project-management.com/top-5-best-native-android-apps-for-project-management/>.

16 Harrison Weber, “Apple’s App Store Passes 100B Downloads and \$30B Paid to Developers,” [VentureBeat](http://venturebeat.com/2015/06/08/apples-app-store-passes-100-billion-downloads/), June 8, 2015, <http://venturebeat.com/2015/06/08/apples-app-store-passes-100-billion-downloads/>.

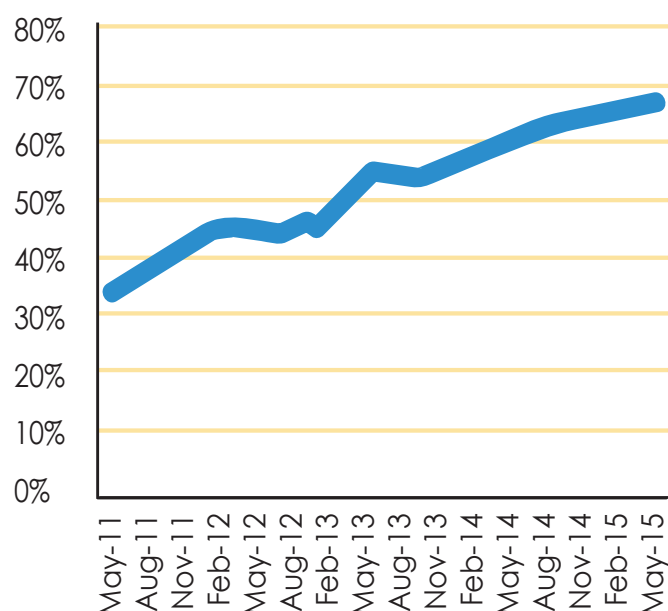
17 Netcraft, “June 2015 Web Server Survey,” <http://news.netcraft.com/archives/2015/06/25/june-2015-web-server-survey.html>.

18 This number overstates the penetration rate of mobile broadband since some inhabitants have more than one mobile broadband subscription. Broadband Commission, “The State of Broadband 2015: Broadband as a Foundation for Sustainable Development,” September 2015, <http://www.broadbandcommission.org/documents/reports/bb-annualreport2015.pdf>; Broadband Commission, “The State of Broadband 2014: Broadband for All,” September 2014, <http://www.broadbandcommission.org/documents/reports/bb-annualreport2014.pdf>; Broadband Commission, “The State of Broadband 2012: Achieving Digital Inclusion for All,” September 2012, <http://www.broadbandcommission.org/documents/reports/bb-annualreport2012.pdf>.

19 Aaron Smith, “Smartphone Adoption and Usage,” Pew Research Center, July 11, 2011, <http://www.pewinternet.org/2011/07/11/smartphone-adoption-and-usage/>; Aaron Smith, “U.S. Smartphone Use in 2015,” April 1, 2015, <http://www.pewinternet.org/2015/04/01/us-smartphone-use-in-2015/>.

number of people 13 and older with smartphones increased from 98 million in the three months ending December 2011 to 182 million in the three months ending December 2015.<sup>20</sup> Figure 1 shows the rapid growth between 2007 and 2015 in the percent of American adults with a smart mobile phone.

**Figure 1: Evolution of US Smartphone Ownership and Access to Mobile Broadband**



Sources: Pew Research Center, “Device Ownership over Time,” July 2015, <http://www.pewinternet.org/data-trend/mobile/device-ownership/>.

Less prosperous, but now rapidly growing, countries are following a similar path. Until now, although mobile phones have become ubiquitous in developing countries, relatively few consumers use smart mobile phones—only about 30 percent of Indians who have mobile

phones have smartphones.<sup>21</sup> Many of the people who do have smart mobile phones do not use them much for online access because their mobile network operators (MNOs) do not offer sufficiently fast, or cheap, mobile broadband. For instance, as 2014 Q4, the slower technology dominated data networks in India; high-speed data networks accounted for only 11 percent of unique mobile phone connections in India vs. 85 percent in the US.<sup>22</sup> In India, one megabyte per second costs around \$61, which makes it very expensive for the average person.<sup>23</sup>

Three phenomena in historically poorer but rapidly growing countries, however, are changing this situation rapidly. First, the MNOs are rolling out fast mobile broadband networks across those countries and the cost of mobile broadband is declining for their residents. For mobile operators in India, cut-throat competition in the voice market, where a preference for prepaid plans has driven the cost of calling below 50p per minute, provides an imperative to invest heavily in high-speed data networks and promote smartphones for data-intensive tasks such as entertainment, shopping and multimedia communication. In India, for example, active mobile broadband subscriptions increased from 1.9 percent in 2011 to 5.5 percent in 2014 while telecom operators like MTS announced a price reduction of about 33 percent of its mobile broadband tariffs.<sup>24</sup>

21 Kishalaya Kundu, “HSBC: India Surpasses China in Premium Smartphone Sales,” *Android Headlines*, July 11, 2015, <http://www.androidheadlines.com/2015/07/hsbc-india-surpasses-china-premium-smartphone-sales.html>.

22 The slower networks are 2G and the faster ones are 3G and 4G/. GSMA Intelligence, <https://gsmaintelligence.com/data/>.

23 Darrell M. West, “Digital Divide: Improving Internet Access in the Developing World through Affordable Services and Diverse Content,” Center for Technology Innovation at Brookings, February 2015, [http://www.brookings.edu/~media/research/files/papers/2015/02/13-digital-divide-developing-world-west/west\\_internet-access.pdf](http://www.brookings.edu/~media/research/files/papers/2015/02/13-digital-divide-developing-world-west/west_internet-access.pdf).

24 Broadband Commission, “The State of Broadband 2015: Broadband as a Foundation for Sustainable Development,” September 2015, <http://www.broadbandcommission.org/documents/reports/bb-an>

20 comScore, “comScore Reports December 2011 U.S. Mobile Subscriber Market Share,” February 2, 2012, <https://www.comscore.com/Insights/Press-Releases/2012/2/comScore-Reports-December-2011-US-Mobile-Subscriber-Market-Share>; comScore, “comScore Reports December 2014 U.S. Smartphone Subscriber Market Share,” February 9, 2015, <https://www.comscore.com/Insights/Market-Rankings/comScore-Reports-December-2014-US-Smartphone-Subscriber-Market-Share>.



Second, as average incomes increase, as the price of smart mobile phones decline, and as mobile broadband become cheaper and faster, more people are adopting smart mobile phones. Third, with higher incomes and lower rates for mobile broadband, smartphone users have increased their consumption of mobile apps, data services, and mobile browsing.

## B. How Mobile Changes Online Access

Before smart mobile devices became widespread people used their personal computers to engage in online activities. In the US, and other developed countries, local cable and telecom companies extended wires to households and businesses that connected these households and businesses to the network of networks that comprise the physical Internet. By 2010, about 23.7 percent of American households had fixed broadband connections with speeds of 3 Mbps or more.<sup>25</sup> People then used a browser on their personal computer to access websites from personal computers at home or work. Starting with the birth of the commercial Internet in the mid 1990s online businesses developed websites that people could access from multiple browsers.

In retrospect there were two major limitations to the "PC-fixed broadband-browser" model. The first was the costs. The average price of a personal computer in 2010 with a typical suite of consumer software was \$615 and the average annual cost of a fixed broadband connection

was \$828.<sup>26</sup> As of 2010, 23 percent of American households didn't have a personal computer and 29 percent did not use the Internet primarily because they were poor households who couldn't afford it.<sup>27</sup> Other developed countries were in a similar position. PC and broadband penetration were much worse in poorer countries. In 2010, only 6.1 percent of Indian households had personal computers and only 8.5 percent had access to the Internet.<sup>28</sup> In fact, except for the wealthiest of citizens, the online revolution hadn't really touched the billions of people on earth who weren't fortunate to live in one of the developed countries.

The second limitation was the fact that when it came to accessing the online world, people were tethered to places that had fixed broadband connections. Increasingly, locations, such as airports and coffee shops, had "WiFi" that provided Internet connectivity in their locations. But people generally didn't have any connection to the Internet when they were out and about or even when they were wandering around their homes.

Smart mobile phones with mobile broadband access changed this situation in fundamental ways. People got the equivalent of an Internet-connected personal computer in a tiny package that they could carry with them all the time. That increased both the time during the day, and physical places, where people could engage in online activity. The proliferation of mo-

nualreport2015.pdf; Broadband Commission, "The State of Broadband 2012: Achieving Digital Inclusion for All," September 2012, <http://www.broadbandcommission.org/documents/reports/bb-annual-report2012.pdf>; Tech2 News, "MTS Drops Mobile Broadband Tariffs by up to 33 Percent," October 6, 2014, <http://tech.firstpost.com/news-analysis/mts-drops-mobile-broadband-tariffs-33-percent-236836.html>.

25 National Telecommunications and Information Administrations (US), "U.S. Broadband Availability: June 2012 – June 2012," May 2013, [https://www.ntia.doc.gov/files/ntia/publications/usbb\\_avail\\_report\\_05102013.pdf](https://www.ntia.doc.gov/files/ntia/publications/usbb_avail_report_05102013.pdf).

26 Ben Worthen, "Rising Computer Prices Buck the Trend," Wall Street Journal, December 13, 2010, <http://www.wsj.com/articles/SB10001424052748704681804576017883787191962>; Federal Communications Commission (US), "International Broadband Data Report (Second)," May 20, 2011, <https://www.fcc.gov/reports/international-broadband-data-report-second>.

27 Thom File and Camille Ryan, "Computer and Internet Use in the United States: 2013," American Community Survey Reports, ACS-28, US Census Bureau, November 2014, <http://www.census.gov/content/dam/Census/library/publications/2014/acs/acs-28.pdf>.

28 OECD, Key ICT Indicators, 2012, [http://www.oecd.org/sti/economy/Final\\_6.a\\_PC%20Households\\_2012.xls](http://www.oecd.org/sti/economy/Final_6.a_PC%20Households_2012.xls); Internet World Stats, "India," <http://www.internetworldstats.com/asia/in.htm>.

mobile apps supported by the mobile operating systems provided innovative ways for developers to provide services to consumers. Location-based technologies enabled developers—through mobile apps or websites accessed from the browser—to provide services based on where the consumer was or wanted to go.

The adoption of smart mobile phones has resulted in a high density of Internet connections throughout physical space. Most of the people moving around Manhattan by foot, car, or subway, for example, now have a smart mobile device and are online either actively, because they are using an app or browsing, or passively because they can receive alerts. A few years ago most people could go online only if they were sitting at a computer at their home or, in some cases, their office.

Moreover, with new methods and standards for machine-to-machine communication, enormous amounts of computation and communication occur without the active participation of the user. For instance, consider a smartphone user who has a Nike Running app, a Facebook account, online calendar, and a Picasa photo

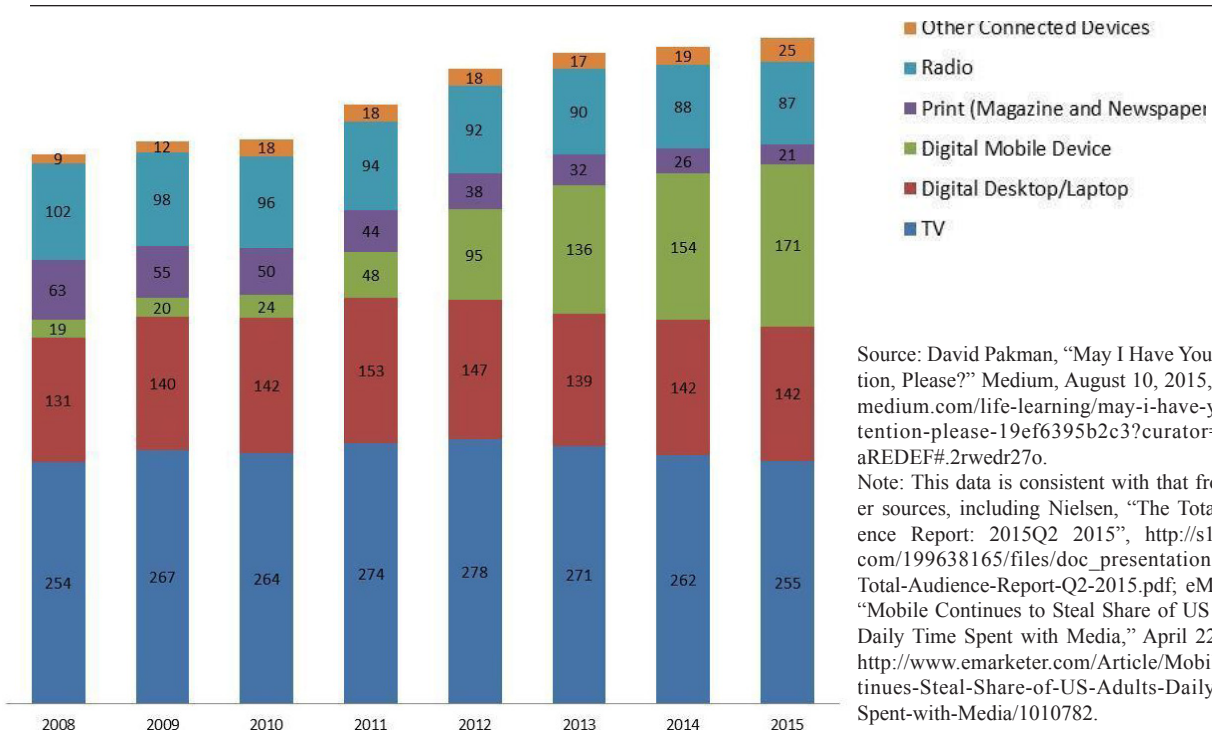
account: for this user, a jog can automatically lead to a Facebook post, a camera picture is instantly communicated to a Picasa group or Instagram, and a calendar entry causes a mapping service to communicate the best travel option for the user's next meeting.

Not surprisingly, enabling most people to be connected most of the time, and using a plethora of apps, has had huge ramifications for people and businesses.

### C. The Impact of Smart Mobile on How People Spend Their Time

Now that people can always be online, they go online more than they used to. Figure 2 shows the minutes a day that Americans spent online using personal computers or mobile devices from 2008 to 2015. The total number of minutes more than doubled from 150 minutes in 2008 to 313 in 2015. The proportion of this time spent on mobile increased from 12.7 percent in 2008 to 54.6 percent in 2015.

**Figure 2: Daily Time Spent per Media Platform in Minutes, United States**



Source: David Pakman, "May I Have Your Attention, Please?" Medium, August 10, 2015, <https://medium.com/life-learning/may-i-have-your-attention-please-19ef6395b2c3?curator=MediaREDEF#.2rwd27o>.

Note: This data is consistent with that from other sources, including Nielsen, "The Total Audience Report: 2015Q2 2015", [http://s1.q4cdn.com/199638165/files/doc\\_presentations/2015/Total-Audience-Report-Q2-2015.pdf](http://s1.q4cdn.com/199638165/files/doc_presentations/2015/Total-Audience-Report-Q2-2015.pdf); eMarketer, "Mobile Continues to Steal Share of US Adults' Daily Time Spent with Media," April 22, 2014, <http://www.emarketer.com/Article/Mobile-Continues-Steal-Share-of-US-Adults-Daily-Time-Spent-with-Media/1010782>.

People typically rely on apps when they use their smartphones. The typical smartphone user in the US used about 27 apps per month as of the 2014Q4.<sup>29</sup> Table 1 shows the breakdown of how people spend their time. Importantly, smartphones are really not used much as phones in the US. Making phone calls and sending text messages account for only 16 percent of the time. Of the time people spend online, 90 percent is spent using mobile apps and only 10 percent is spent accessing websites using their browser.<sup>30</sup> The story is similar for smart mobile phone users in India.

**Table 1: Mobile Time Usage in the United States and India, 2015**

	United States	India
Utility Features and Apps	33%	20%
Multimedia Apps	16%	12%
Games	11%	9%
Other	10%	9%
Web Surfing	9%	10%
Messaging	9%	2%
Phone Calls	7%	12%
Chat and VOIP	4%	26%

Source: Nielsen Informat, "International Smartphone Mobility Report," March 2015, p. 14.

#### D. Market Disruptions Resulting from the Move to Smart Mobile

The shift of the time spent online to mobile devices, and the shift from using browsers to apps has, not surprisingly, disrupted many aspects of the online economy. Communication

among people is moving swiftly to messaging apps, away from voice, text messaging, email, and browser-based methods. According to data from comScore, mobile apps accounted for 52 percent of the time spent using digital media while desktop-based digital media consumption took 40 percent (mobile web browsing took up the remaining 8 percent).<sup>31</sup> People increasingly engage in social networking from apps on their mobile devices rather than using a browser from their personal computers. A report by BI Intelligence confirms that 60 percent of social media time is spent, not on desktop computers, but on smartphones and tablets.<sup>32</sup> Commerce is moving from people using their browsers on their personal computers in fixed locations to search, discover, and buy to using apps on mobile devices often while they are making shopping trips or just happen to be out and about.

The changes taking place in shopping illustrate how quickly and dramatically the move to smart mobile is changing the behavior of people and businesses. Smart mobile devices enable people to blend physical and online shopping and retail stores are reacting to this change in consumer behavior. People can use specialized apps such as AroundMe to suggest where they should shop given their current locations, using retailer apps get notifications from stores they're near, and compare prices using apps such as PriceGrabber.

As a result, a significant amount of the activity surrounding the "path to purchase" for consumers is moving to mobile devices in developed economies such as the US. That is seen in

29 Nielsen, "So Many Apps, So Much More Time for Entertainment", 2015, <http://www.nielsen.com/us/en/insights/news/2015/so-many-apps-so-much-more-time-for-entertainment.html>.

30 Simon Khalaf, "Seven Years into the Mobile Revolution: Content is King ... Again," Flurry Insights, August 26, 2015, <http://flurrymobile.tumblr.com/post/127638842745/seven-years-into-the-mobile-revolution-content-is>.

31 Sarah Perez, "Majority of Digital Media Consumption Now Takes Place in Mobile Apps," TechCrunch, August 21, 2014, <http://techcrunch.com/2014/08/21/majority-of-digital-media-consumption-now-takes-place-in-mobile-apps/>; comScore, "The U.S. Mobile App Report," August 21, 2014, <http://www.comscore.com/Insights/Presentations-and-Whitepapers/2014/The-US-Mobile-App-Report>.

32 <http://www.businessinsider.com/social-media-engagement-statistics-2013-12>.

a number of ways. Many Americans, and most “millennials”—those who are between roughly 20 and 35 in 2015—use smart mobile phones as part of their process of buying goods. According to Thrive Analytics, 90 percent of adults, and 97 percent of millennials, use smart mobile phones as part of their typical shopping practices.<sup>33</sup> Advertisers are directing a significant amount of their spending to mobile devices. Facebook earned 14 percent of its global advertising revenue from mobile in 2012Q3.<sup>34</sup> As of 2015Q3 it earned 78 percent of its advertising revenue on mobile.<sup>35</sup> Consumers aren't just using mobile to help in the search for and discovery of things to buy. Increasingly, they are consummating their purchases on mobile devices. Americans made 57 percent of their online purchases from mobile devices in 2014 compared with virtually none before 2010.<sup>36</sup> As noted above, on Thanksgiving Day, November 26, 2015, around 60 percent of US website visits were made from mobile devices in the US.<sup>37</sup>

Whereas online shopping was previously based on computers and web browsers, online commerce on mobile devices is largely conducted via apps that enable people to buy conveniently online or at physical stores. Several social networking and communication platforms that are used predominantly on mobile devices have transitioned from helping people discover and evaluate products to enabling people to buying products online. Twitter, for example, has integrated a “Buy Now” button

as part of an effort to enable people to “have even more opportunities to discover and purchase products from the brands they love on Twitter.”<sup>38</sup> Other platforms that are taking similar approaches include Facebook, Facebook Messenger, Pinterest, WeChat, and SnapChat.<sup>39</sup>

These changes in consumer shopping behavior are resulting in a revolution in retail.<sup>40</sup> Retail stores are developing “omnichannel” approaches that integrate physical stores, mobile apps, and websites and provide consumers with multiple choices of how to shop and buy.<sup>41</sup> Because consumers have more and better ways to make their purchase decisions they increasingly go to a store only after making a decision to buy something there. Since they engage in less comparison shopping foot traffic to stores is declining. Retailers are reducing the size of stores and reorganizing their businesses to cater to this change in behavior. More retailers are letting consumers order online—often with mobile—and pick up in store.

The latest step in this revolution is “hyperlocal” retail, where physical and online stores aim to provide instant gratification through same-day delivery, in some cases within a few hours of order placement. Hyperlocal retail is growing

33 <http://www.thelsa.org/main/pressreleases/mobile-use-now-surpasses-pcs-when-searching-for-lo-3080.aspx>; <http://www.defymedia.com/2014/09/11/millennials-using-smartphones-store/>.

34 Facebook Inc., “10-Q for Period Ending September 30, 2012,” p. 27.

35 Facebook Inc., “10-Q for Period Ending September 30, 2015,” p. 40.

36 <http://www.pcmag.com/article2/0,2817,2474217,00.asp>.

37 Hiroko Tabuchi, “Black Friday Shopping Shifts Online as Stores See Less Foot Traffic,” *New York Times*, November 27, 2015, [http://www.nytimes.com/2015/11/28/business/black-friday-shopping-shifts-online-as-stores-see-less-foot-traffic.html?\\_r=0](http://www.nytimes.com/2015/11/28/business/black-friday-shopping-shifts-online-as-stores-see-less-foot-traffic.html?_r=0).

38 Nathan Hubbard, “More Ways to Sell Directly on Twitter,” *Twitter Blog*, September 30, 2015, <https://blog.twitter.com/2015/more-ways-to-sell-directly-on-twitter>.

39 <http://outtosea.co.uk/articles/social-commerce-trends-2015/>; <http://a16z.com/2015/08/06/wechat-china-mobile-first/>.

40 See Evans and Schmalensee, *Matchmakers: The New Economics of Multisided Platforms*, Chapter 12, forthcoming 2016.

41 Jennifer Kasper (Group Vice President, Digital Media and Multi-Cultural Marketing), “Macy’s Goes Omni-Channel,” interview, *ThinkWithGoogle*, October 2014, <https://www.thinkwithgoogle.com/interviews/macys-goes-omni-channel.html>; Angela Ahrendt (CEO of Burberry), “Burberry’s Digital Transformation,” interview by Capgemini Consulting, 2012, [https://www.capgemini.com/resource-file-access/resource/pdf/DIGITAL\\_LEADERSHIP\\_\\_An\\_interview\\_with\\_Angela\\_Ahrendts.pdf](https://www.capgemini.com/resource-file-access/resource/pdf/DIGITAL_LEADERSHIP__An_interview_with_Angela_Ahrendts.pdf); Warby Parker, “Homepage,” accessed August 28, 2015, <https://www.warbyparker.com/>; Dennis Green, “Bonobos Is Opening Retail Stores – But You Can’t Actually Take Any of the Clothes Home,” *Business Insider*, July 16, 2015, <http://www.businessinsider.com/bonobos-opened-a-store-where-you-cant-physically-buy-anything-2015-7>.



rapidly in both developed countries such as the US and developing countries such as India, and is fueled by high-speed supply chains, highly localized data, and location-awareness due to mass adoption of mobile devices.

### E. Smart Mobile and Competitive Dynamics of the Online Economy

The move to smart mobile is one of the major factors in a dramatic shift in the competitive landscape in the online economy. These changes in the competitive landscape are driven by a profound shift that combines technological innovation and business strategy. With respect to market definition and competition, a crucial feature of smartphones is that they are based on full-fledged operating systems, on account of which consumers can install third-party apps at any time after acquiring the phone. This shift to operating systems has destroyed the pipe-model of mobile telephony that was prevalent until the launch of the iPhone, in which value and features came to consumers through a strictly linear chain comprising feature developers, phone manufacturers and mobile operators, and the “walled-garden” model in which the mobile operators maintained strict control of what was on mobile phones on their systems.<sup>42</sup> The replacement of this linear model, and the walled garden, with a “platform” model has transformed the market, resulting in the demise of phone makers that could not keep up (such as Nokia), and drastically reducing the once considerable power of mobile network operators in many developed countries.

To get a sense of the change in competitive dynamics it is useful to consider what has happened to several key players.

The most dramatic change is that Apple has become one of the most valuable companies in the world largely based on its sales of iPhones.

One could argue that Apple is really a manufacturer and, except for its digital music business, not a significant online player at all. That misses the essence of what Apple is and why it sells iPhones. The Apple iPhone, and its other mobile devices, are valuable primarily because they provide a platform for online activity. Apple’s mobile operating system, iOS, and its App Store anchor a vast ecosystem of mobile applications. Although Apple accounts for fewer smartphone sales than Android, iPhones tend to be used much more for online activity while Android phones tend to be used much more for voice calls and text. In the US, for example, where Apple accounts for only about 38 percent of the 2015 smartphone installed base, its users accounted for around 62 percent of the time spent on mobile and 71 percent of spending on mobile apps occurs on iOS-based devices.<sup>43</sup>

Another remarkable change involves Facebook. In 2010, Facebook was only six years old and two years away from its IPO. It was only two years before, in May 2008, that Facebook first accounted for more pageviews than Myspace, which was the leading social networking site during the mid 2000s. As of 2015, Facebook provides three of the 10 most popular mobile apps as measured by downloads by American smartphone mobile media users.<sup>44</sup> Facebook itself is the most popular mobile app, Facebook Messenger is the third most popular mobile app, and Instagram, which Facebook owns, is the ninth most popular. Altogether, Facebook’s apps account for 13 percent of unique visitors on mobile phones according to a report by Forrester Research.<sup>45</sup> Facebook makes money by selling advertising that reaches people who visit its properties. According to eMarketer, Facebook’s share of the US mobile advertising rev-

42 “Why Business Models Fail: Pipes vs. Platforms,” *Wired* magazine, <http://www.wired.com/insights/2013/10/why-business-models-fail-pipes-vs-platforms/>

43 Canalys, “Worldwide Smartphone/Mobile Phone Installed Base Forecasts (Consolidated),” June 2015; comScore, “Mobile Metrix,” April 2015; App Annie, “Store Intelligence,” June 2015.

44 <https://www.comscore.com/Insights/Market-Rankings/comScore-Reports-August-2015-US-Smartphone-Subscriber-Market-Share>,

45 <http://www.cio.com/article/2943866/mobile-apps/facebook-and-google-dominate-time-spent-with-mobile-apps.html>,



venues is expected to grow from 18.5 percent in 2014 to 20.3 percent by 2017. Meanwhile, Google's share of overall advertising revenues is projected to drop from 37.0 percent to 31.7 percent in the same period.<sup>46</sup>

Microsoft's fortunes online have faded since 2010 although it remains an immensely profitable firm as a result of its licenses for its Windows desktop and server operating system and its Office productivity app. In 2007, Microsoft was the second largest provider of operating systems for smart mobile phones with a 13.7 percent share of smart mobile phones; this share understates its importance because the leader was Symbian, which was not a good platform for app developers. It was widely expected by analysts that Microsoft would leverage its success on the desktop to mobile. Eight years later, as of July 2015, rather than being the leader Microsoft accounted for only about 2.7 percent of all smart mobile phone subscribers.<sup>47</sup> Moreover, Microsoft has virtually no presence as a mobile app provider—its worldwide share of mobile app downloads on Google Play and the iOS App Store is only 1 percent for free apps and 3 percent for paid apps, and its share of total mobile minutes in the United States for all of its properties is only 1 percent.<sup>48</sup>

Google remains a significant online player and highly valuable company. Its various properties account for about 12 percent of the time people spend on smart mobile phones.<sup>49</sup> The company, however, faces a very different competitive environment on app-based smart

mobile devices than it faced on the web-browser-based desktop. The heavy use of mobile apps, together with the natural use of voice on smart mobile phones, has opened up a new battleground for search. Apple, Google, and others are developing new methods of search that can canvass the vast amount of content being generated within mobile apps, which are not indexed by existing search engines, and new methods of interacting with the mobile device to conduct searches.<sup>50</sup> With the release of iOS 9 in September 2015, Apple redesigned Spotlight to include search results from content within apps, apparently in an attempt to steer users towards apps and away from websites.<sup>51</sup> Facebook recently launched search across postings on its properties, which are walled off from search engines and now include many mobile-based postings.<sup>52</sup>

While predicting the future is quite hazardous, the history of dynamic competition in the online economy, the rapid move from the PC-browser centric model to the smart mobile-app-centric model, and the surge of investment in mobile-app based startups, all suggest that 2020 will look dramatically different from 2015.

That is especially likely in historically poorer but now fast-growing economies. What's happening in India, which we detail next, is happening in many developing countries to varying degrees.

46 <http://blogs.wsj.com/cmo/2015/09/08/facebook-projected-to-narrow-mobile-ad-gap-with-google-as-emarketer-reverses-forecast/>.

47 <https://www.comscore.com/Insights/Market-Rankings/comScore-Reports-July-2015-US-Smartphone-Subscriber-Market-Share>.

48 App Annie, "Store Intelligence," June 2015; comScore, "Mobile Metrix," April 2015.

49 Cio, "Facebook and Google dominate time spent with mobile apps", <http://www.cio.com/article/2943866/mobile-apps/facebook-and-google-dominate-time-spent-with-mobile-apps.html>; <http://techcrunch.com/2015/06/22/consumers-spend-85-of-time-on-smart-phones-in-apps-but-only-5-apps-see-heavy-use/#.jkexdnu:5bJy>.

50 Contently, "Google and Apple Are in a War for the Future of Search", <https://contently.com/strategist/2015/08/17/google-and-apple-are-in-a-war-for-the-future-of-search/>; <http://www.ibtimes.com/apple-incs-ios-9-spotlight-app-search-could-make-google-obsolete-indexing-content-210083>.

51 Salvador Rodriguez, "Apple Inc.'s iOS 9 Spotlight In-App Search could Make Google Obsolete by Indexing Content From Every App You Own 9And Some You Don't)," International Business Times, September 17, 2015, <http://www.ibtimes.com/apple-incs-ios-9-spotlight-app-search-could-make-google-obsolete-indexing-content-2100836>.

52 Nick Statt, "Facebook is Unleashing Universal Search Across its Entire Social Network," The Verge, October 22, 2015, <http://www.theverge.com/2015/10/22/9587122/new-facebook-search-all-public-posts>.

### III. How Mobile Is Disrupting Online in Fast-Growing Economies: the Case of India

India's Internet population of 243 million is the third largest in the world, after China with 642 million and the U.S. with 280 million, as of July 2014.<sup>53</sup> The number of Internet users in India is expected to register exponential growth, reaching an estimated 500 million by 2017, making it the second largest population of Internet users. The economic impact of this growth is significant. In 2013, the Internet contributed 2.7 percent of India's GDP (USD 60 billion).<sup>54</sup> It is estimated to increase to over 4 percent of GDP by 2020 and employ nearly 22 million people.<sup>55</sup>

Beyond the contribution to GDP, the impact of the Internet in India is manifest in improved quality of life and empowerment of the country's citizens through greater and more diverse information consumption, improved access to government and essential services, and greater transparency in the delivery of these services. Indeed, the Government of India, through its "Digital India" campaign, has identified provision of digital infrastructure, digital literacy of citizens<sup>56</sup>, and digitization of services as key priorities for the government in the coming years.

53 <http://www.internetlivesstats.com/internet-users-by-country/>. Other sources give somewhat higher estimates for the number of Internet users in India. Internet and Mobile Association of India (IMAI) and KPMG, "India on the Go: Mobile Internet Vision 2017," <http://rtn.asia/wp-content/uploads/2015/07/Report.pdf>. It is estimated at over 340 million by December 2015 according to <http://www.internetlivesstats.com/internet-users/india/>.

54 Boston Consulting Group and IMAI, "India@Digital. Bharat: Creating a \$200 Billion Internet Economy," January 2015, <http://www.bcgindia.com/documents/file180687.pdf>.

55 McKinsey, "Online and Upcoming: The Internet's Impact on India," March 2013, [http://www.mckinsey.com/~/media/mckinsey%20offices/india/pdfs/online\\_and\\_upcoming\\_the\\_internets\\_impact\\_on\\_india.ashx](http://www.mckinsey.com/~/media/mckinsey%20offices/india/pdfs/online_and_upcoming_the_internets_impact_on_india.ashx).

56 The National Digital Literacy Mission (NDLM) of the Government of India envisions imparting IT training to nearly 5.2 million persons in the country so as to enable them to actively and effectively participate in the democratic and developmental process and also enhance their livelihood.

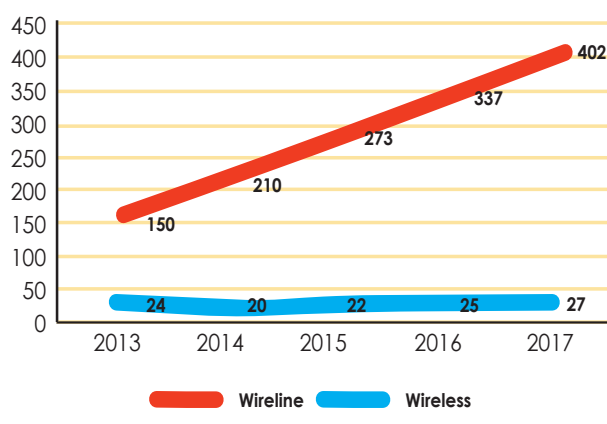
For India, though, online is now, and will be, centered on mobile.

#### A. Role of the Mobile Internet

The mobile Internet has led the exponential growth in the online economy in India. As shown in Figures 3a and 3b, wireless Internet has leapfrogged the wireline Internet access. Mobile devices are the dominant ramp to the Internet in India with 34 percent of Indians accessing the Internet exclusively from mobile devices in 2014. As of March 2014, the PC penetration rate in India was 5 percent in contrast to 75 percent for mobile devices.<sup>57</sup> Not surprisingly, industry estimates<sup>58</sup> suggest that mobile Internet users comprised over 60 percent of the online population in 2014 and are expected to comprise 70-80 percent of the online population in 2018, representing a CAGR of 27.8 percent for the period 2014-2018.

**Figure 3a: Growth in Wireline versus Wireless Internet Connections**

Internet Connections in India (in millions), 2013-2017(P)

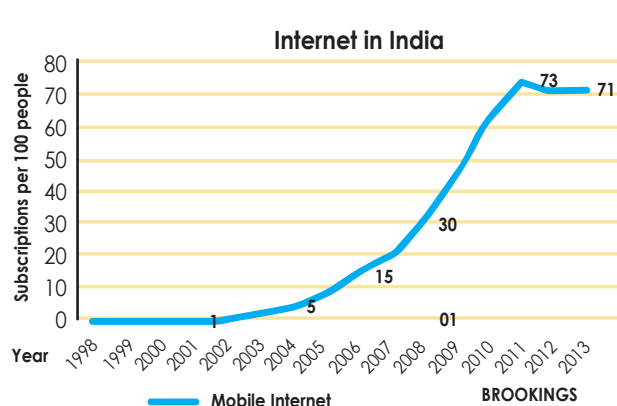


Source: Internet and Mobile Association of India (IMAI) and KPMG, "India on the Go: Mobile Internet Vision 2017," <http://rtn.asia/wp-content/uploads/2015/07/Report.pdf>.

57 Ericsson, "Ericsson Mobility Report," June 2014, <http://www.ericsson.com/res/docs/2015/ericsson-mobility-report-june-2015.pdf>.

58 Avendus, "India's Mobile Internet: the revolution has begun", 2013, [http://www.avendus.com/media/1366/avendus\\_india\\_mobile\\_internet.pdf](http://www.avendus.com/media/1366/avendus_india_mobile_internet.pdf).

**Figure 3b:**  
**Growth in Mobile Internet Subscriptions**



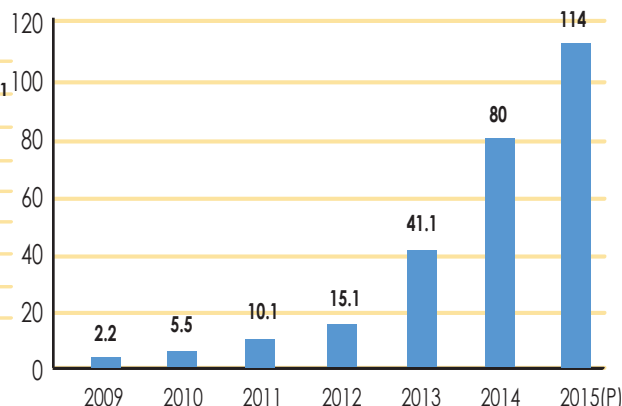
Source: Brookings (India), <http://www.brookings.edu/blogs/techtank/posts/2015/03/18-mobile-technology-india>.

At the heart of the growth in the mobile Internet population in India are two market factors, notably, growth in affordable smartphones and tablets, and improved performance of network infrastructure of telecom operators at lower costs of ownership. As shown in Figure 4, smartphone sales in India have had very high growth over the last five years, making the country the third largest smartphone market in the world. Although the smartphone penetration rate in India is low at around 19 percent the average annual growth rate in smartphone sales between 2013 and 2015 estimated at 121 percent is very high.<sup>59</sup>

The equivalent growth in China during the same period is estimated at 31 percent. Remarkably, annual smartphone shipments increased almost ten-fold between 2012 and 2015. Helped by declining average selling prices, increased competition and rising disposable incomes, the Indian smartphone industry is likely to sustain these high growth levels.

**Figure 4: Growth in Smartphone Shipments, 2009-2014**

**Smartphone Shipments in India (millions)**



Source: International Data Corporation (IDC), KPMG

In addition to increasing smartphone sales, the upgrading of network infrastructure and the improved affordability of data services of telecom operators are key contributors to growth in mobile Internet in India. Government policies, including the National Telecom Policy of 2012 that seeks to achieve rural teledensity of 100 by 2020 and permits foreign firms to own up to 100 percent of the equity of telecom firms, act as catalysts for investments in network infrastructure, especially in rural areas. While growth in rural connectivity is likely to occur through slow 2G technologies, the latter is on the decline in urban areas as an increasing number of customers migrate from slow 2G to faster 3G services.

McKinsey's Digital Consumer survey finds that nearly half of mobile users want to upgrade to a smartphone and a third of these will adopt 3G solutions giving them reasonably fast broadband. There were approximately 82 million 3G subscribers in India at the end of 2014 but this number is projected to grow at a CAGR of 61.3 percent to reach 284 million by the end of 2017.<sup>60</sup> The amount of 4G data traffic in India is

59 <http://www.bgr.in/news/smartphone-shipments-in-india-grew-229-percent-in-q3-2013-idc/>; <http://www.digitimes.com/news/a20151125PB200.html>

60 KPMG-FICCI M&E Industry Report, "The Stage is Set," 2014, <https://www.kpmg.com/IN/en/Topics/FICCI-Frames/Documents/FICCI-Frames-2014-The-stage-is-set-Report-2014.pdf>.

also expected to grow at a CAGR of 176 per cent from 2014 to 2019.<sup>61</sup> The increased adoption of smartphones is correlated with growth in mobile Internet as well as increased revenues since the average smartphone user spends almost twice the amount that an average mobile user does on mobile Internet.<sup>62</sup>

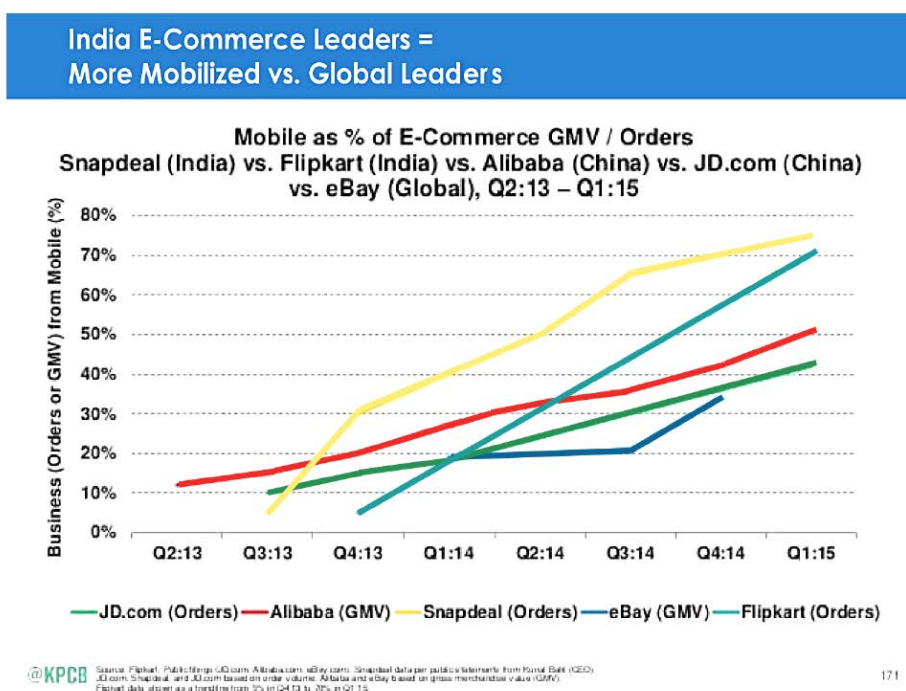
## B. Key Online Players

As these trends suggest, mobile has become important for online activity in India. For instance, nearly 42 percent of e-commerce sales occur through mobile devices in India compared with 15 percent for the US. As shown in Figure 5 below, in 2014, leading Indian e-commerce companies, including Flipkart and Snapdeal, obtained more than 70 percent of their sales (measured by “gross merchandise value” (GMV)) from mobile devices as opposed to Chinese companies Alibaba.com and JD.com that derived 40-50 percent of their sales from mobile devices. Similarly, more than 90 percent of Facebook’s Indian users<sup>63</sup>

and 60 percent of Amazon’s Indian users<sup>64</sup> access the sites through mobile devices. The recent launch and explosive growth of Paytm, a digital payments company, is another catalyst for increasing Internet and mobile commerce in India.

The importance of the mobile Internet is reflected in strategies and investments of key online companies that are idiosyncratic to the Indian market. For example, leading online fashion retailer Myntra has adopted an app-focused strategy, noting that 90 percent of traffic

**Figure 5: Share of Mobile Traffic of Leading E-Commerce Players in India**



and 70 percent of sales were coming from its mobile app. Conducting business via mobile

61 Cisco Visual Networking Index, VNI Mobile Forecast Highlights, 2014-2019, [http://www.cisco.com/c/dam/assets/sol/sp/vni/forecast\\_highlights\\_mobile/index.html#~Country](http://www.cisco.com/c/dam/assets/sol/sp/vni/forecast_highlights_mobile/index.html#~Country).

62 McKinsey, “Online and Upcoming: The Internet’s Impact on India,” March 2013, [http://www.mckinsey.com/~/media/mckinsey%20offices/india/pdfs/online\\_and\\_upcoming\\_the\\_internets\\_impact\\_on\\_india.ashx](http://www.mckinsey.com/~/media/mckinsey%20offices/india/pdfs/online_and_upcoming_the_internets_impact_on_india.ashx).

63 <http://www.bgr.in/news/90-of-facebooks-132-million-users-from-india-come-from-mobile-phones/>

64 [http://www.afaqs.com/interviews/index.html?id=469\\_Over-60-per-cent-of-our-traffic-comes-through-mobile-Manish-Kalra-Amazon-India](http://www.afaqs.com/interviews/index.html?id=469_Over-60-per-cent-of-our-traffic-comes-through-mobile-Manish-Kalra-Amazon-India)

apps enables the firm to leverage information on the consumer's location and social circle to provide customized product recommendations and timely promotions notifications. Some firms have given up on web commerce and have decided to focus exclusively on conducting business via apps. TrulyMadly, a dating and matchmaking site, Tiny Owl, a food delivery site, and RoomsTonight, an on-demand hotel booking platform, are all examples of fast growing Indian online firms that have shut down their websites, citing higher mobile traffic rates and superior conversion rates for mobile Internet customers in support of their strategy.<sup>65</sup>

Firms that have not adopted an app-only strategy have launched websites optimized for the mobile environment, in general, and slower 2G networks and areas with limited connectivity, in particular. For instance, in November 2015, Flipkart launched Flipkart Lite, a website optimized for mobile devices. The initiative was quickly replicated by its competitor, Snapdeal that launched Snap-lite. Similarly, Facebook too has developed Facebook Lite, a mobile website that uses less data, for India and other emerging markets. Google meanwhile has developed offline versions of YouTube and Maps that people can use on their mobile phones without consuming data and in places with poor coverage. Browser companies too have customized their offerings for the Indian mobile environment. UC Browser, which has more than 50 percent share of browsers in India, incorporates a slew of features to compress data, increase navigation speeds, and improve download quality, all of which are aligned with constraints in the Indian mobile environment, including dropped connections, poor availability and slow network speeds.

The importance of the mobile Internet in In-

65 Techstory, "Why Is Indian E-Commerce Adopting Mobile Strategy & What It Means For Indian Consumers", <http://techstory.in/app-only-strategy/>.

dia is also seen in the mobile-focused business models that characterize entrepreneurial activity in the country. To illustrate, a sector that has witnessed significant start-up activity and investment is hyperlocal businesses that rely on geolocation awareness using the mobile phone to enable local offline services from anywhere, anytime. In just over the past six months, over \$140 million has been raised by this class of businesses and over 28 funding deals closed.

Zopper, shopping marketplaces, PepperTap and Grofers, grocery delivery firms, Swiggy, a food delivery service, and UrbanClap, a services marketplace, are all examples of start-ups in the fast-growing hyperlocal space. Niche online marketplaces such as those in the furniture and decor category too are going hyperlocal by partnering with offline stores for a commission-based model rather than building a network of designers, manufacturers and logistics to create an online brand.<sup>66</sup> This category of business models is but an illustration of mobile-first start-ups that are disrupting the traditional Internet business in India. This transformation will be facilitated by availability of mobile-based digital payment services such as Paytm, which received a \$680 million investment from Alibaba and Ant Financial in September 2015.<sup>67</sup>

The rise of the mobile Internet, and the reductions in entry barriers has also made it easier for domestic companies to challenge international ones. While it is too soon to know how competition will play out in India Ola is challenging Uber in the ride-sharing business and Flipkart and Snapdeal are challenging Amazon.

### C. Paths to Purchase in India

66 <http://economictimes.indiatimes.com/small-biz/startups/startups-like-urban-ladder-fab-furnish-goes-hyperlocal-partners-with-offline-stores-for-commission-based-model/articleshow/49574337.cms>

67 <http://economictimes.indiatimes.com/industry/banking/finance/banking/alibaba-ant-financial-invest-about-680-million-in-paytm-up-stake-to-40/articleshow/49148651.cms>



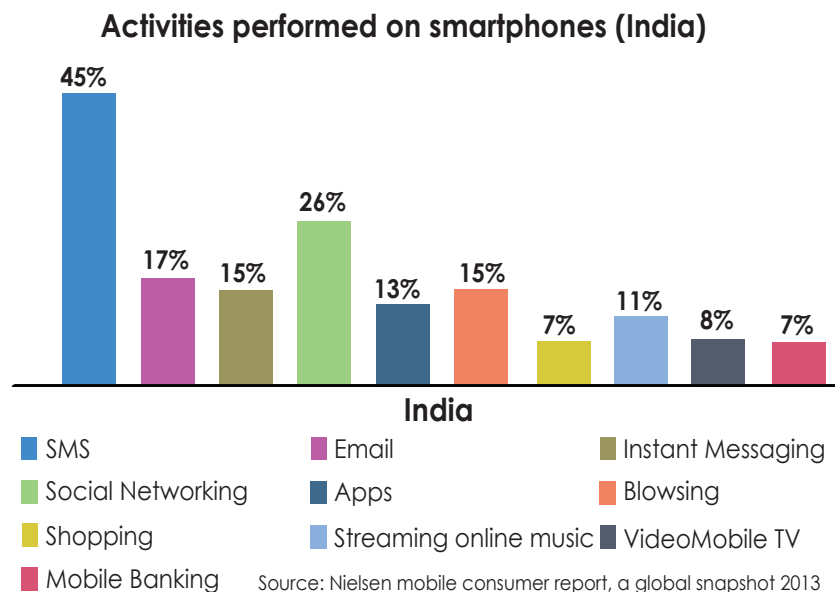
The increasingly widespread deployment of mobile Internet in India, relying on smart mobile phones, running apps, has important implications for buyer behavior and paths to product search, discovery and purchase. Several industry reports worldwide find that mobile apps, such as those from large retailers such as Amazon and Flipkart, are used for search and discovery by people with mobile phones in place of using the websites, browsers and search engines used in the desktop environment.<sup>68</sup>

Indeed, a study by Criteo<sup>69</sup> finds that, worldwide, apps convert at a rate 3.7 times higher than mobile browsers in mobile commerce. Similarly, a study by xAd/Telmetrics<sup>70</sup> on mobile paths to purchase found that mobile users in the U.S. that conduct retail research online finalize their decisions with the help of sites as Amazon, establishing the latter as a top reference for smartphone users narrowing their retail decisions. The same study found of the time people spent on Amazon on their mobile phones 79 percent was spent using of apps versus 21 percent using the web as of 2012.

Preliminary data from India confirms these differential paths to purchase in Indian mobile commerce too. Figure 6, adapted from a 2013 Nielsen consumer survey, documents the “social” nature of the mobile Internet in India,

where SMS, social networking and email and instant messaging are the leading uses of smartphones.<sup>71</sup> Interestingly, the study finds that only 15 percent of Indian smartphone users use the device to browse the web. This estimate is in contrast to the case of China and U.S., where the proportions of smartphone users who use the device to browse the web are 75 percent and 82 percent respectively. The Nielsen findings confirm the limited role of the mobile web in Indian mobile commerce, and are consistent with those of other reports, which find that WhatsApp and Facebook are the most downloaded apps in the Indian context.<sup>72</sup>

**Figure 6: Distribution of Smartphone Activity by Proportion of Engaged Users**



68 e.g. [http://www.mmaglobal.com/files/casestudies/xAd\\_Mobile\\_Path\\_to\\_Purchase\\_Retail\\_FINAL.pdf](http://www.mmaglobal.com/files/casestudies/xAd_Mobile_Path_to_Purchase_Retail_FINAL.pdf)

69 <http://www.criteo.com/resources/mobile-commerce-report/>

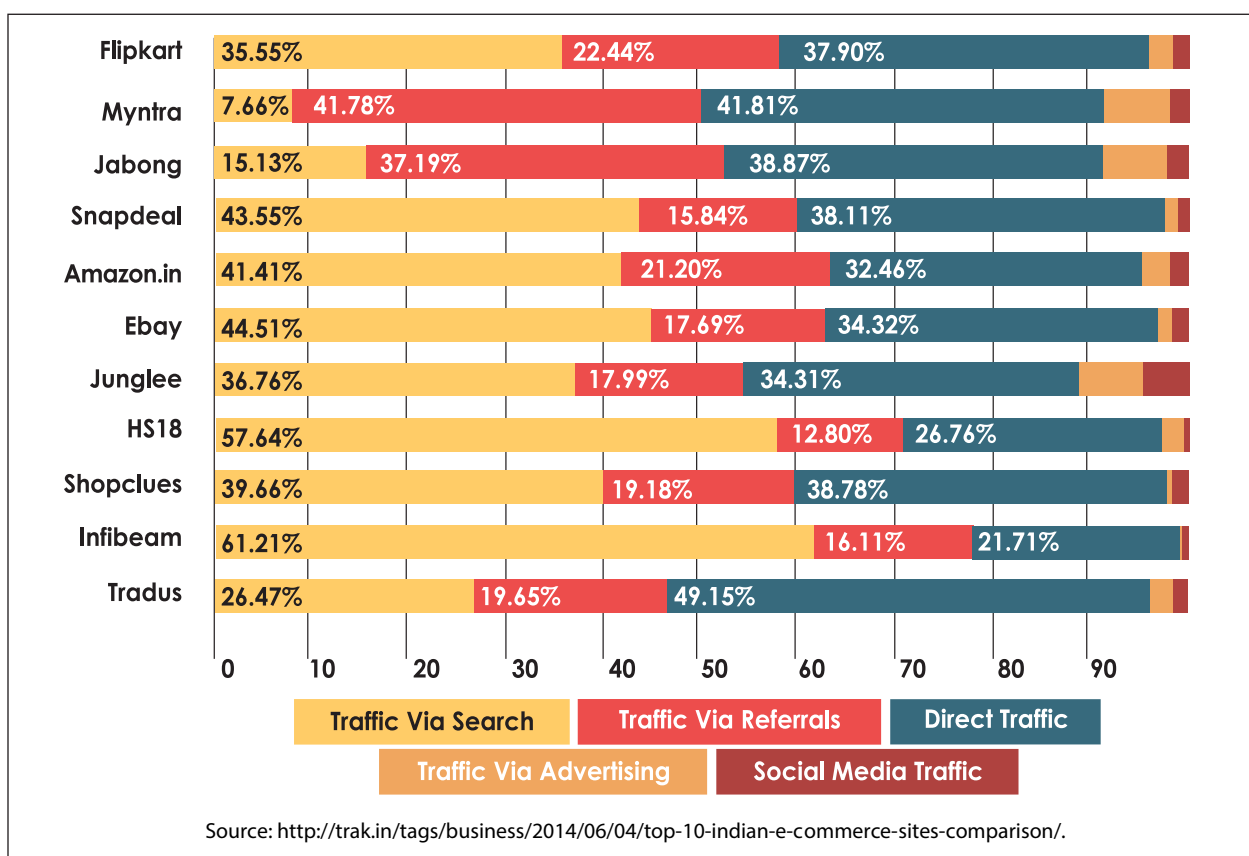
70 [http://www.mmaglobal.com/files/casestudies/xAd\\_Mobile\\_Path\\_to\\_Purchase\\_Retail\\_FINAL.pdf](http://www.mmaglobal.com/files/casestudies/xAd_Mobile_Path_to_Purchase_Retail_FINAL.pdf)

71 Nielsen, “The Mobile Consumer,” 2013, <http://www.nielsen.com/content/dam/corporate/uk/en/documents/Mobile-Consumer-Report-2013.pdf>

72 TNS, “Connected Life,” October 7, 2015, <http://www.indiatechonline.com/it-happened-in-india.php?id=2011>.

The buyer behavior discussed above is consistent with differential paths to purchase documented in Indian mobile commerce. As shown in Figure 7 below, mobile search drives a minimal component of the traffic to leading online retailers such as Flipkart, Snapdeal and Amazon; the bulk of the traffic to these sites is driven

is likely to drive accelerated adoption of the Indian mobile Internet in the future. A 2015 report by KPMG finds that smartphone sales in India are expected to grow at a projected CAGR of 53.8 per cent from 2013 to 2017, a growth rate that is significantly higher than that in other developed and developing markets. Further, while



either directly through their app or through referrals. We expect that much like the U.S., where Amazon is a first stop for 43 percent of consumers for product search (compared with Google for 34 percent of users), as the share of sales made by online retailers increases in India, such direct and referral traffic will increase many fold relative to that driven through search.

#### D. Evolution of Smart Mobile Ecosystem

Growth in the data services of Indian telecom operators, mobile content service providers, and most important, smartphone shipments

the high growth rate of smartphones in the Indian market has primarily been an outcome of domestic players that serve the low cost smartphone segment, it is expected that the country will also be a prime market for more high-end manufacturers, notably, Apple.

**Figure 7: Source of Traffic for Major Indian E-Commerce Platform**

Recent reports suggest that for the quarter ending June 2015, Apple grew at 93 percent (although off a significantly lower base).<sup>73</sup> Apple

<sup>73</sup> [http://articles.economicstimes.indiatimes.com/2015-07-23/news/64773018\\_1\\_iphone-idc-india-tim-cook](http://articles.economicstimes.indiatimes.com/2015-07-23/news/64773018_1_iphone-idc-india-tim-cook)

has engaged in aggressive pricing and marketing strategies in India to stoke this growth. It has discounted the iPhone4S and has introduced buybacks and upgrade offers for the new iPhone 6 and iPhone 6 Plus. It has also been offering discounts and increasing its retail presence through smaller-sized stores that target second and third tier cities in the Indian market.

#### **IV. Implications for Antitrust Analysis**

The preceding discussion highlights fundamental changes in technology infrastructures, technology adoption, technology use, and conduct of business activity over the Internet. These changes are transforming boundaries between existing industries, creating overlap between previously separate markets, and altering competitive forces and actors in these markets. These shifts have occurred not only with respect to offline vs. online commerce but also within different forms of online commerce. Competition authorities in developed and developing countries should factor in these changes in how they monitor and govern the online economy. Specifically, the analysis of market definition and market power needs to recognize the impact of these changes, particularly the move to smart mobile on demand-side and supply-side substitution.

Changes in consumer behavior—in particular how people discover, search and buy products, how people communicate with each other and with businesses, and how people consume content—have important implications for analyzing substitution between various online and offline services. Consumers also have access to many more options, in many more places, over a much greater space of the day than they had five years ago. Consider something as simple as buying a new television.

Ten years ago a typical consumer in the US probably did a search on their computer at home, perhaps on a Saturday morning, of on-

line sellers and in doing that might have seen some advertisements for physical sellers. That consumer may have bought from one of the online retailers or gone to some physical stores to see what they had to offer and to inspect some of the televisions available online. Today, a typical consumer could easily do this on the train on the way home or on their lunch break using their mobile device. They could search on Amazon, where the consumer could look at offerings from Amazon itself as well as many merchants that sell on Amazon Marketplace, or check out information on their social network. If they went to physical stores they could use their mobile phone to compare prices, using Amazon, Google, or various price comparison apps, and decide based on this, while they are standing at the physical store, to buy online or at the store. Increasingly, people can also use various apps to find products, buy them online, pick them up at the store, including televisions.

Competition authorities also need to consider how the move to smart mobile and development of cloud computing has altered the supply-side of the equation. De novo entry is far easier and cheaper as a result of the ability of entrepreneurs, as well as established firms, to develop apps for mobile phones, that rely primarily on the cloud-based delivery of services and data analytics, and distribute them globally to billions of people easily. The move to smart mobile has, moreover, enhanced opportunities for entry and disruptive innovation. For example, the rapid rise of Facebook as a powerhouse in mobile advertising, challenging Google, has resulted from the fact that Facebook was able to develop a highly successful mobile app and the fact that smart mobile is a much better platform for social communication since people can use it anywhere, all day.

The extent to which demand-side and supply-side substitution affect the analysis of market definition and market power is ultimately an empirical matter that needs to be addressed

on a case-by-case basis. The move to smart mobile, along with other rapid changes in the online economy, however, introduces new considerations and expands the range of demand-side and supply-side substitutes that should be considered for that analysis. Functional approaches to market definition and market power, which rely on comparing the detailed features and functions offered by products, are also increasingly less reliable. Consumers and businesses use the features and functions of apps, and mobile technology, in new and creative ways that result in apps, which appear very different, being used to accomplish the same purpose. For instance, WhatsApp, which is a messaging app, is being used in India for e-commerce, and substitutes for Amazon and Flipkart.

Market definition and market power analysis also needs to recognize the fact that the move to smart mobile is changing the competitive environment very rapidly and in unpredictable ways as we saw above. For many areas of the online economy in developed countries the set of significant players one would have identified as demand or supply-side substitutes in 2010 is very different that the set one would identify in 2015 or the set of players one would have identified in 2005. An analysis based on information in 2005 would not have identified mobile-based advertising as a competitive to web-based advertising and would not have anticipated that a year-old company, Facebook, would become one of the largest online advertising companies. Likewise, in 2010, few would have predicted the extent to which messaging apps such as WhatsApp and WeChat would obtain massive global user bases and provide strong substitutes for other methods of communication.

These changes entail that the analysis of market definition and market power needs to be forward looking—anticipating what is likely to happen as this will affect the ability and incentive of firms to engage in abuse of domi-

nance—and modest and flexible—since the ability to predict the evolution of competition has proven to be extremely difficult, and will become more so as the smart mobile disruption continues. This point is even truer in fast-growing economies such as India because the online economy is developing much more rapidly, from low levels, as mobile broadband and smartphones reach critical levels.

The move to smart mobile, and the considerations we have discussed, have four major implications for antitrust analysis. In each case we are recommending that competition authorities exercise greater caution, not that they adopt a *laissez-faire* approach.

First, apparent market power may not reflect real or durable market power because changes in consumer behavior in response to new technologies and the entry of new mobile apps are likely, based on past experience, to provide strong competitive constraints. It is increasingly easy to develop new mobile apps to attack market inefficiencies, including that resulting from market power. Previously separate markets easily cross and overlap as digital technologies lead to convergence. These changes expose market leaders to competition from new players who speedily achieve huge penetration, as well as to powerful players in adjacent markets.

Second, rapid changes in consumer behavior and entry increase the likelihood of making mistakes in the analysis of market definition and market power. In static markets with well-defined differences between firms competition authorities can make judgments based on known facts with great confidence. In markets undergoing disruptive innovation, as is occurring in the online economy generally, but particularly as a result of the move to smart mobile, market relationships are fluid and are changing rapidly. That disruption may give rise to an increased number of complaints to antitrust agencies, but the concerns of a traditional, potentially less ef-

ficient, supplier may not be indicative of a risk to consumer harm. Rather the rapid innovation, often the cause of the disruption, may itself be a sign of a competitive marketplace, with consumers directly benefitting from the lower prices and better products brought about by that innovation.

Third, there is a greater likelihood of remedies having negative consequences. Since we do not really know what the competitive landscape will look like there is a lower chance that any intervention designed based on current knowledge will fix a problem and there is a higher chance that it will cause problems that we cannot envision today. Put another way, even if there could be a problem, any remedy, in such conditions, may cause more harm than good. Restraints on an incumbent firm that is perceived to have abused a dominant position, for example, could prevent that firm from challenging even more powerful entrants or other incumbents. Competition authorities face a particular risk of negative consequences from remedies sought by companies that have incentives to slow down fast-moving innovative rivals.

Fourth, these same considerations make it difficult to design remedies, or other interventions, to correct perceived abuses of dominance. A remedy that looks sensible from a backward looking perspective may make no sense in a few years, or possibly a few months, after it has been put into place. The move to smart mobile, for example, is at an extremely early stage even in developed countries. Three years ago people were still spending far more time on the PCs than on their mobile devices. There is no reason to believe that anyone can predict what the world will look like in another three years. Anyone designing interventions needs to keep the limits of our knowledge in the face of disruptive innovation firmly in mind.

We do not, however, want to overstate these implications. Competition authorities need to examine abuse of dominance allegations on a case-by-case basis. There is no reason they should stand down when it comes to the online economy. They should monitor this important sector of the economy vigilantly. There may well be situations in which targeted interventions are warranted. At the same time it would make no sense to ignore the fact, which is apparent to most people who use smart mobile phones in their daily lives, that the online economy is undergoing massive flux and that competition authorities must be mindful of that in their analyses.



# Failed Analogies: Net Neutrality versus “Search” and “Platform” Neutrality

Marvin Ammori\*

While many have lamented that the term “network neutrality” is boring and unclear,<sup>1</sup> that concept has inspired millions around the world to file comments with national regulators,<sup>2</sup> and led those regulators to take action in much of the Americas, Europe, and Asia.<sup>3</sup> Perhaps as a sign of net neutrality’s success in public debate, some thinkers have started borrowing the word “neutrality” for concepts that are supposedly analogous to net neutrality, but really have very little in common with it. The two best-known expressions are “search neutrality” and “platform neutrality” (which apparently also encompasses “app store neutrality”), all of which have prompted discussion before regulators.

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1 John Oliver’s jokes about the term are perhaps the most humorous—while also being accurate. See Marvin Ammori, “John Oliver’s Hilarious Net Neutrality Piece Speaks the Truth,” *Slate*, June 6, 2014.

2 Todd Shields, “It Took Four Million E-Mails to Get the FCC to Set Net-Neutrality Rules,” *Bloomberg*, Feb. 3, 2015; Prasanto K Roy, “India’s Fight for Net Neutrality,” *BBC News*, April, 18 2015 (noting over 800,000 emails on the issue).

3 Trey Williams, “Here’s How Other Countries Are Addressing Net Neutrality,” *Marketwatch*, Feb. 26, 2015

Whatever the potential merit of these two concepts on their own (and there is good reason to doubt their merit),<sup>4</sup> the supposed analogy to net neutrality is flawed and cannot justify them. As I explain in this short paper, net neutrality is a specific concept backed by over a decade of research and debate, descending from common carriage, rooted in the particulars of the economics of Internet networks. Search neutrality and platform neutrality lack rigorous research or debate, are incoherent new concepts unrelated to long-standing legal doctrines, and the economics of “search” and “platforms” are much different from those animating net neutrality.

The only thing that net neutrality has in common with search neutrality and platform neutrality is the word neutrality. As a result, one would have to justify search neutrality or platform neutrality based on different arguments than the arguments that apply to network neutrality.

## I. Net Neutrality

Net neutrality is the concept that Internet service providers, which are mainly phone and cable companies in the US, should not be allowed to block any websites or online software, nor to technically discriminate against or in favor of any of these sites or software, and should not charge a fee for sites or applications to reach users. In February 2015, the US Federal Communications Commission has adopted bright-line rules against blocking, discriminating, and paid prioritization. It also decided that access to the Internet is a “telecommunications service” un-

4 Moreover, beyond failing as analogies to net neutrality, I doubt either “search” or “platform” neutrality can be justified on other terms. See, e.g., Ryan Heath, CCIA, “The Wrong Suspect: A Debate About Platform Neutrality Finds Little Evidence Of Consumer Harm,” *Project Disco*, March 16, 2015; James Grimmelman, “Some Skepticism About Search Neutrality,” in *The Next Digital Decade: Essays On The Future Of The Internet* (Berin Szoka & Adam Marcus, eds., Tech-Freedom, January 2011).

der the US Communications Act, and therefore subject to traditional common carrier rules that applied to the phone networks. Phone networks had been subject to rules against blocking calls and discriminating, and network neutrality is applying that traditional concept to Internet service providers.<sup>5</sup>

### Network neutrality is marked by several facts.

First, there has been a lot of academic thinking about net neutrality. In the US, there have been many, many academic conferences at law schools, at economic schools, at business schools; there have been dozens of expert panels at the Federal Communications Commission, the Federal Trade Commission, and the United States Congress; there have been many books, some very good, written on the subject; hundreds of articles in law reviews; testimony by the engineers who invented the Internet and the World Wide Web. These experts have analyzed the technical arguments; they have analyzed the economic arguments, the competition arguments, and the free expression arguments, which do matter to many of the net neutrality advocates. These experts have catalogued net neutrality violations around the world, including in the United States and in Europe. The research is voluminous.<sup>6</sup>

Second, the economic arguments for applying net neutrality rules are highly specific. They include (first) the notion that telecom networks, particularly facilities-based providers, are likely natural monopolies. Moreover, the US broadband market is marked by actual monopolies,

as over seventy-five percent of Americans have only one choice (or zero) of a provider offering over 25 megabits per second of capacity.<sup>7</sup> In the US, only the incumbent companies that were once monopolies—like Verizon and AT&T and Comcast—dominate the markets even today. There is no likelihood of that changing any time soon and it has not changed for decades.

The monopoly (or at best oligopoly) on networks is durable. There are huge barriers to entry in the market, both economic and governmental. On the wired side, a new entrant has to negotiate with every city and many private companies for access to rights of way to lay wires in the ground or to string them on utility poles. Even with those permissions, the fixed costs of serving a community are often too high. One reason for these monopolies is the overwhelming economies of scale deriving from very high fixed costs, although other factors include the difficulty of offering a compelling bundle of TV and broadband.<sup>8</sup> Indeed, in light of these costs, both the phone wireline monopolies and the cable monopolies in the US were built under monopoly regulation and with the federal and local governments guaranteeing that the monopolist would make a return on their investment. On the wireless side, companies need permission from the government, in the form of a wireless license, which costs billions of dollars; after they buy the license they have to build a network of antennas and wires connecting them.

Moreover, these service providers have what economists call a “terminating access monopoly” over the user. This economic circumstance is the one that most experts, such as Barbara van Schewick, emphasize, and the factor

<sup>5</sup> See *In re Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601 (2015) [hereinafter 2015 Open Internet Order].

<sup>6</sup> Two good resources for arguments and citations are Barbara van Schewick, *Internet Architecture and Innovation* (2010); Barbara van Schewick, “Network Neutrality and Quality of Service: What a Nondiscrimination Rule Should Look Like,” 67 *Stan. L. Rev.* 1 (2015).

<sup>7</sup> FCC Chairman Tom Wheeler: More Competition Needed in High-Speed Broadband Marketplace, [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-329160A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-329160A1.pdf).

<sup>8</sup> Daniel Frankel, “Google Fiber Chief: Program Rights Are ‘Biggest Impediment’ to Deployment,” *FierceCable*, Oct. 7, 2014.

is central to the FCC's decisions in this space.<sup>9</sup> The most efficient way for me to get to Amazon.com on my desktop computer is through my Internet Service Provider. Once I choose one company as my home Internet Service Provider, the most likely way a website will reach my desktop is through that provider. For many high-data-use applications such as streaming video, wireline Internet access is the only cost-effective solution, meaning that the wireline provider faces little or no competition from wireless solutions.

Relatedly, users usually do not choose multiple providers of home Internet service. They usually have one home Internet service provider and one wireless provider. And they treat these two primarily as complements, not substitutes. Because wireless ISPs generally have lower data caps or provide throttled video, and Netflix even throttles its own video on some wireless networks, users generally have to rely on wireline connections for high-definition video streaming. As a result, if a user's wireline provider blocks Netflix, that user would likely not be able to watch Netflix in high-definition without changing wireline providers.<sup>10</sup>

Finally, the switching costs are quite high, as the FCC concluded. If my provider blocks Amazon or Facebook, I can try to switch Internet providers. But I have to break a long-term contract, and pay fees for canceling. Moreover, as noted above, most Americans do not have options for high-speed access, even if the switching costs were low.

That's the economics.

Net neutrality also reflects a policy judgment. The judgment is that the users and creators of

applications, not the owners of the networks, should decide the applications on the networks. The Internet should function much like the electricity grid, where the users and the device-makers can plug in whatever they want, without permission from the electricity networks. That approach has led to great competition and innovation.<sup>11</sup> (This is why, for example, net neutrality applies to all Internet Service Providers—whether or not the provider has significant market share.)

Net neutrality is also a solution to an existing problem. There have been violations around the world.<sup>12</sup> And that is why the US has adopted rules, and so have countries in other continents such as South America and Europe.

Finally, those advocating for net neutrality in the US have been primarily consumers, non-profit organizations, small business, smaller startups, churches, and democracy and civil society groups. Somewhat famously, the FCC explained that Google and Facebook were hardly engaged on the issue, leaving it to small players to advocate for the issue.<sup>13</sup>

## II. Search neutrality

Search neutrality is much different from net neutrality. The concept is not extraordinarily well-defined, but the notion is that search engines, especially dominant search engines, should not favor their own websites in the main search results.<sup>14</sup> In addition, they should not favor

<sup>9</sup> The FCC's reliance on this rationale was upheld in court. See *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014).

<sup>10</sup> Sam Gustin, "Netflix's Shady Mobile Throttling Policy Doesn't Break Net Neutrality Rules," *Vice*, Mar. 28, 2016.

<sup>11</sup> See Barbara van Schewick, *Internet Architecture and Innovation* (2010).

<sup>12</sup> See, e.g., Marvin Ammori, "Net Neutrality: A Solution to an Existing Problem," *Ammori.org*, Apr. 16, 2014.

<sup>13</sup> Jeff Roberts, "FCC Official Says Google, Facebook Had Little Say on Net Neutrality," *GigaOm*, Mar. 3, 2015.

<sup>14</sup> See Oren Bracha & Frank Pasquale, "Federal Search Com-

their own thematic or vertical searches through boxes and answers.<sup>15</sup> For example, when someone searches for a location in a general search tool, search engines respond with their own mapping results; Google Maps for Google Searches and Bing Maps for Bing searches. Other companies offering maps would prefer if their maps were shown instead.

The main object of search neutrality complaints has been Google. A weather website complained in Germany, a shopping site in Brazil, and a restaurant comparison site among others in the US, and each time the complaint failed because Google was able to demonstrate that including boxes and thematic answers was good for consumers and there was no evidence of Google manipulating results.<sup>16</sup> The leading article dismantling the concept of search neutrality is perhaps James Grimmelman's demonstration of the concept's incoherence.<sup>17</sup> The FTC rejected calls for search neutrality, deciding that many of Google's practices reflected those of its competitors and were, in fact, pro-consumer.<sup>18</sup>

mission - Access, Fairness, and Accountability in the Law of Search," 93 Cornell L. Rev. 1149 (2008). See also James Grimmelman, "Some Skepticism About Search Neutrality," in *The Next Digital Decade: Essays On The Future Of The Internet* (Berin Szoka & Adam Marcus, eds., TechFreedom, January 2011).

15 What it means to "favor" one's own service is not a simple concept; is "favoring" the correct term for directing users to what the search engine genuinely believes is the best result, when it is the search engine's own result? Who decides what the best result is, if not the search engine itself? But I put that question aside for purposes of this discussion.

16 An unofficial translation of the German order is available at [http://united-kingdom.taylorwessing.com/fileadmin/files/docs/pdf-german/Google\\_Weather\\_InBox\\_-\\_Court\\_Order\\_2013-04-04\\_Unofficial\\_Translation.pdf](http://united-kingdom.taylorwessing.com/fileadmin/files/docs/pdf-german/Google_Weather_InBox_-_Court_Order_2013-04-04_Unofficial_Translation.pdf). See also Greg Sterling, "Google Wins Major Antitrust Victory In Brazil, Does It Foreshadow Broader EU & US Wins?," *SearchEngineLand*, September 10, 2012; David Goldman, "Google Dodges Major Antitrust Bullet," *CNN*, Jan. 3, 2013.

17 James Grimmelman, "Some Skepticism About Search Neutrality," in *The Next Digital Decade: Essays On The Future Of The Internet* (Berin Szoka & Adam Marcus, eds., TechFreedom, January 2011).

18 Statement of the Federal Trade Commission Regarding Google's Search Practices, In the Matter of Google Inc., FTC File Num-

Whether there is merit to the theory of search neutrality, it is not analogous to net neutrality.

First, the academic research is far thinner and less sustained.

The concepts are far less understood and have less support.

Second, the history is very different. Search is not a traditionally regulated common carrier service or network; search engines were not created as government-regulated monopolies; they were born of competition in unregulated markets, and did not need monopolies for investment.

Third, the economics are very different.

There are lower barriers to entry for search. Entrants need not negotiate with cities for rights of way, dig ditches and string wires on poles, or spend billions on licenses and build a network of towers. There are other costs of engineering and infrastructure, but of a lower order, with far fewer government permissions. In telecommunications, there have been almost no successful entrants who were not once government-protected monopolies in the US. In search, there are several entrants in the past decade and venture capitalists funded 60 search companies in 2013 and 2014.<sup>19</sup>

Not only are the economic barriers lower, but multi-homing is common and switching costs are low. Users can switch from Google to Bing—both of which are free—without breaking a contract, waiting for a technician for a home-visit, or paying any fees. Shoppers consult on average 10.4 sources when researching a purchase.<sup>21</sup> Economic consultancy Oxera showed that almost

ber 111-0163, January 3, 2013; Greg Sterling, "FTC Closes Google Antitrust Case: 'Law Protects Competition Not Competitors,'" *SearchEngineLand*, Jan. 3, 2013.

19 Conor Dougherty, "Start-Ups Try to Challenge Google, at Least on Mobile Search," *N.Y. Times*, May 3, 2015.

two thirds of consumers in France, Germany, Spain, and Poland use more than two websites or apps for the same task.<sup>22</sup> Users can reach the competition in a single click.

And there is no terminating access monopoly. So long as the network provider is not blocking the site, a user can come to a restaurant-ranking site by typing its URL into dozens of browsers, multiple search engines, an app download, or through Facebook or Twitter pages.

Beyond economics, there should not be a policy judgment that search be “neutral.” The whole point of search is to discriminate, to find the very best sites based on each query, and to show them to users.<sup>23</sup> Meanwhile, the network would provide most value as a general purpose network, agnostic among uses.<sup>24</sup>

Finally, the advocates for search neutrality are not consumer groups or civil society, but competitors. The FTC noted as such in rejecting search neutrality arguments in 2013.<sup>25</sup> Indeed, some of the main proponents of search neutrality are telecommunications companies.<sup>26</sup> These companies seem to be deflecting attention from their own regulation, such as net neutrality, and strategically argue for rivals to be regulated instead. Few consumer groups have voiced any support for search neutrality.

### III. Platform Neutrality

Finally, “platform” neutrality is the latest entrant to the “neutrality” circle. It is also the most confused and incoherent of the three concepts.

Generally, platform neutrality seems to mean that online platforms are special and distinct as a category, and also that this category should be regulated in a category-specific way to reduce their power over all sides using the platforms.<sup>27</sup> These platforms are sites that connect some people to other people, which encompasses a wide range of businesses, such as marketplaces like Uber or Airbnb or eBay or Amazon and entertainment or communications sites like YouTube or Facebook. It also includes sites that connect users to other websites, such as search engines, or app stores that connect users and developers, or dating apps that connect women and men, sites that connect employers with recruits like LinkedIn, or that connect creators with funders such as Kickstarter, and that connect startups with investors such as AngelList.

The biggest problem with platform neutrality is that these platforms have very little in common with one another in terms of their market dynamics and characteristics. Devising ex ante rules for a grab bag of “platforms” doesn’t make sense. Plus, the remedies proposed are very diverse, so platform neutrality is less a concept than a slogan.

Many American nonprofits, trade groups, and startups have argued that the concept is incoherent. These groups filed survey responses with the European Commission in response to a consultation on platform regulation. Creative artists, blogging platforms, handcraft marketplaces, crowdfunding sites, and video platforms all filed explaining that the definition of platform was incoherent and overbroad. Rather, they ex-

21 “The Zero Moment of Truth Macro Study,” Google/Shopper Sciences, April 2011.

22 “Benefits of Online Platforms?,” Oxera, Oct. 2015.

23 James Grimmelman, “Some Skepticism About Search Neutrality,” in *The Next Digital Decade: Essays On The Future Of The Internet* (Berin Szoka & Adam Marcus, eds., TechFreedom, January 2011).

24 Barbara van Schewick, *Internet Architecture and Innovation* (2010).

25 Greg Sterling, “FTC Closes Google Antitrust Case: ‘Law Protects Competition Not Competitors,’” *SearchEngineLand*, Jan. 3, 2013.

26 Nate Anderson, “Search Neutrality? How Google Became a ‘Neutrality’ Target,” *Ars Technica*, Apr 29, 2010.

27 See also “Principles for Europe’s Digital Ambitions,” Medium (collecting articles opposing platform regulation); Tom Fairless, “EU Digital Chief Urges Regulation to Nurture European Internet Platforms,” *Wall St. J.*, Apr. 14, 2015.



plained, generally applicable law can address issues in these markets, and a new regulation lumping together disparate online businesses could likely not reflect any clear underlying principle and would do more harm than good. For example, the Internet Association wrote that “regulatory intervention is not warranted because less restrictive solutions are not only available but already exist in the digital realm.”<sup>28</sup> According to Engine Advocacy, a leading voice for startups in public policy, trying to regulate all “online platforms” is “troublesome because it lumps together a large set of companies, functionalities, and systems. This dilutes the meaning of the phrase and depending on how this phrase will be used going forward, there is danger in regulating a broad swath of companies that have little more in common than that they operate online.”<sup>29</sup>

The economics of all these “platforms” is not extremely well understood, as these examples include multi-sided markets, where the site has to cater to both advertisers and users or to sellers and buyers. Far from being confined to online players, platforms have historically included everything from newspapers to shopping centers, credit cards, and TV networks, and their economics are all quite different.

There has been very little discussion from consumer groups or nonprofit organizations or citizens clamoring for platform neutrality, at least in the US. Indeed, based on the filings to the European Commission, the opposite is true.<sup>30</sup>

To explore this vague concept more concretely, we can focus on one form of platform

neutrality here—that concerning app stores. Unlike net neutrality, there has not been tremendous research in the area of app-store neutrality. While this lack of research is one reason to be wary of jumping to regulation, it is also a reason why I offer the following as somewhat tentative thoughts.

First, the barriers to entry for app stores may be significant for an online service, but they are nothing like those governing telecom networks. Apple and Google have app stores. But so do Amazon and Microsoft. There are also dozens of smaller and regional app stores, such as the Opera Mobile store which has 30 million app downloads a month or Wandoujia in China which has 200 million users and 30 million app downloads daily.<sup>31</sup> So the barriers may be significant, but not insurmountable. None of these app stores are historical remnants of government-regulated monopolies obviously, nor do they need to purchase licenses at auction or petition for local rights-of-way.

Second, users can multihome and so app stores do not have a terminating access monopoly. On handsets with Android OS, at least, the user can download another app store through the web or through a browser. Users can also use websites if an app is not in the app store. Sometimes a hardware maker or the carrier will preload its own app store or an independent app store, and there can be multiple app stores preloaded on a phone, such as both a Samsung and a Google app store on a Samsung phone.<sup>32</sup>

To be sure, antitrust issues may be possible in any market, including with app stores or plat-

28 Internet Association Position Paper on the Regulatory Environment for Platforms, Online Intermediaries, Data and Cloud Computing and the Collaborative Economy, at 2, Jan. 6, 2015.

29 Evan Engstrom, “U.S. Advocates Express Concern—And Some Hope—For EU’s Digital Ambitions,” Medium, Feb. 10, 2016 (linking to Engine comments and many others).

30 Groups including Public Knowledge and the Center for Democracy & Technology have filed.

31 See “App Stores/Service Providers,” One Platform Foundation, <http://onepf.org/partners/>; see also Jamie Giggs, “The Ultimate App Store List,” Business of Apps, Feb. 24, 2015.

32 Dan Rowinski, “Why Samsung Is Cloning Google Play On Its Smartphones,” ReadWrite, Apr. 25, 2013.

forms. One can imagine contracts keeping competing apps out of an app store in some aggressive way, or the owner of an app store disallowing any competitors in its app store while having enough market share for that to matter. But traditional competition law can handle that issue. A new concept of platform neutrality is unnecessary and perhaps counterproductive.

## **IV. Conclusion**

Hopefully this short paper helps shed light on the stark differences between net neutrality and search neutrality and platform neutrality. In my view, the first is well theorized and justifiable. I am not alone in that view, as net neutrality is popular around the world.

But even were it not, net neutrality lacks commonalities with search neutrality theories and platform neutrality theories. Therefore, it should not be a good or bad precedent for either. Search neutrality and platform neutrality must stand on their own underlying justifications, not merely as analogies to net neutrality. And, when asked to stand on their own, the two new concepts appear wanting.

# Antitrust, Regulation and the Neutrality Trap: A plea for a smart, evidence-based internet policy

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## Abstract

When they look at Internet policy, EU policymakers seem mesmerised, if not bewitched, by the word 'neutrality'. Originally confined to the infrastructure layer, today the neutrality rhetoric is being expanded to multi-sided platforms such as search engines and more generally online intermediaries. Policies for search neutrality and platform neutrality are invoked to pursue a variety of policy objectives, encompassing competition, consumer protection, privacy and media pluralism. This paper analyses this emerging debate and comes to a number of conclusions. First, mandating net neutrality at the infrastructure layer might have some merit, but it certainly would not make the Internet neutral. Second, since most of the objectives initially associated with network neutrality cannot be realistically achieved by such a rule, the case for network neutrality legislation would have to stand on different grounds. Third, the fact that the Internet is not neutral is mostly a good thing for end users,

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who benefit from intermediaries that provide them with a selection of the over-abundant information available on the Web. Fourth, search neutrality and platform neutrality are fundamentally flawed principles that contradict the economics of the Internet. Fifth, neutrality is a very poor and ineffective recipe for media pluralism, and as such should not be invoked as the basis of future media policy. All these conclusions have important consequences for the debate on the future EU policy for the Digital Single Market.

## I. Introduction

Recently, EU policymakers seem to have become obsessed by the concept of 'neutrality' when discussing future digital policy. This is true not only for the well-known and long-lasting debate on 'network neutrality', which refers to the impossibility for an Internet Service Provider (ISP) to discriminate between the bits of traffic flowing on the portion of the network it manages.<sup>1</sup> The past few months have seen the concept of neutrality spread like an oil spot, giving rise to neologisms such as 'search neutrality' (e.g. in the Google antitrust case), 'device neutrality' (as invoked by the European Parliament already in 2011), and lately 'platform neutrality' (as endorsed at the end of 2014 by French

1 See the first contribution in the literature by T. Wu (2003), "Network neutrality, broadband discrimination", *Journal on Telecommunications and High Technology Law*, Vol. 2, pp. 141–178. The first response to the net neutrality problem was given by C.S. Yoo (2004), "Would Mandating Broadband Network Neutrality Help or Hurt Competition?: A Comment on the End-to-End Debate", *Journal on Telecommunications and High Technology Law*, Vol. 3 and elaborated later in C.S. Yoo (2005), "Beyond Network Neutrality", *Harvard Journal on Telecommunications and High Technology*, Vol. 19 and C.S. Yoo (2008), "Network Neutrality, Consumers, and Innovation", *University of Chicago Legal Forum*. For an illustration of the network neutrality debate, see A. Renda (2008), "I own the pipes, you call the tune: The net neutrality debate and its (ir)relevance for Europe", *CEPS Special Reports*, CEPS, Brussels, and A. Renda (2011), "Neutrality and Diversity in the Internet Ecosystem", *CEPS Special Report*, CEPS, Brussels. See also, for a literature review and a progress report, Jan Krämer, Lukas Wiewiorra and Christof Weinhardt (2013), "Net neutrality: A progress report", *Telecommunications Policy*, Vol. 37(9), pp. 794–813.

and German governments).<sup>2</sup> In all this, EU politicians, and especially Members of the European Parliament, intuitively attach a positive meaning to the word: they would never dare to vote against it, as this would portray them as enemies of the public good, and in particular of end users. Not surprisingly, the Parliament's vote on the Connected Continent package in April 2014 pointed at a much stricter view of neutrality than the one originally proposed by the European Commission. Similarly, in the United States, net neutrality was publicly endorsed by Barack Obama in a message recorded at the end of 2014, in which the US President called on the Federal Communications Commission to strongly endorse net neutrality in its revision of the 2010 Open Internet Order. The FCC, formally an independent agency, eventually followed the desiderata of the President by casting a vote in favour of network neutrality on 26 February 2015. The unprecedented feature of that vote was that net neutrality was presented, more than a mere regulatory issue, as a fundamental right of the end users, thus calling for protection at a higher, constitutional level.<sup>3</sup>

All in all, reality suggests that no politician feels comfortable when standing against the 'neutrality' totem. And indeed, there are many reasons to believe that neutrality is, in many circumstances, a useful attribute for the Internet: but it amounts to a means, not an end in itself. At the same time, a closer look raises doubts as to whether neutrality, applied to the Internet ecosystem, is always the best choice for end

users or for society as a whole. Moreover, the current state of the EU debate on Internet policy reveals that, in many domains, EU proposals are at once sanctifying neutrality as the Holy Grail of the Internet, at the same time sneakily proposing rules that fundamentally contradict the neutrality principle. This is leading to the birth of an array of new monsters, including rules that seek to achieve net neutrality through 24/7 patrolling of the Internet;<sup>4</sup> rules on platform liability coupled with search neutrality obligations; legislation pursuing media pluralism and access to content through neutrality obligations; and policy that pursues neutrality at the same time that it seeks to segment the Internet through the imposition of cloud localisation requirements.<sup>5</sup> In this brief paper, I argue that these rules are fundamentally flawed and critically detrimental to end users and to the Internet ecosystem as a whole.

## 1. Why did we want network neutrality in the first place?

The word neutrality has been given many different definitions and interpretations over the past decade. Interestingly, if not worryingly, it was used as a synonym of very disparate terms. More specifically, in the net neutrality debate the following angles have been taken by commentators and advocates.

2 See the European Parliament's Resolution of 17 November 2011 on the open internet and net neutrality in Europe ([www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P7-TA-2011-0511+0+DOC+XML+V0//EN](http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P7-TA-2011-0511+0+DOC+XML+V0//EN)). On platform neutrality, see the report published by the French national digital council (<https://edri.org/french-digital-council-publishes-report-platform-neutrality/>). See also J.-H. Jeppesen, "French and German Ministers Should Not Confuse Platform Neutrality with Net Neutrality", (<https://cdt.org/blog/french-and-german-ministers-should-not-confuse-platform-neutrality-with-net-neutrality/>).

3 See <http://www.fcc.gov/document/fcc-adopts-strong-sustainable-rules-protect-open-internet>

4 See A. Renda (2013), "Net Neutrality and Mandatory Network-Sharing: How to disconnect the continent", CEPS Policy Brief No. 309, CEPS, Brussels, 18 December (on the "Stockholm syndrome").

5 The debate on cloud localisation requirements emerged after the Snowden revelations and gave rise initially to commercial offers to store data within the EU (or a given member state). The debate on the US-EU safe harbour framework is leading to proposed legislation to force the localisation of EU citizens' data within the territory of the EU or any other jurisdiction with adequate data protection legislation. See A. Renda (2015), "Cloud privacy law in the United States and in the European Union", forthcoming in *Regulating the Cloud: Policy for Computing Infrastructure*, Christopher S. Yoo and Jean-François Blanchette (eds), Cambridge, MA: MIT Press.

- **Anonymity.** When the network neutrality debate was in its infancy, in the early 1990s, neutrality was considered as a key safeguard to preserve a user's anonymity and freedom to upload and download any content without being inspected or prosecuted. This attribute was closely related to the end-to-end design of the network, which entailed that the intelligence would be exclusively located at the edges of the Internet (i.e. with end users), and not at the core.<sup>6</sup> Early legislation, such as, inter alia, the 1998 Digital Millennium Copyright Act in the United States and the 2000 E-Commerce Directive in the EU, reflected this original design: ISPs (Internet service providers) were considered as 'mere conduits', and thus could not be held liable for the conduct of their subscribers. They could not (and were in any case not supposed to) monitor user behaviour and inspect traffic, just as governments, too, could not monitor and inspect traffic.
- **Competition and fair business practices.** Since the mid-2000s, and in particular after the 2005 Madison River case in the US, net neutrality was framed as a problem of competition between telcos and over-the-top (OTT) players.<sup>7</sup> The concern raised by the 'neutralists' was that vertically integrated ISPs had a strong incentive to block OTT applications such as VoIP (Voice over Internet Protocol), which could potentially erode their revenues. Even without blocking them altogether, according to this view, ISPs may have an incentive to intentionally degrade the

quality of OTT applications, in a way that could tilt the competitive balance in favour of the ISP's own products. This would amount to a form of non-price discrimination, or a refusal to deal in more orthodox antitrust terms. More recently, the debate on anticompetitive behaviour by ISPs has extended to so-called 'fair business practices' in vertical value chains: these are most often related to the fact that, absent mandatory net neutrality legislation, ISPs could intentionally degrade the quality of the most QoS-dependent applications, to induce them to accept to pay a minimum QoS (quality of service) fee. Even Tim Berners Lee, one of the founders of the Web, recently observed that, absent neutrality legislation, innovative app providers might be forced to "bribe their ISPs to start a new service".<sup>8</sup>

- **Innovation.** Part of the debate on net neutrality focused on its impact on innovation. This entails the so-called 'next Google' or 'next Facebook' argument, according to which, since the neutral design of the Internet has made it possible for very small start-up companies to enter the marketplace and become huge players, modifying this feature would jeopardise the stunning level of innovation observed so far, raising barriers to entry in the market and transforming the Internet into a ring-fenced property of the ISPs. In addition, should the Internet evolve into a two-speed or multi-speed environment, with some applications enjoying better QoS than others thanks to the payment of an ad-hoc fee, new entrants with limited financial resources would be doomed to occupy the 'dirt track' of the Internet, and this would inevitably prevent them

6 On the role of anonymity in net neutrality in the debate animated by David D. Clark, one of the original creators of the end-to-end protocol on the Internet, see in particular D.D. Clark and M.S. Blumenthal (2007), "The End-to-End Argument and Application Design: The Role of Trust" (<http://groups.csail.mit.edu/ana/People/DDC/E2E-07-Prepub-6.pdf>).

7 See Renda (2011), "Neutrality and Diversity", op. cit.

8 See Brian Fung (2014), "World Wide Web inventor slams Internet fast lanes: 'It's bribery'", Washington Post, 19 September (<http://www.washingtonpost.com/blogs/the-switch/wp/2014/09/19/world-wide-web-inventor-lashes-out-at-internet-fast-lanes-its-bribery/>).



from showing what they're great at.

- **User choice.** Quite often the debate on net neutrality focuses on the need to ensure that end users have access to all the content and applications they want, anywhere and from any device. Blocking or throttling applications would, of course, reduce the amount of information that users can have access to, at any time. Accordingly, legislation that allows the creation of specialised services or 'toll lanes' over the Internet, and even zero-rating offers that tie the use of a device to access to a restricted number of intermediated services would be contrary to the fundamental principles of user choice and empowerment.<sup>9</sup>
- **Openness.** In presenting the 2013 Connected Continent proposal, the European Commission referred to network neutrality as "what keeps the Internet open". As explained by the U.S. FCC in reviewing its Open Internet Order in February 2015, "an Open Internet means consumers can go where they want, when they want".<sup>10</sup> In more practical terms, at the infrastructure level, this means that ISPs should not be allowed to block access to legal content, applications, services or non-harmful

devices (no blocking); to impair or degrade lawful Internet traffic on the basis of content, applications, services, or non-harmful devices (no throttling); and/or to favour some lawful Internet traffic over other lawful traffic in exchange for consideration of any kind (no paid prioritisation). More generally, the FCC established as a more general rule that broadband providers shall not unreasonably interfere with or disadvantage consumers' access to the Internet.

- **Media pluralism and freedom of expression.** In the past few years, net neutrality has also been prominently described as tightly related to media pluralism.<sup>11</sup> For example, in its contribution to the NET Mundial Conference, the European Broadcasting Union stated: "it supports a strong regulatory framework for net neutrality, reflecting the fact that the openness and non-discriminatory features of the Internet are key drivers for innovation, economic efficiency and safeguarding media freedom and pluralism."<sup>12</sup> The relationship between neutrality and pluralism stems from the simple observation that if ISPs block, throttle or in any way discriminate against traffic, they might filter out unwanted media outlets or intentionally degrade non-affiliated sources of information. An ad-hoc EU High Level Group on Media Pluralism and Freedom of Expression published a report in January 2013, recommending that "channels or mechanisms

<sup>9</sup> Over the past few years, zero-rating has spread in many OECD countries. Regulators in Chile, the Netherlands, Slovenia and Canada explicitly prohibited zero-rating, while regulators in Germany, Austria and Norway publicly stated that zero-rating violates network neutrality. A scholar who has been quite active in arguing against zero-rating offers is Barbara van Schewick of Stanford Law School. She has recently proposed that the new FCC rules should explicitly ban two types of zero-rating: 1) zero-rating in exchange for edge-provider payment and 2) zero-rating of selected applications within a class of similar applications without charging edge providers. See B. van Schewick (2015), "Analysis of Proposed Network Neutrality Rules", 18 February (<http://cyberlaw.stanford.edu/downloads/vanSchewick2015AnalysisofProposedNetworkNeutralityRules.pdf>). See also Antonios Drosos (2015), "Guest blog: The real threat to the open Internet is zero-rated content", World Wide Web Foundation, 17 February (<http://webfoundation.org/2015/02/guest-blog-the-real-threat-to-the-open-internet-is-zero-rated-content-continued/>).

<sup>10</sup> <http://www.fcc.gov/openinternet>.

<sup>11</sup> See L. Belli and P. De Filippi (2013), "The value of Network Neutrality for the Internet of Tomorrow: Report of the Dynamic Coalition on Network Neutrality"; and also L. Belli and M. Van Bergen, (2013). "Protecting Human Rights through Network Neutrality: Furthering Internet Users' Interest, Modernising Human Rights and Safeguarding the Open Internet". Steering Committee on Media and Information Society. And on free speech, see also [www.aclu.org/net-neutrality](http://www.aclu.org/net-neutrality) and [www.savetheinternet.com/net-neutrality-what-you-need-know-now](http://www.savetheinternet.com/net-neutrality-what-you-need-know-now)

<sup>12</sup> See EBU's position relating to the Commission proposal for a regulation laying down measures concerning the European Single Market for Electronic Communications and to achieve a Connected Continent, 22 November 2013.

through which media are delivered to the end user should be entirely neutral in their handling of this content. In the case of digital networks, Net Neutrality and the end-to-end principle should be enshrined within EU law".<sup>13</sup>

## **2. Is current net neutrality policy tackling these concerns?**

This section looks at the policy objectives pursued by net neutrality, as described in section 1 above, and assesses if current approaches have been, or are likely to prove, effective in addressing the related concerns.

### **2.1. From anonymity to Big Brother?**

Concerning anonymity, it is clear that the current debate on Internet policy does not look at the right to surf anonymously as a policy goal per se, with some isolated exceptions.<sup>14</sup> This is due to a number of concurring reasons. First, the need to ensure copyright enforcement and protection on the Internet has led to a gradual relaxation of the 'mere conduit' principle that entailed the lack of ISP liability for the infringing behaviour of their subscribers. Measures such as the French HADOPI 'three-strikes law' and numerous other laws introducing a graduated response to copyright infringement effectively considered ISPs as cyber-police.<sup>15</sup> Second, security reasons have led to the explosion of mass surveillance activities on the Internet, undertaken both by public authorities alone, and in cooperation with private Internet intermediaries such as ISPs. The last generation of network and information security legislation, such as the recent Executive Order on Cybersecurity adopted by

the White House in April 2015, critically targets intermediaries as potential facilitators of unlawful activities and encourages them to share all relevant information about potential threats to the resilience of the national critical information infrastructure.<sup>16</sup> Third, the explosion of an array of new applications and the Internet of Things requires extensive packet detection and traffic management in order to ensure communications at various levels of quality and latency.<sup>17</sup> Against this background, the EU debate has rapidly moved towards protecting net neutrality through pervasive monitoring of quality of service, as already foreseen (although implicitly) in the 2009 Universal Service Directive, which introduced the possibility for national regulators to intervene and impose a minimum quality of service, should ISPs not intentionally throttle certain traffic. The latest official version of the draft Connected Continent package, currently under trilogue between the European Commission, the European Parliament and the Council, de jure forces regulators to monitor the Internet on a 24/7 basis, in all portions of their territory, to find out if a given bit of traffic is being discriminated against. Against this background, ensuring the neutrality of the network no longer means pursuing user anonymity; rather, it is based on Big Brother-like patrolling of the Internet, to ensure that non-discriminatory behaviour is detected and sanctioned.<sup>18</sup>

### **2.2. Competition and fair business practices: Is there a level playing field?**

<sup>13</sup> <http://ec.europa.eu/digital-agenda/sites/digital-agenda/files/HLG%20Final%20Report.pdf>.

<sup>14</sup> See e.g. [www.torproject.org/](http://www.torproject.org/).

<sup>15</sup> See A. Renda (2011), *Law and Economics in the RIA World*, Amsterdam: Intersentia, section 5.8.

<sup>16</sup> See Executive Order -- Promoting Private Sector Cybersecurity Information Sharing ([www.whitehouse.gov/the-press-office/2015/02/13/executive-order-promoting-private-sector-cybersecurity-information-sharing](http://www.whitehouse.gov/the-press-office/2015/02/13/executive-order-promoting-private-sector-cybersecurity-information-sharing)).

<sup>17</sup> See the declarations by Nokia's CEO ([www.cnet.com/news/nokia-knocks-net-neutrality-self-driving-cars-wont-get-the-service-you-need/](http://www.cnet.com/news/nokia-knocks-net-neutrality-self-driving-cars-wont-get-the-service-you-need/)).

<sup>18</sup> See A. Renda (2013), "'Net Neutrality and Mandatory Network-Sharing: How to disconnect the continent'", CEPS Policy Brief No. 309, CEPS, Brussels, 18 December (on the "Stockholm syndrome").

While original concerns on the anticompetitive effects of traffic management practices focused on the ISPs' potential to abuse their market power (i.e. Section 2 of the US Sherman Act and Art. 102 TFEU in Europe), today the issue is often reversed. As a matter of fact, while it is true that dominant ISPs could potentially engage in anticompetitive conduct, such as discrimination or refusal to deal, resulting in instances of blocking, or granting different treatment to equivalent transactions (throttling, paid prioritisation), EU policymakers are gradually discovering that market power is distributed across all layers of the value chain, and thus that potentially a large IT giant could exploit superior bargaining strength vis-à-vis ISPs. In Europe, this is leading to rather counter-intuitive situations in which mobile operators are considered dominant by telecom regulators and, at the same time, victims of predatory behaviour on the part of large IT firms.<sup>19</sup> All this is inconsistent with antitrust law and economics, as dominance must be assessed in light of existing constraints exerted not only from rivals, but also from upstream and downstream players.<sup>20</sup> A market player cannot be defined as dominant by one authority, and as dominated by another.

Competition between an ISP and an OTT service can also be imbalanced if the former bears costs that the latter does not face, such as network maintenance and upgrade costs. Just as network maintenance and upgrade are normally included in access charges determined by regulators for new entrant e-communications operators that rely on the incumbent's infrastructure under the EU Access Directive, there

is no economic reason why the same cost would not have to be charged to those operators that provide a similar service thanks to the existence of a pre-existing telecoms infrastructure. Furthermore, if an OTT service ends up representing half of the IP traffic carried by a single ISP, the issue becomes critical: while it is true that the OTT service creates positive externalities and increases traffic for the ISP, not being able to monetise this additional traffic can be disastrous for the infrastructure operator. This is the issue that led the DC Circuit Court of Appeals to decide against the 2010 Open Internet Order in *Verizon v. Netflix* in January 2014. Furthermore, the relationship between net neutrality and competition ultimately rests in the principle of non-discrimination. To the extent that an ISP does not discriminate between types of traffic, i.e. applications that ideally fall into the same relevant market (including, where appropriate, the ISP's own vertically integrated service), there is no reason to believe that charging for minimum service quality would be of any relevance to antitrust law, let alone economic regulation.

Moreover, despite the absence of ad-hoc neutrality legislation, OTTs have been gaining market share everywhere in Europe: players such as Skype and Whatsapp (now adding voice calls to its successful messaging service) have eroded the margins of ISPs without having to pay for the use of the bandwidth. While this is certainly a short-term benefit for the end users, one wonders whether ISPs will find it useful to continue investing in an infrastructure that will increase profit opportunities for other companies. As a result, end users might suffer in the long term due to lack of sufficient incentives to invest in new infrastructure. Against this background, the concerns about securing a level playing field that were raised after 2005 have led to a situation in which the pendulum has swung to the other extreme, with possible consequences in terms of infrastructure investment.

<sup>19</sup> See inter alia <http://bgr.com/2014/12/12/apple-iphone-antitrust-investigation/>, <http://www.androidauthority.com/apple-iphone-carrier-deals-europe-examination-antitrust-abuse-176512/>, and <http://www.zdnet.com/article/apple-under-european-investigation-over-iphone-ipad-sales-tactics-and-4g-restrictions/>.

<sup>20</sup> See Court of Justice of the European Union in *Hoffman-La Roche*, defining dominance as the power to “behave to an appreciable extent independently of competitors, customers and ... consumers”; C-85/76 - *Hoffmann-La Roche v Commission*, 1978.

In summary, net neutrality seems neither a sufficient, nor an essential remedy for the perceived lack of a level playing field between telcos and OTTs. The European Commission's current attempt to help national regulators in considering, where appropriate, OTT players in defining relevant markets is a more meaningful approach to inter-layer competition than a remedy that tilts the balance in favour of OTTs. Depending on market circumstances, market power might be found upstream or downstream, thus in the hands of OTTs or telcos. But the relevance of this debate is now weakened, at least in the US, since the FCC is placing emphasis on the 'public utility' nature of Internet access, and is thus imposing neutrality obligations on all carriers regardless of their monopoly power: this realises a quantum leap from net neutrality, from regulatory issue to constitutional right.

### 2.3. Innovation and neutrality: Friends or foe?

The fact that neutrality is essential for innovation is a recurring mantra, especially in Brussels. However, reality seems to be far more nuanced compared to the fictitious, partisan statements we hear on net neutrality every day. We attempt to explain in plain words below why this is the case, although the issue is rather complex in and of itself.

To be sure, the original design of the Internet has made it possible for companies like Google and Facebook to emerge and quickly become Internet giants (too big, according to some EU policymakers). At the same time, the gradual 'platformisation' of the Internet has gradually shifted the most turbulent and creative areas of the Web into higher layers. The original, layered architecture of the Internet is now being replaced by a patchwork of multi-sided platforms operating with different business models and with differing levels of openness.<sup>21</sup> Platforms

such as Apple's iOS, Google Android, Amazon Web Services and Microsoft Windows/Azure are lowering barriers to entry for smaller players wishing to enter the Internet ecosystem.<sup>22</sup> At the same time, importantly, such platforms are being commoditised by applications that are platform-independent: in most cases, this occurs when apps are downloadable for free on any platform, and then manage their customer bill and data directly from the cloud. This is the case of very successful apps such as Uber, Spotify and many others. This blossoming richness and diversity at the app layer is one of the key drivers of innovation in the current Internet ecosystem. Entry possibilities are simply shifting to higher layers, or downstream in this complex supply chain.<sup>23</sup>

Other issues must be crucially taken into account. Importantly, certain innovative services cannot emerge without minimum quality of service: think about Netflix, but also e-Health, IoT applications, innovative payment systems and many others, which definitely cannot work if they are not aided by some guarantee of ser-

for Sustainable Internet Regulation", TPRC 41: The 41st Research Conference on Communication, Information and Internet Policy, 15 August (<http://dx.doi.org/10.2139/ssrn.2242600>).

22 See Manuel Palacin, Miquel Oliver, Jorge Infante, Simon Oechsner and Alex Bikfalvi (2013), "The Impact of Content Delivery Networks on the Internet Ecosystem", *Journal of Information Policy*, Vol. 3, pp. 304-330.

23 A deeper reflection reveals that this has always been the case in the history of the Internet revolution, and more generally in the history of information technology. In complex systems with multi-layered value chains, strong indirect network effects and a modular design, certain modules become pivotal as they chiefly affect end users' preferences. This was initially the case of so-called 'de-facto industry standards', such as the IBM processors, and later Microsoft Windows; more recently they have taken the form of multi-sided platforms, such as Google's home page and Facebook's social network page. In the future, they are likely to become more centred on the Internet of Things and content delivery: players such as Spotify and Netflix are already eroding the leadership of the GAFA (shorthand for American tech giants Google, Apple, Facebook and Amazon), triggering reactions such as Google's YouTube restructuring and Apple's new music streaming service. In all this, the tendency of innovation over the Internet is quite consistent over time: large-scale innovation moves network effects and leading platforms at higher layers of the Internet ecosystem, at the same time commoditising lower layers.

21 K.C. Claffy and David D. Clark (2013), "Platform Models

vice quality and latency. Similarly, the lack of incentives to invest in new infrastructure can also jeopardise the emergence of innovative services, which critically depend on the availability of sufficient bandwidth. Furthermore, new technologies such as 5G mobile broadband systems will adopt a multi-tier architecture consisting of macrocells, different types of licensed small cells, relays, and device-to-device networks to serve users with different quality-of-service. Since this clearly entails traffic management and prioritisation, it is not clear if pro-neutrality legislation would lead to a major drawback in the rollout and uptake of 5G networks.<sup>24</sup>

Finally, net neutrality legislation at the infrastructure layer can, under certain circumstances, divert investment incentives towards the creation of private networks for the provision of enhanced quality services: this might lead to acceleration in the fragmentation of the Internet, and an even speedier loss of neutrality. A good example is the creation of large Content Delivery Networks that interconnect with the public Internet very close to the end users, such as those owned by Netflix and Akamai. I return to this point below.

In summary, innovation can emerge both under neutrality and diversity: the more the Web grows, the more applications diverge in terms of required latency and capacity; the more user attention becomes scarce, the more some degree of traffic optimisation will be needed to protect the end user experience.

## 2.4. User choice and democracy

Is net neutrality really so effective in promoting user choice and empowerment? To be sure, it allows users to access all content of choice, without undue discrimination. But it does not protect end users against restrictions to con-

tent availability and application discrimination applied by platforms located at higher layers. A quick observation of current practice on the Internet reveals that most of the discrimination takes place at the higher layers, not at the infrastructure layer. Large platforms block or degrade certain applications, and search engines, by definition, have to make a selection in order to prove useful for their end users. Whether these practices are good or bad for end users is a question that still awaits a good, evidence-based, debate. In principle, behavioural economics suggests that on the Internet, "a wealth of information creates a poverty of attention".<sup>25</sup> This, in turn, leads end users to increasingly rely on any intermediary that is credibly able to select the most relevant information and offer it to the end user, thus reducing search costs and, more generally, transaction costs. At the same time, it is important to reflect on the extent to which market forces alone could provide the right incentives for intermediaries to select information in a way that offers the best possible service to the end user. And most importantly, as I will argue below, there is reason to doubt that neutrality in the selection of information would be necessarily in line with the interest of the end users.

Also, the jury is out concerning questions of democracy. It is very important to avoid extremist stances in the debate: while neutrality can in many circumstances contribute positively to democracy, intended as the granting of equal rights to all users and the absence of censorship (at least at the network level), the complete standardisation of Internet offerings has very little to do with democracy. The prevailing rhetoric in Brussels (and now Washington) is as follows: since Internet should be treated as a service of general interest, just like water, everybody should have access at the same (afford-

24 See, inter alia, S. Lauson (2015), "Suddenly, net neutrality doesn't look so great for 5G", IDG News, 4 March ([www.pewworld.com/article/2893032/5g-net-neutrality-may-be-headed-for-a-showdown.html](http://www.pewworld.com/article/2893032/5g-net-neutrality-may-be-headed-for-a-showdown.html)).

25 See H.A. Simon (1971), "Designing Organizations for an Information-Rich World", in Martin Greenberger (ed.), *Computers, Communication, and the Public Interest*, Baltimore, MD: The Johns Hopkins University Press. pp. 40–41.



able) terms and conditions. No one should be able to access the Internet at a better speed, or at more favourable conditions than others. However, while this statement sounds very attractive, in reality it is controversial. Is a world in which everybody has access to the basic postal service, but no one can have access to express courier services more democratic than the world we live in? Does democracy entail that only public hospitals exist, and no private clinics? Is it democratic to have just state highways with no toll lanes, rather than forms of traffic optimisation based on users' preferences? Rather than mirroring democracy, full-fledged, rigid net neutrality rules are equivalent to what the Trabant was in Eastern Germany: the only car that people could have, very neutral, very bad, very cheap, identical for everybody. It became famous in the Western world when the Berlin wall fell 25 years ago, and thousands of East Germans drove their Trabants over the border: once in the 'free' world, they immediately abandoned their 'neutral' cars, and started to enjoy their new, non-neutral life.

As a result, the openness and democracy angle of the net neutrality debate appears to be heavily polluted by a layer of rather superficial ideology. Once again, I do not mean to argue that neutrality is always bad for democracy. On the contrary, I believe that censorship should be avoided at all layers of the Internet architecture. At the same time, presenting democracy as a situation in which only one Internet offer exists for all users does not do justice to the richness of user preferences and of the Internet itself. Once again, reality is more complex; we need a more evidence-based debate before we propose unacceptably extreme visions of what is good and bad on the Internet.

## **2.5. Openness: A means, not an end**

On the question of 'openness', net neutrality cannot be a stand-alone, self-sufficient solution.

While it is true that the Internet could develop initially also thanks to the non-proprietary standards that govern it, it would be a mistake to believe that once net neutrality is mandated, the Internet would become open, let alone neutral. Hence, the European Commission is wrong in stating that net neutrality is what keeps the Internet open.

Following the most widespread definition, openness means that users can have access to any content, anytime, anywhere and from any device. But it is clear that the Internet ecosystem has never been like this, and is increasingly less so. Since the development of mass personal computing, all business models on the Internet have evolved in a way that mixes proprietary elements with open ones. Microsoft Windows was an early example of a semi-open architecture: it brought enormous advantage to its end users due to enhanced standardisation and network effects, despite the fact that it was not interoperable with other operating systems. Even free and open source software, initially characterised by full openness (to the extent that the first licenses like the GPL were 'viral', i.e. they could not be used in combination with proprietary software), gradually became part of largely proprietary business models. And as a matter of fact, the real champions of open source software today are companies that possess huge patent portfolios, and often use open source software as a 'Trojan horse' to conquer customers (e.g. IBM has become over the past decade the most powerful sponsor of Linux). In recent years, mobile access to the Internet has been dominated by platforms that are not completely open. iPhone owners cannot use Android or access Android-specific or Windows-specific applications, and vice versa. More generally, many great inventions at the logical and applications layer of the Internet have initially entailed a mostly proprietary model, and later became more open. Forcing openness from the very beginning might just not be a good idea to

start with.<sup>26</sup>

At the same time, there is a more subtle aspect of the openness debate that is worth recalling here. As a matter of fact, it is not always true that more openness is better. For example, the usage restrictions featured by PDF files are harming users' ability to modify the files they receive: but it is exactly this feature that has made the fortune of the PDF. Given restrictions on file manipulation, documents can circulate much more easily, and trust between senders and receivers becomes easier to establish. Likewise, the closed nature of the iTunes-iPod- FairPlay architecture has made it possible, for Apple, to create the first online store for legal music downloads with a sustainable business model. Any alternative, including a more open architecture with no vertical integration between the device and the format of the downloaded songs, would have meant the failure of the business model itself.<sup>27</sup>

Openness of course does not coincide with neutrality, and is broader since neutrality entails strict non-discrimination between bits of traffic.<sup>28</sup> That said, since openness is not entirely a reality on the Internet, neutrality a fortiori cannot be. And indeed, it is clear that even with mandatory network neutrality, traffic on the Internet would be discriminated and toll lanes would continue to abound. Just think about the growing role that Content Delivery Networks (CDNs) play on the network: players such as Akamai, Limelight and Level 3 offer services that accelerate traffic on the Internet, and are used by IT giants such as Apple to ensure that services such as FaceTime work better than the average, non-accelerat-

ed application.<sup>29</sup> In addition, some other players have built this capacity to exploit in-house caching rather than buying it from third parties: this is the case for many players, including Skype and Google, which invested in a private infrastructure made of a large networks of servers in order to be able to offer a better service to their end users. Netflix itself used Limelight until 2012 and later moved to an in-house CDN called OpenConnect.<sup>30</sup>

Against this background, one would conclude that the only way to keep the Internet fully open and neutral would be to impose neutrality obligations at all layers of the Internet architecture. Would this be desirable? Not really: Internet freedom should imply also freedom to experiment with closed or semi-open architectures, and with vast differentiation of product offerings to match different user preferences. Conversely, being forced to accept openness and neutrality has very little to do with freedom.

## 2.6. Net neutrality will never be an answer to media pluralism

Media pluralism is one of the most pressing challenges of today's digital policy. While some commentators originally expected that the Internet would address the issue of pluralism by exponentially increasing the sources of information available to the end users, reality showed that the provision of information on the Internet is becoming even more concentrated than in traditional media. This trend has been captured well by Columbia University Professor Eli Noam, who showed in 2011 that media ownership tends to become more concentrated at every new generation of communications, from radio to newspapers, to televisions and the Internet.

26 See Boston Consulting Group (2011), "The new rules of openness" ([www.libertyglobal.com/pdf/new\\_rules\\_%20of\\_openness6-en.pdf](http://www.libertyglobal.com/pdf/new_rules_%20of_openness6-en.pdf)).

27 See Martijn Poel, Andrea Renda and Pieter Ballon (2007) "Business model analysis as a new tool for policy evaluation: Policies for digital content platforms", *info*, Vol. 9, No. 5, pp.86–100.

28 In practice, the two concepts are often used interchangeably.

29 See D. Rayburn (2014), "Apple Building Out Their Own CDN To Deliver Content To Consumers" (<http://blog.streamingmedia.com/2014/02/apple-building-cdn-software-video-delivery.html>).

30 See <https://openconnect.itp.netflix.com/>

The issue of pluralism was associated even more strongly with net neutrality as governments have shown the tendency to violate neutrality by shutting down social networks and filtering out forms of communication such as microblogs, in countries like Egypt, Turkey, China, Russia, Venezuela and others.

However, there are three main reasons why net neutrality cannot be the answer to the thirst for media pluralism evoked by many policy-makers and scholars.

- Censorship, even if made impossible at the infrastructure layer, can be exercised by forcing intermediaries to filter communication, even if no blocking takes place at the infrastructure layer. One clear example is the decision by the Turkish government to temporarily shut down Facebook, YouTube and Twitter until they removed from their sites the picture of a prosecutor taken hostage and killed by militants in Istanbul in early April 2015.<sup>31</sup>
- Relatedly, media pluralism is not guaranteed at all by the absence of blocking or discriminatory behaviour by ISPs. Rather, it would require a similar approach at all layers of the value chain, since content could otherwise be filtered out by large platforms, news outlets, cloud providers, etc.<sup>32</sup>
- Even if no blocking, throttling or discrimination takes place at all layers of the value chain, neutrality tout court would

not be sufficient to guarantee pluralism. The reason is simple: pluralism requires not only that a plurality of sources of information is present on the Internet; on the contrary, it requires that a plurality of sources of information is exposed to the end user. Against this background, a neutral platform would inevitably end up selecting information from the most popular sources: the polarisation of sources of information would be exacerbated, rather than reduced, by a strict neutrality requirement.<sup>33</sup>

## 2.7. Summing up: What reasons remain valid for net neutrality regulation?

The previous sections have shown that, regardless of the intrinsic merit of the word and the underlying concept, a lot more has to be proven before net neutrality can be considered as a universal principle, able to address all the concerns raised with respect to 'net diversity' scenarios. Even the decision by the US Federal Communications Commission (FCC) on net neutrality of February 2015 is not based on any in-depth evidence-based analysis, or at least no such analysis has been published. As things stand, net neutrality does not appear to be a stand-alone remedy that would fix any of the identified problems, nor would it achieve any of the officially pursued objectives as set out in section 1 of this paper. That said, one should not immediately conclude that net neutrality should not be mandated at the infrastructure layer. Simply no one has brought sufficient evidence that this is the case, and probably the debate has focused on the wrong motivations. Imposing network neutrality might still be a good idea, but for other reasons. In this section, I try to imagine such potential motivations.

A first reason why it might be a good idea to

31 See "Facebook, Twitter to Appeal as Turkey Blocks Social Media", Bloomberg, 6 April 2015 ([www.bloomberg.com/news/articles/2015-04-06/social-media-blocked-in-turkey-on-prosecutor-order-hurriyet](http://www.bloomberg.com/news/articles/2015-04-06/social-media-blocked-in-turkey-on-prosecutor-order-hurriyet)).

32 In order not to increase complexity for the reader, I leave aside here the first amendment debate raised by Verizon in the US, which raises the issue whether prohibiting ISPs from exercising editorial powers on the content they transfer would amount to a violation of their freedom of speech <http://www.globalresearch.ca/when-net-neutrality-becomes-programmed-censorship-2/5434400> (last visited on April 12, 2015).

33 See e.g. C.R. Sunstein (2001), Republic.com, Princeton, NJ: Princeton University Press and C.R. Sunstein (2009), On Rumors: How Falsehoods Spread, Why We Believe Them, and What Can Be Done, Princeton, NJ: Princeton University Press.

impose net neutrality is that the infrastructure layer is by far the most stable in the Internet ecosystem. Accordingly, it might be easier to monitor practices adopted by ISPs compared to what takes place at higher layers, where the Schumpeterian gale of 'creative destruction' operates at the speed of light, making it impossible to define markets, detect practices and administer sanctions. Net neutrality legislation, in this respect, would mean keeping the Internet open at the lowest level of its architecture, and then monitoring the market at higher levels to discourage abusive practices, which would result in a violation of end-users' rights to a reasonably open Internet. This regulatory option, of course, would come at a cost, i.e. the loss of incentives to ISPs to roll out new public infrastructure.

A second, related reason that might favour pro-net neutrality legislation is that it is a lot easier and efficient to implement this rule, compared to any of the alternatives<sup>34</sup>. This would be due to the fact that, as I have noted in a previous paper, implementing legislation that implies difficult judgments such as whether the open internet is being 'materially impaired' might prove to be impossible.<sup>35</sup> What is material impairment? When does an impairment become material? How do we get to know the counterfactual (i.e. how much would a given ISP have invested in broadband infrastructure absent the neutrality provision)? Where in the network would we measure the impairment? Would this be in a sample of locations, or everywhere in the 'last mile', or in each apartment? How would we allocate responsibility between providers that manage consecutive trunks of the network,

in case congestion is slowing down a service? Would this imply an ex-ante regulatory remedy or an ex-post enforcement tool?<sup>36</sup> Which parameters will we use to judge whether impairment is below or above the admitted threshold? Which services will be taken as a benchmark for QoS parameters? There is enough uncertainty in these questions to make any legislator want to run away from the issue.

A third reason why one would want to have neutrality legislation at the infrastructure layer is that this is a first step towards imposing neutrality at all layers of the Internet. As I argue in the next section, however, and despite the current emphasis being placed on neutrality as a universal concept, there are reasons to believe that this would be terrible news for Internet users (see below, section 3).

Finally, regardless of the underlying reason, several key observations emerge from the preceding discussion:

- Strict net neutrality regulation would remove some of the incentive motivating ISPs to invest in the open Internet and might lead to the creation of alternative, private networks in the attempt to reach end users with selected content (like Comcast does in the United States).
- In a related vein, treating the Internet as a service of general interest, subject to strict neutrality requirements, may lead to enhanced public funding of basic Internet access, aimed at avoiding all sorts of discrimination between end users' terms of access and the ability to send and receive content. This approach might be pursued at the EU level through a prior-

<sup>34</sup> A similar argument, referring to net neutrality as a "bright-line rule", is made by B. van Schewick (2015) "Analysis of Proposed Network Neutrality Rules", 18 February (<http://cyberlaw.stanford.edu/downloads/vanSchewick2015AnalysisofProposedNetworkNeutralityRules.pdf>)

<sup>35</sup> See A. Renda (2013), "Net Neutrality and Mandatory Network-Sharing: How to disconnect the continent", CEPS Policy Brief No. 309, CEPS, Brussels, 18 December (on the "first legislate, then think" syndrome).

<sup>36</sup> David D. Clark, Steven Bauer, William Lehr, K.C. Claffy, Amogh D. Dhamdhere, Bradley Huffaker and Matthew Luckie (2014), "Measurement and Analysis of Internet Interconnection and Congestion", paper prepared for 43rd Research Conference on Communications, Information and Internet Policy, Arlington, VA, 9 September (available at SSRN: <http://ssrn.com/abstract=2417573>).

itisation of broadband investment in the so-called 'Juncker plan'.

- Expecting ISPs to invest in the open Internet without being able to optimise traffic or create specialised services, and without being able to compete with CDN-enabled content providers, comes very close to "having your cake and eating it", or what I referred to as the 'Galileo syndrome' in a previous paper.<sup>37</sup> The only remaining incentive for ISPs to invest in better networks would be competitive pressure exerted by other ISPs. But either such competitive pressure is already there (in which case, there is no specific need to introduce net neutrality legislation, according to many), or there is a tiny chance that a less and less profitable market, such as EU broadband access, could attract significant investment and, accordingly, generate more vibrant competition in the years to come.

### **3. Should we expand neutrality to higher layers of the Internet architecture?**

While the network neutrality debate still looms, the first steps of the Juncker Commission seem to have led to new efforts to extend the neutrality principle to Internet 'platforms', including, inter alia, wireless operating systems (Android, iOS, Windows Phone) and web services managed by Internet giants (e.g. Amazon cloud services). These proposals echo the recent positions adopted by the European Parliament (following mostly the German and French governments) on the need to adopt structural measures to reduce the market power of large Internet players (notably Google) and to ensure the portability of data across platforms to (allegedly) stimulate competition and avoid user lock-in effects. This

trend confirms what some commentators had envisaged a few years ago: that the neutrality debate can easily spread to cover all layers of the Internet ecosystem and be transformed into a more general call for an all-neutral Internet. Whether this trend will continue in the next European Commission's proposed packages on the Digital Single Market and on Audiovisual Services, both expected in the coming months, is too early to predict. The European Commission has announced that it intends to launch a stakeholder consultation on the possible regulatory approach to 'digital platforms', although the contours of this initiative are still unknown at the time of writing.

Below, I briefly reflect on two possible extensions of neutrality principles that have been considered in the past months at EU level: search neutrality and platform neutrality.

#### **3.1. Search neutrality: Heaven or hell?**

One of the most famous applications of the concept of neutrality at higher layers of the internet architecture is emerging from the still rather obscure antitrust investigation launched by the European Commission against Google, reportedly coming closer to a final judgment in mid- 2015. From the few documents that have left the premises of the European Commission in the past months, as well as from the official statement of Commissioner Margrethe Vestager on 15 April 2015 announcing the formalisation of allegations against Google for abuse of dominance, it seems clear that the most important part of the investigation is related to Google's alleged abuse of dominance, consisting of the manipulation of search results in favour of 'preferred' (often, Google's own) content and to the detriment of other results, demoted for various reasons.<sup>38</sup> Such behaviour, according to

<sup>37</sup> See Renda, Net neutrality and mandatory network sharing, op. cit.

<sup>38</sup> See European Commission Factsheet, Antitrust: Commission opens formal investigation against Google in relation to Android mobile operating system, Brussels, 15 April 2015 [http://europa.eu/rapid/press-release\\_MEMO-15-4782\\_en.htm](http://europa.eu/rapid/press-release_MEMO-15-4782_en.htm).



the European Commission, has the potential to foreclose smaller search engines such as those specialised in specific sectors ('verticals'), which end up being disadvantaged vis-à-vis the giant search engine powered by Google.

The main allegation against Google turns out being one of 'non-neutrality': Google is thought to unduly discriminate between Internet content by providing a non-neutral, non-objective view of the Internet. This implies, *inter alia*, algorithmic choices that demote bad-quality services, sites that only aggregate information without adding new one, and filtering out of illegal sites, hate speech and copyright infringing content.<sup>39</sup> But the obvious counter-argument is that a search engine is not supposed to be neutral: in particular, Google had just completed a transition from a 'ten blue links' model to that of an integrated search engine, which entails more editorial responsibility, and at the same time more relevant and satisfactory results for the end users. Paradoxically, the European Commission's case against Google is mostly summarised by this divergence: the Commission accuses Google of not being neutral, but any search engine, not

just Google, would reply "why should I be neutral?"

Should search neutrality be a policy objective at all? Indeed, there are reasons to believe that a neutral search engine would be hated by consumers. As I mentioned in the previous pages, the key role of Internet intermediaries, and especially search engines, is to eschew neutrality by selecting the information that is likely to prove more useful and relevant for the end user. It is this reduction of complexity that makes them so pivotal in their role of gatekeepers of the Internet: just like our brain simplifies reality to make the abundance of information in the outside world more manageable and useful, a search engine has to reduce complexity to help us find our way through the Internet. This requires, inevitably, a ranking (and thus, a discrimination) of results, which can be based on relevance as well as on any other factor that is likely to increase customer satisfaction when using the search engine. As recalled by James Grimmelman,<sup>40</sup> users continually return to a specific search engine because they find the 'biased' or 'subjective' results to fit their needs, not because they find the results to be objective.

Without entering into the merit of the Google investigation, which would go beyond the subject matter of this paper, it is clear that advocating neutrality for search engines is far from being a straightforward policy stance. Apart from what has already been explained above (that users are unlikely to want neutrality in a search engine), it is clear that implementing search neutrality would be undesirable in many respects. First, the polarisation of results induced by search engines purely based on relevance might lead to even greater barriers to entry for new companies that seek to enter the market. Since they have never been listed on the Inter-

39 For example, in both investigations carried out by the US Federal Trade Commission (FTC) and by the European Commission, UK search comparison site Foundem was one of the leading claimants, arguing that Google had anti-competitively degraded its ranking, causing loss of market share. As explained by Crane (2014), *inter alia*, the FTC found that Google's transformation of its search engine from a "ten blue links" system to an integrated search portal, in which Google itself takes more editorial responsibility, has meant innovation and enhanced consumer welfare, and positive results also for the types of content that were considered to be useful for the end users. Foundem was found to be a lousy service, and as such demoted by Google in what is definitely, and fortunately, a non-neutral search engine. See Daniel A. Crane (2014), "After Search Neutrality: Drawing a Line between Promotion and Demotion", *I/S: Journal of Law and Policy for the Information Society*, Vol. 9, No. 3; Marvin Ammori and Luke Pelican (2012), "Competitors' Proposed Remedies for Search Bias: 'Neutrality' and Other Proposals", *Journal of Internet Law*, Vol. 15, No. 11.; Daniel A. Crane (2012), "Search Neutrality and Referral Dominance", *Journal of Comparative Law and Economics*; Daniel A. Crane (2012), "Search Neutrality as an Antitrust Principle", *George Mason Law Review*, p. 1199; and Geoffrey A. Manne and Joshua D. Wright (2012), "If Search Neutrality is the Answer, What's the Question?", *Columbia Business Law Review*, 151.

40 J. Grimmelman (2011), "Some Skepticism about Search Neutrality", in Berin Szoka and Adam Marcus (eds), *The Next Digital Decade: Essays on the Future of the Internet, TechFreedom, and NYLS Legal Studies Research Paper No. 10/11 #20* (available at SSRN: <http://ssrn.com/abstract=1742444>).

net, any crawling and mapping of the Internet performed by a search engine would not find them. And before they achieve a minimum scale of popularity, which would enable them to appear in the first page of a neutral search engine's home page, they might have already gone bankrupt.

Second, search neutrality would need to be verified, and this might require that Google, as well as all competing search engines, disclose their algorithms in a fully transparent way. However, apart from the fact that this would chill innovation by denying trade secret protection to the result of massive R&D investment, it would also expose the algorithm to attacks, as well as strategic behaviour aimed at exploiting the weaknesses of the algorithm to rank better in its results. Even this outcome would not be neutral in the end<sup>41</sup>.

Third, and relatedly, such a remedy is being proposed as an antitrust remedy, although the current debate on platform regulation also hints at search neutrality as a way to promote pluralism (see next section). As an antitrust remedy, however, search neutrality requires a finding of dominance within a given relevant market, and this is prohibitively difficult to imagine if one takes antitrust seriously. More specifically, dominance – let alone its abuse – requires a situation in which an undertaking is able to behave, to an appreciable extent, independently of its competitors, customers and consumers. In other words, a situation in which a company is able to sit down and relax since no one is able to effectively and seriously challenge its market power. Notwithstanding the very high share of search queries that Google holds in Europe, the defini-

tion of dominance as ascribed by the Court of Justice of the European Union (CJEU) portrays a different situation compared to the one Google seems to be experiencing in Europe and globally. A market leader that constantly innovates to preserve its leadership is not a dominant company under EU antitrust law, regardless of the market share.

In summary, search neutrality is a flawed remedy, both in antitrust terms and even more as a general regulatory measure. In terms of antitrust, it amounts to throwing the baby out with the bath water, runs counter to consumer welfare and should be defined at a minimum as a disproportionate remedy under EU law. In regulation, it is simply an ill-conceived extension of the important, but per se controversial, principle of network neutrality.

### **3.2. Platform neutrality and regulation: Where all contradictions explode**

The intrinsic contradictions of EU digital policy become fully apparent if one considers the proposals to regulate platforms and impose forms of neutrality on online intermediaries that have recently been tabled in Brussels. One of the first to use the expression 'platform neutrality' was the French National Digital Council (Conseil National du Numérique), which published a detailed report on this same concept in June 2014, following a 2013 request from the Ministry of the Economy and Digital Affairs as well as the Secretary of State on Digital Affairs.<sup>42</sup> The report argued that platforms such as so-called GAFTAM (Google, Amazon, Facebook, Twitter, Apple, Microsoft) maintain their dominant position by three main operations: acquisition, di-

<sup>41</sup> The Financial Times reported on 16 April 2015 that a proposal currently making its way through the French senate could force Google to publish the details of how its search rankings are calculated. According to the newspaper, the proposed bill would allow the country's national telecoms regulator to monitor search engines' algorithms, with powers to ensure its results are fair and non-discriminatory (see [www.ft.com/intl/cms/s/0/643f49ec-e285-11e4-aa1d-00144feab7de.html#axzz3XGqpfF5O](http://www.ft.com/intl/cms/s/0/643f49ec-e285-11e4-aa1d-00144feab7de.html#axzz3XGqpfF5O)).

<sup>42</sup> See Conseil National du Numérique (2014), "Platform Neutrality: Building an open and sustainable digital environment", Opinion No. 2014-2, of the French Digital Council, Paris ([www.cnnumerique.fr/wp-content/uploads/2014/06/PlatformNeutrality\\_VA.pdf](http://www.cnnumerique.fr/wp-content/uploads/2014/06/PlatformNeutrality_VA.pdf)).

versification and exclusion,<sup>43</sup> and that in doing so, they harm competition to the detriment of consumers. In the following weeks, the French and German governments explicitly called on the Commission to establish regulation for essential platforms, invoking neutrality as one of the attributes of such platforms' future conduct.<sup>44</sup> The debate also surfaced in the US this year, when Blackberry CEO John Chen officially complained that Netflix had not made movies available for Blackberry phones, and invoking platform neutrality – or 'app neutrality' – as a much-needed remedy.<sup>45</sup>

The echo of these calls is also heard inside the European Commission. Some of the leaked documents related to the upcoming policy initiatives on the Connected Continent and the Digital Single Market hint at platforms as, very generically, multi-sided markets where suppliers and consumers of content, goods and services meet. In consideration of the fact that more than one third of Internet traffic goes to the only 1% of websites which are used in all member states, these 'platforms' are thought to significantly alter consumer choice by providing misleading information. Reference is also made to the difficulty for consumers in distinguishing between organic and paid-for search results, as well as the 'ranking' (order) of results. Being so

powerful, platforms can also impose unfair contractual clauses to SMEs. Moreover, the digital single market is perceived as negatively affected by the lack of interoperability between platforms, and in particular by the fact that some apps only run on specific operating systems, some e-books are readable only by specific e-readers, etc.

That is all to say that the European Commission seems to have been pervaded by a neutrality delirium, which so far has not produced ad-hoc legislation, although this might just be a matter of weeks away. There are many reasons why platform neutrality is a contradiction in terminis. First, as already recalled, platforms are defined very broadly. Some commentators have observed that based on the proposed definition, even a mall can be a platform. Any newspaper is a platform, just like any game console. Spotify is a platform. Uber is a platform too. So, maybe the most vocal governments and the European Commission only wanted to refer to large, digital platforms. Or maybe to dominant, digital platforms. Or maybe to GAFTAM, or to GAFA, or perhaps only to Google. But then, an explanation should be given of why competition law would not be sufficient to tackle the problem. Maybe because it is an uphill battle for these platforms to define a relevant market and find dominance in contrast to what occurs at the infrastructure level, especially if one follows an orthodox antitrust approach. As a matter of fact, the common feature of these platforms is that they compete for end users, but they do it with a rather different mix of products and services, and very different business models. And the fight to conquer end users' attention is a common feature of all market players, even in the traditional world. Since users can, and do, 'multi-home' by using services provided by various platforms at the same time, the existence of a number of large and heterogeneous players, which can be defined as large digital platforms, does not say anything about the existence of

43 Platforms buy innovative start-ups that could threaten their dominance in the long run and/or that can be fruitfully integrated in their existing infrastructure in order to provide a more diversified platform. The report lists the acquisitions of the GAFTAM from 2010 to January 2014, which shows that these platforms have been engaging in acquisition and diversification. The last main move of the platforms is exclusion. For instance, the report argues that, when Google introduced Google Maps and Google Shopping, the traffic of websites offering similar services dropped significantly because their page rank suddenly worsened.

44 See i.a. "Europe's demands on Google mount", Financial Times, 26 November 2014 ([www.ft.com/intl/cms/s/0/66b5149e-758a-11e4-b082-00144feabdc0.html#axzz3WpR2sSn7](http://www.ft.com/intl/cms/s/0/66b5149e-758a-11e4-b082-00144feabdc0.html#axzz3WpR2sSn7)).

45 See Karl Bode, "No, 'App Neutrality' Is Not A Thing", 13 February 2015 ([www.techdirt.com/blog/netneutrality/articles/20150122/08093329777/no-app-neutrality-is-not-thing.shtml](http://www.techdirt.com/blog/netneutrality/articles/20150122/08093329777/no-app-neutrality-is-not-thing.shtml)).

an antitrust problem. And even if one tries to define relevant markets for each of those platforms, possibly ending up with a single market for each of the GAFTAM, then the existence of high market shares could not be used as a proxy for dominance, since the economics of network effects and tipping suggests that in these markets the winner takes it all, and competition is normally very aggressively dictated by the need to secure a paramount role in the next generation of market products.<sup>46</sup>

Second, platform neutrality is an oxymoron, since platforms capture the attention of end users exactly because they violate the neutrality of the Internet and offer users a selection of Internet content. They normally do not block or hide content, but they necessarily prioritise content. App stores present end users with a selection of the best apps, the newest apps and those that best fit the user's needs. Search engines are all about relevance and salience, and compete on the quality of their selection, as well as on their ability to capture the attention of end users, which in turn becomes a target of profiled advertising. It is inherent in the nature of platforms that these subjects will end up violating the neutrality principle. Again, the possibility (effectively achieved in reality) for users to multi-home is what determines the degree of competition between various users: in this respect, recent research on the multiplicity of channels that firms can use to reach end users and evidence of the increasingly cross-platform nature of apps suggest that competition between non-neutral platforms is producing virtuous results for end users.<sup>47</sup> And innovation at the app layer, as already

observed, seems to be extremely vital, because of this hybrid form of competition between differentiated platforms. Recent data suggest that 400,000 Europeans are building apps, and that the broader App Economy supported already 1.8 million European jobs in 2013, with a revenue of €17.5 billion that same year, expected to grow by 300% (to €63 billion) by 2018.<sup>48</sup> How can this evidence be reconciled with the claim that platforms are choking innovation?

Third, the platform neutrality debate evidently clashes with a simultaneous trend, i.e. the attribution of greater responsibilities to digital platforms for the conduct of their users.<sup>49</sup> Such trend is visible in several initiatives adopted at the EU level, including the European Commission's plans to review the 2000 e-commerce Directive to modify the 'mere conduit' principle (Article 12) to introduce a 'duty of care' principle, i.e. a requirement for online intermediaries to act proactively and remove illegal content hosted on their platforms,<sup>50</sup> the attribution of growing liability to online intermediaries for copyright protection, enforcement of privacy laws (including the 'right to be forgotten'), defamation, spam filtering, notification of security breaches, the fight against terrorism and other monitoring activities. The contradiction lies in the fact that some parts of EU law seem headed in the direction of imposing neutrality obligations on online intermediaries; whereas on the other hand, other legislation is requiring intermediaries to be more proactive in managing, prioritising and editing the content they pass on to the end users. How would this work? Can, for example, search engines be forced to operate 'neutrally' and at

46 See C. Shapiro and H. Varian (1999), *Information Rules: A Strategic Guide to the Network Economy*, Cambridge, MA: Harvard Business School Press and R. Pardolesi and A. Renda (2002), "How safe is the king's throne? Network externalities on trial", Chapter 11 in R. Pardolesi, A. Cucinotta, R. Van den Bergh (eds), *Post-Chicago Developments in Antitrust Law*, Cheltenham: Edward Elgar.

47 See P. Nooren, W. Koers, M. Bangma, F. Berkers and M. Boerkers (2014), "Regulation in the Converged Telecom-Media-Internet Value Web". TNO Report R11428, October 2014, the Netherlands.

48 See "How Europe can win in the global app economy", Euractiv, 3 February 2015 ([www.euractiv.com/sections/innovation-enterprise/how-europe-can-win-global-app-economy-311788](http://www.euractiv.com/sections/innovation-enterprise/how-europe-can-win-global-app-economy-311788)).

49 "Europe enlists Internet giants in fight against online extremism", by C. Spillman, 9 October 2014 ([http://phys.org/news/2014-10-eu-internet-giants-online-extremism\\_1.html#inIRlv](http://phys.org/news/2014-10-eu-internet-giants-online-extremism_1.html#inIRlv)).

50 See inter alia [www.internetsociety.org/sites/default/files/ISOC%20EU%20Newsletter%2027%20March%202015%20FINAL.PDF](http://www.internetsociety.org/sites/default/files/ISOC%20EU%20Newsletter%2027%20March%202015%20FINAL.PDF).

the same time be attributed editorial responsibility and related liability? This would amount to saying “you can’t control or filter your results, but if anything unlawful comes out of user queries, you’ll be responsible”. It would also be a new generation (if not an aberration) of the mere conduit principle, in which a company is forced to act as a mere conduit, but is also considered liable for whatever happens in the conduit. Which company would accept to continue operations under these rather tricky terms?

Finally, the platform neutrality principle is in stark contradiction with the objective of media pluralism, which is also being pursued by EU law and is currently subject to a ‘fitness check’ (or ‘REFIT’ exercise) in the European Commission, in view of reforms to be adopted in 2016. The problem is similar to the one already outlined for net neutrality in section 1 of this paper, but exacerbated by the scarcity of attention and trust that characterises the provision and consumption of media content. In short, platforms need to select content, and in selecting content polarise the attention of end users on a subset of available information. A neutral search engine would not address media pluralism, since it would simply convey the most popular and relevant results to the end user, and would leave aside the long tail content that otherwise adds to the plurality of voices we would want to see on the Internet. Again, this does not mean that nothing can be done to pursue media pluralism; however, that ‘something’ that can be done has nothing to do with neutrality. Several scholars, including Gillespie (2010), Helberger (2012), Crawford (2013), Latzer et al. (2014), Sunstein (2009), Zittrain (2014) and Goodman (2014) have fuelled the debate<sup>51</sup> on how to

design a proactive media policy in the age of online intermediaries: this debate is inspired by an understandable sense of urgency as regards the need to address the prominent role played today by platforms in conveying news and content to end users. But at the same time, this debate has nothing to do with extremist neutrality positions and rightly recognises that the way to ensure plurality of content exposure (not merely presence) in the age of algorithms is much more complex than simply dictating the neutrality of platforms. The debate is in its early stage, however. Authors like Zukerman (2013) even propose a serendipity engine that brings in random content that might be relevant for the end user, while Grimmelman (2011) convincingly demonstrates that any filter or algorithmic rule entails an editorial choice.<sup>52</sup> Very recently Grötter (2015) proposed the creation of a public search engine that acts as a benchmark for the results of private engines, but the proposal stops short of explaining how such public engines could be made at least as attractive as the commercial ones.<sup>53</sup>

Summing up, platform neutrality seems to represent a flawed response to a badly defined problem. This does not mean of course that there are no problems to solve: monitoring the way in which platforms make use of their editorial power is the biggest challenge for media policy in the years to come. What I am arguing in this paper is simply that such a challenge will not be addressed by imposing neutrality obligations on platforms, but rather by seeking cooperation

51 See Tarleton L. Gillespie (2010), “The Politics of ‘Platform’”, *New Media and Society*, Vol. 12, No. 3 (available at SSRN: <http://ssrn.com/abstract=1601487>); N. Helberger (2012), “Exposure diversity as a policy goal”, *Journal of Media Law*, 4 (1), 65-92. doi: 10.5235/175776312802483880; Latzer et al. (2015), “The Economics of Algorithmic Selection on the Internet”, forthcoming in Johannes Bauer and Michael Latzer (eds), *Handbook on the Economics of the Internet*, Cheltenham: Edward Elgar; Sunstein (2009), *On Rumors*,

op. cit.; Jonathan Zittrain (2014), “Engineering an Election”, *Harvard Law Review Forum*, Vol. 127, and *Harvard Public Law Working Paper No. 14-28* (available at SSRN: <http://ssrn.com/abstract=2457502>); and E.P. Goodman (2014), “Informational justice as the new media pluralism”, *LSE blog*, 19 November (<http://blogs.lse.ac.uk/mediapolicyproject/2014/11/19/informational-justice-as-the-new-media-pluralism/>).

52 See Grimmelman, op. cit.

53 See R. Grötter (2015), “The Citizens’ Internet: The Many Threats to Neutrality”, *Netopia*, Brussels, March ([www.netopia.eu/wp-content/uploads/2015/04/Netopia-Report-The-Citizens-Internet.pdf](http://www.netopia.eu/wp-content/uploads/2015/04/Netopia-Report-The-Citizens-Internet.pdf)).



with platforms to ensure that the design of their algorithms and their editorial choices are compatible with media pluralism objectives that are considered to be in the public interest.

## 4. Conclusion

This short paper digs into the roots of the neutrality debate and comes to a number of conclusions, which I hope will be of interest to the reader. They are summarised below.

First, while there might be reasons to impose neutrality at the infrastructure layer of the Internet, these reasons have little to do with the idea that the network should be fully neutral. Rather, they have to do with the ease of implementation, the stability of the infrastructure layer, the possibility of identifying dominant positions and the difficulty of establishing a threshold for the 'material impairment' of the best-effort Internet. At the same time, this policy choice comes with a trade-off: policymakers should recognise that this means diverting incentives to invest in the best-effort Internet towards private networks; and that this might also imply a greater involvement of public funding to secure investment in a high-capacity network. Policymakers should also be open to the possibility that this policy option brings more fragmentation of public and private networks, and the flow of many value-added services into private networks.

Second, whatever outcome the net neutrality debate produces, this will not make the Internet neutral. The juxtaposition of various multi-sided platforms with varying degrees of openness and the use of various forms of traffic acceleration make the Internet non-neutral, inevitably and fortunately. Whether keeping the infrastructure layer neutral would be a way to ensure that the rest of the ecosystem evolves towards open and innovative platforms, rather than to deprive the traffic acceleration market of one category of players, is a matter worthy of further research.

Third, the neutrality debate should not be applied to the higher layers of the Internet. Doing this would fundamentally contradict the economics of the Internet and the evolution of the Internet itself. The fact that the Internet is no longer a place where "nobody knows you're a dog" is an acknowledged fact, and allows no turning back.<sup>54</sup> A fortiori, imposing both neutrality and liability all at once on online intermediaries would undesirably place them between a rock and a hard place. Rather, the extent to which online intermediaries can cooperate with public authorities to protect and empower online users is the key research and policy question of the future. Both the liability of intermediaries in e-commerce, copyright, data protection and the protection of fundamental rights, and the design of a smarter and proactive media policy represent key challenges and opportunities for EU policymakers in view of a flourishing and creative digital single market.

<sup>54</sup> I refer here to a cartoon authored by Peter Steiner and published in 1993 on the New Yorker. The cartoon showed a pet dog surfing the Internet and enthusiastically telling a fellow dog: "On the Internet, nobody knows you're a dog!"



# Multisided Platforms, Dynamic Competition and the Assessment of Market Power for Internet-Based Firms

David S. Evans \*

10 March 2016

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## Abstract

Market power on each side of a multisided platform, whether in the form of increasing prices or decreasing quality, is constrained by the risk of losing sales on the other sides. That tends to weaken market power on each side and encourages platforms to keep prices lower and quality higher than they would absent these feedback effects. In some cases the nature of the business model, and competition, result in the platform allowing one type of customers to participate in the platform for free or even to subsidize their participation. Non-price methods of attracting customers are especially important in this case, particularly when the business model adopted by the industry makes it difficult for platforms to move from free participa-

tion. To provide a reliable assessment of competitive constraints, market power analysis must consider the interdependencies in demand by the participants on the platform as well as have heightened focus on non-price competition when the participation for one group is free. Market shares should be used cautiously in assessing market power for multi-sided platforms, especially when they reflect only one side of the platform, and therefore do not account for the interdependent customer groups, or concern a free platform side where there is no monetary measure of value. Finally, dynamic competition makes the analysis of market power complex because it results in feature competition, and potentially drastic innovation, on one side of a platform that has feedback effects on the other side of the platform. The courts and authorities have recognized these points in *Qihoo 360 v. Tencent*, *Cartes Bancaires v. European Commission*, the Facebook/WhatsApp merger, and the Microsoft/Skype merger. These principals should become part of the standard analysis of multi-sided platforms by courts and competition authorities globally. These concerns are illustrated in the context of multi-sided platforms that offer online services where free services and dynamic competition are especially important.

## I. Introduction and Summary

Many online businesses operate multi-sided platforms that help different types of participants get together and enter into value-increasing exchanges. Facebook, for example, makes it possible for friends, businesses, advertisers, and developers to interact with each other. This business model has ancient roots going back at least as far as the village matchmaker. Many traditional businesses, such as newspapers and shopping malls, use this model. New technologies, particularly mobile and the cloud, however, have

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turbocharged the multi-sided platform business model. Online platform businesses are forming at a rapid clip and disrupting not only traditional industries but relatively new ones as well.<sup>1</sup>

Online multi-sided platforms pose a challenge for competition policy analysis. Some have become large national or global enterprises quickly. Competition authorities are, quite properly, vigilant about making sure that these successful firms adhere to sound competition-law principles. In making economically reliable assessments, however, competition authorities, as well as courts, should account for three features of these online platforms set them apart from many other businesses in evaluating the market power held by these platforms.

First, the demands by the different groups of participants served by multi-sided platforms are interdependent. As a simple mathematical matter, that interdependency renders standard formulas wrong at least without significant modifications.<sup>2</sup> In particular, a price increase, or quality decrease, to one group of participants reduces the demand not only by that group but also by the other groups who then have fewer participants with which to interact. That does not mean that an online platform could not have market power, only that the analysis needs to consider these interdependencies and the resulting feedback effects.

Second, many online businesses make the platform “free” to one group of participants, or even subsidize those participants, and earn profits from the other groups of participants who they do charge.<sup>3</sup> Although the basic concepts

of competition policy analysis apply to free prices, many of the traditional tools used for competition policy analysis, such as the SSNIP test, do not work, without significant modification, as a straightforward mathematical matter. Most importantly, though, the existence of a group of customers who are served for free highlights the importance of considering the other interdependent sides in assessing market power. The platform is ordinarily making participation “free” for a group because that group is very important for attracting paid participants. Anything that deters “free” users from participating—such as a decrease in quality—also reduces the incentives for the paid users, who generate all the profits, from participating as well.

Third, online platforms often engage in constant incremental innovation as they seek to obtain advantages over rivals to attract participants on multiple sides and are subject to episodic, but increasingly frequent, disruptive innovation in which new, or seemingly different, firms attract their customers away. This dynamic competition is particularly important for “attention” platforms for which competition is designed to attract the attention of users, which is then resold to marketers, including advertisers, who want to persuade those users to buy things. An attention seeker is under constant threat that someone will come up with an entirely clever new way to grab people’s attention. For competition policy analysis, this means that market power analysis needs to consider the constraints imposed by dynamic competition and in new products and services that may appear very different than the firm under investigation.

Courts and competition authorities have come to recognize these points as they have had the chance to analyze online platforms and absorb the teachings of the new economic literature on multi-sided platforms. Although it did not involve online businesses, the Europe-

1 See David S. Evans and Richard Schmalensee, *Matchmakers: The New Economics of Multisided Platforms* (Boston, MA: Harvard Business School Press, 2016) Available at Matchmakers.

2 See David S. Evans, “The Consensus among Economists on Multisided Platforms and Its Implications for Excluding Evidence That Ignores It,” *Competition Policy International*, April 13, 2013. Available at <http://ssrn.com/abstract=2249817> or <http://dx.doi.org/10.2139/ssrn.2249817>

3 See Evans and Schmalensee, *Matchmakers*, Table 2.1, and

the detailed discussion in Chapter 7.

an Court of Justice recognized that the analysis of competitive effects, and therefore implicitly the exercise of market power, needed to consider the linkages between the separate sides of multi-sided platforms.<sup>4</sup> The Chinese Supreme People's Court concluded that dynamic competition among platform businesses, including one seeking and selling attention, limited market power.<sup>5</sup> Antitrust regulators, including those in the European Union and United States, approved Microsoft's acquisition of Skype and Facebook's acquisition of WhatsApp in because they recognized how fluid market boundaries and dynamic competition would discipline the market power of the merged entities.<sup>6</sup>

None of these judgments or decisions in any way suggests that competition authorities should let their guard down when it comes to online platforms. Taken together, however, with the new economics of multi-sided platforms, and the growing body of evidence on the dynamics of online competition over the last two-decades, these judgments and decisions do indicate that courts and competition authorities should exercise caution, and adjust their tools, in analyzing market power for online platforms.

4 *Groupeement des cartes bancaires v European Commission*, Judgement of the Court, September 11, 2014, available at: <http://curia.europa.eu/juris/document/document.jsf?jsessionid=9ea7d0f130d57c-17cb5e4cdc4d5f8196c74dd814db12.e34KaxiLc3eQc40LaxqMbN4O-c3iSe0?text=&docid=157516&pageIndex=0&doclang=EN&mode=lst&dir=&occ=first&part=1&cid=293160>; Federic Pradelles and Andreas Scordamaglia-Tousis, "The Two Sides of the Cartes Bancaires Ruling: Assessment of the Two-Sided Nature of Card Payment Systems Under Article 101(1) TFEU and Full Judicial Scrutiny of Underlying Economic Analysis," *Competition Policy International Journal*, Autumn 2014, Volume 10 Number 2.

5 David Evans and Vanessa Zhang, "Qihoo 360 v Tencent: First Antitrust Decision by the Supreme Court," October 21, 2014, <https://www.competitionpolicyinternational.com/qihoo-360-v-tencent-first-antitrust-decision-by-the-supreme-court>.

6 Case No Comp/M.6281 - Microsoft/Skype, Office of the Publications of the European Union, July 20, 2011, [http://ec.europa.eu/competition/mergers/cases/decisions/m6281\\_924\\_2.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m6281_924_2.pdf) and Case No COMP/M.7217 – Facebook/WhatsApp, Office of the Publications of the European Union, March 10, 2014, [http://ec.europa.eu/competition/mergers/cases/decisions/m7217\\_20141003\\_20310\\_3962132\\_EN.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf).

This paper describes the new economics of multi-sided platforms in Section II. Then it shows in Section III how new technologies have turbocharged this business model and led to online mobile platforms anchored by websites and mobile apps. Section IV examines the implications of the online multi-sided platform business model for the analysis of market power for attention seekers. Section V offers some concluding observations.

## II. The New Economics of Multi-Sided Platforms

Although multi-sided platforms have ancient roots economists came to understand them as an important, and distinct type of businesses in 2000 when a now classic paper by Rochet and Tirole began circulating.<sup>7</sup> Soon after, economists began exploring the implications of the new economics of multi-sided platforms for antitrust issues.<sup>8</sup> As this work has become mainstream, courts and competition authorities have gradually absorbed the new learning and applied it to cases.

### A. Fundamentals of Multi-Sided Platforms

A multi-sided platform is called multi because it provides a way for two, or more, types of participants to get together. It is called a platform because it typically operates a physical or virtual place that enables these different types of agents to interact. Each side of the platform consists of the participants who have the option of using the platform to connect. A shopping mall is a physical platform. It provides a place where shoppers and stores—the participants

7 Jean-Charles Rochet & Jean Tirole (2001) "Platform Competition in Two Sided Markets," Working Paper, November 26, 2001. An earlier version was in circulation in 2000.

8 David Evans, "The Antitrust Economics of Two-Sided Markets," *Yale Journal of Regulation*, Summer 2003, <http://ssrn.com/abstract=363160>.

on the two sides—can connect. A ride-sharing app is a virtual platform. It uses cloud-based software, accessed through Internet-connected mobile phones, to match up drivers and passengers who are the participants on the two sides.

Multi-sided platforms typically reduce frictions that get in the way of economic agents finding each other, interacting, and exchanging value on their own. Buyers and sellers, for example, could find each other in a variety of ways. A marketplace, such as Flipkart in India, makes it easier for them to find each other through, for example, posting tools for sellers and search tools for buyers. It also makes it easier for them to engage in a transaction through the use of electronic payment methods and with confidence through Flipkart's Replacement Guarantees and Seller Protection Fund.<sup>9</sup> Multi-sided platforms also create value by increasing the odds that participants will find counterparties that generate value for value. An online dating site, such as eHarmony, secures many women and men thereby increasing the likelihood that people will find someone they would like to date and perhaps even marry.

Multi-sided platforms face a chicken-and-egg problem when they start as a result of what they are trying to accomplish. Consider a platform that is in the business of getting Type As together with Type Bs. Type As may not want to consider the platform unless they know it has attracted Type Bs, but Type Bs may not want to consider the platform unless they know it has attracted Type As. The platform has to figure out a way to get both types of participants on board, in sufficient numbers, to provide value to either. When YouTube started, for example, it had trouble persuading people to upload videos since no one was coming to the site to watch them

and trouble persuading people to come to the site to view videos since there were few videos to watch.<sup>10</sup>

Typically, Type As value a platform if it has more Type Bs and vice versa.<sup>11</sup> There are, in economic terminology, positive indirect network effects and positive feedback effects. A platform that gets more Type As becomes more attractive to more Type Bs, which in turn makes it more attractive to more Type As, and so forth. These positive feedback effects drive platform growth. YouTube, for example, persuaded more people to upload videos, more people came to watch those videos, that got people more interested in uploading videos, and that in turn attracted more traffic to the site.<sup>12</sup>

Positive indirect network effects can give bigger platforms economic advantages. These are often limited in practice, however, by platform congestion, or other diseconomies of scale, and by platforms differentiating themselves on one or more sides. In most countries, for example, there are several competing payment card networks despite the positive feedback effects between cardholders accepting merchants and despite scale economies in operating the network. Mobile money platforms—where mobile phones are used to send and receive money and provide other financial services—are evolving in the same way. More than 20 mobile wallet providers have started in India.<sup>13</sup> Based on the experience of countries in Africa, where the mobile money markets are more mature, we

9 Flipkart, "Returns and Cancellations" available at <http://www.flipkart.com/s/help/cancellation-returns>; Flipkart, "Seller Hub: Getting Started" available at <https://seller.flipkart.com/slp/faqs>.

10 For a detailed discussion of how they solved this problem see Evans and Schmalensee, *Matchmakers*, Chapter 5.

11 As we discuss below ad-supported platforms may have positive externalities in one direction—advertising value more viewers but viewers may not value more advertising.

12 Importantly, positive feedback effects work in reverse as we discuss below. The loss of users on one side leads to losses of users on the other side and so on. Positive feedback effects in reverse can result in a death spiral.

13 See, <http://letstalkpayments.com/wallet-wars-in-india-intensifies-with-uber-and-others-being-the-battlefield/>



would expect the in the long run the market will have several competing providers.<sup>14</sup>

Multi-sided platforms differ fundamentally from the traditional firms described in economic textbooks and business school courses. Traditional firms typically buy inputs, they make products, and they sell those products to customers. They operate along linear supply chain. And since they do not have customers with interdependent demands they are single-sided. Multisided platforms sell participants in each group access to the participants in each other group. As a result, the customers are the main inputs into providing the platform service. A typical retail store, which is a single-sided firm, buys products from wholesale distributors or manufacturers and then sells them to customers. A shopping mall, which is a two-sided firm, recruits stores for its mall, and recruits shoppers to come to its mall, and provides a platform where the stores get access to the shoppers and the shoppers get access to the stores.

## B. Pricing Structures and Strategies

The fact that the demand for one group depends on the demand by the other group has interesting implications for how multisided platforms price their services. Platforms have to choose prices that balance these demands. Higher prices for Type As would discourage them from participating in the platform. That would deter Type Bs from participating in the platform since they would have access to fewer Type A participants. In fact, it may make sense to price very low to one group of participants because the other group will pay a high price for access to them. That, in fact, is the secret behind advertising-supported media as we show below.

It could even make sense to subsidize one group by charging them a price less than the incremental cost of serving them, including let-

ting them use the platform for free, or even giving them rewards for participating. Economists have shown that, as a matter of theory, platforms may be able to maximize profits by subsidizing one side of the platform in this way and that, as matter of fact, many platforms have do just that.<sup>15</sup> A popular restaurant reservation site in the U.S., OpenTable, for example does not charge people to make reservations with its site and it gives them rewards that they apply to reduce the cost of their meals. Although “free” is popular for online platforms it is by no means universal. Dating sites, such as Trulymadly in India and FarmersOnly.com in the US, charge men and women the same. They contrast with nightclubs which, in the US, have “Ladies Night Free” pricing.

## C. Advertising-Supported Platforms

Some multi-sided platforms connect consumers and advertisers. This might seem odd since in many cases consumers do not like advertising. They even spend money to avoid it by, for example, buying DVRs that make it easy to skip over ads and paying for alternative sources of media, such as Pay TV, or ad-free versions of services, such as Spotify Premium.

These platforms, however, have figured out ways to connect consumers and advertisers in ways that make both groups better off. They typically offer valuable content to persuade people consumer to come of their platforms where these people are exposed to advertising messages. Meanwhile they persuade advertisers to pay for reaching these people. The viewers are the subsidy side of the platform and the advertisers are the money side. So long as the advertisers are willing to pay more for delivering messages to these consumers than the platform spends on content the advertisers benefit, the consumers benefit, and the platform makes money.<sup>16</sup>

14 See GSMA, State of the Industry: Mobile Financial Services for the Unbanked: 2014. Available at [http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/03/SOTIR\\_2014.pdf](http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2015/03/SOTIR_2014.pdf)

15 See Evans and Schmalensee, Matchmakers, Table 2.1.

16 In fact this advertising supported media is a clever way of

One can think of ad-supported platforms as buying eyeballs—usually by paying with valuable content—and selling those eyeballs to advertisers. The Internet has made that far easier as we see next.

### III. Online Multi-Sided Platforms

Online platforms have become more common and prominent participants in domestic economies and some have rapidly become global players. Many of these online platforms provide free content or services to people to attract their “attention” and then charge advertisers for delivering messages to these people. These attention seekers engage in dynamic competition in which they are constantly introducing new ways of attracting attention, and copying methods used by others, to persuade people to come to their platforms. Smart mobile phones have accelerated the pace of dynamic competition, the frequency of disruptive innovation, for online platforms.

#### A. The Technology Revolutions Behind Online Platforms

Several mutually reinforcing technologies, and the businesses that make those technologies available, have made multi-sided platforms increasingly powerful methods for reducing frictions, and creating valuable new services, on a global basis.

##### 1. The PC-Web-Browser Revolution

The first wave of innovation launched the web-economy in the mid 1990s. The Internet provided a physical network and standards for

connecting computers around the world, the Web provided a framework and software technologies for creating and linking content on those computers, and the web browser provided an application for personal computers that enabled people to consume Web content.

Businesses could use these technologies to provide content and services on websites. The cost of doing so was relatively low since it involved writing software, using server computers, and the small fees for connecting to the Internet. And the company could reach an entire country immediately and, in fact, much of the world. Almost all the content, data, and processing work resided in the cloud and consumers accessed it through using a browser on their Internet-connected personal computers.

The number of web-based businesses and Internet traffic exploded following the launch of the commercial Internet in the 1990s. A number of global online platforms emerged such as Amazon, eBay, Facebook, Google, PayPal, and Yahoo. This growth was made possible by the development and expansion of increasingly fast broadband delivered over fixed wires such as coaxial cable, fiber optic line, or even a copper wire.

##### 2. The Mobile-App Revolution

Mobile phones were in widespread use in the U.S. and other countries by the late 1990s. Cellular networks, however, were not able to carry enough data fast enough for people to use the Internet from their mobile phones. Innovations in cellular technology starting in the mid 1990s increased the potential capacity and speed of cellular networks and mobile devices for making better use of these faster more capacious broadband technologies. Anticipating the roll out of mobile broadband a number of companies started investing in developing various components of smart phones, including modem and processing chips, operating systems, and handsets in the early to mid 2000s.

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solving the following exchange problem. Rahul would pay \$20 to meet Aditya. Aditya doesn't like Rahul and would pay \$5 to avoid him. Still there is room for trade and an intermediary can make Aditya and Rahul both better off. The intermediary pays Aditya \$12 to meet Rahul and charges Jose \$14 for the introduction. Aditya is ahead \$7 ( $-\$5+\$12$ ), Rahul is ahead \$6 ( $\$20-\$14$ ), and intermediary earns a profit of \$2 ( $-\$12+\$14$ ). In the case of advertising, instead of paying \$14, the media property provides entertainment or other content that Aditya values at \$14.

Innovations by Apple and Google, in particular, have led to spread of smart mobile phones around the world, enabling billions of people to consumer Internet-based services and millions of businesses to provide mobile-app based services to them. Apple introduced the iPhone, which consisted of a powerful computer, a mobile operating system, and a standard set of applications including a mobile browser in June 2007. Google invested in developing a mobile operating system, Android, which it ran as an open-source project, and developing and organizing an ecosystem of handset makers, mobile network operators, and other technology partners. It introduced the first Android phone in October 2008.<sup>17</sup> Apple and Google also stimulated the production of mobile apps by providing software tools for developing apps for their operating systems, creating a quality certification process for these apps, and creating “app stores” that provided centralized places for developers to distribute apps and for users to download them on their mobile devices.

Smart mobile phones changed the online game in a number of ways as they became widely adopted, millions of apps became available for them, and faster and more capacious mobile broadband networks were rolled out around the world. People could access the Internet anywhere and anytime using smart-phones running on mobile broadband networks. More people could do that because mobile phones and data plans were much cheaper than buying PCs and fixed broadband connections. Businesses could reach billions of people by developing mobile apps and distributing them in apps stores. Apps could exploit the GPS capabilities of phones, which make it possible to know where individuals are in physical space. This, together with the related development of the “Internet of Things” is leading to the deep integration of the online and physical worlds.

17 Kent German, “A Brief History of Android phones,” August 2, 2011, <http://www.cnet.com/news/a-brief-history-of-android-phones/>.

### 3. The Movement from PCs/Browsers to Mobile/Apps

Businesses that want to provide online services, and consumers who want to consume online services now have several choices. App developers can develop websites that people can visit from browsers on their PCs or from their mobile devices. They can develop mobile apps that people use on their mobile phones or mobile browser-apps that try to mimic these apps. Different businesses have adopted different approaches depending on the content and services they are providing. Consumers have, however, shifted their use dramatically from PCs to mobile devices and from using websites to using apps.

Consider the US. Between 2008 and 2015 the proportion of time spent online using mobile devices increased from 12.7 percent to 54.6 percent. Commerce has moved dramatically from PCs to mobile. Americans made 57 percent of their online purchases from mobile devices in 2014 compared with likely none before 2010.<sup>18</sup> On Thanksgiving Day, November 26, 2015, around 60 percent of US website visits were made from mobile devices in the US.<sup>19</sup> Advertising has moved to mobile in response. Facebook earned 78 percent of its global advertising revenue from mobile in 2015Q3<sup>20</sup> compared with 14 percent in 2012Q3.<sup>21</sup> These trends are expected to continue.<sup>22</sup>

18 David Murphy, “IBM: Christmas Day Sales Up 8.3 Percent, Mobile Purchases up 20.4 Percent,” PC Magazine, December 26, 2014, <http://www.pcmag.com/article2/0,2817,2474217,00.asp>.

19 Hiroko Tabuchi, “Black Friday Shopping Shifts Online as Stores See Less Foot Traffic,” New York Times, November 27, 2015, [http://www.nytimes.com/2015/11/28/business/black-friday-shopping-shifts-online-as-stores-see-less-foot-traffic.html?\\_r=0](http://www.nytimes.com/2015/11/28/business/black-friday-shopping-shifts-online-as-stores-see-less-foot-traffic.html?_r=0).

20 Facebook Inc., “10-Q for Period Ending September 30, 2015,” p. 40.

21 Facebook Inc., “10-Q for Period Ending September 30, 2012,” p. 27.

22 Chantal Tode, “M-Commerce Sales to Reach \$142B in 2016: Forrester,” Mobile Commerce Daily, October 8, 2015, <http://>

On mobile devices people typically access Internet-based services using mobile apps rather than using websites with their mobile browser. Mobile apps accounted for nearly 90 percent of the time Americans spend using mobile apps or browsers on their mobile devices.<sup>23</sup> As a result the proportion of time people spend online using mobile apps has increased from what was likely a very low level in 2008 to 54 percent in 2015.<sup>24</sup> This share is likely to increase further as the shift from PCs to mobile continues and as the shift from browser-based to mobile app-based delivery continues.<sup>25</sup>

Many countries have had low penetration of PCs and fixed broadband because of their early stages of economic development. The adoption of smart mobile phone and mobile broadband are increasing rapidly in those countries because it is cheaper and even more rapidly in the faster growing ones. More than 90 percent of Facebook's Indian users<sup>26</sup> and 60 percent of Amazon's Indian users<sup>27</sup> access it through mobile

devices. In 2014, leading Indian e-commerce companies, including Flipkart and Snapdeal, derived the majority of their gross merchandise value from mobile devices.<sup>28</sup>

## B. Overview of Online Multi-Sided Platforms

The development of online technologies has made it cheaper and easier to reduce frictions through multi-sided platforms and to do so over large geographic areas. The Internet makes it possible to connect participants over wide geographic areas and in principle from around the world. Software programs running on high-speed computers in the cloud provide powerful technologies for finding good matches and consummating exchanges. Mobile has extended these capabilities throughout the day and throughout physical space.

Almost immediately after web commerce became viable in the mid 1990s entrepreneurs started using the new technologies to start multi-sided platforms. Not everyone chose a multi-sided model. Amazon, for example, started with a typical retail model in which it bought products, initially books, wholesale and sold them to people through its online store. Many, though, used a multi-sided approach often because it was the only way to provide the product or service. eBay started an online marketplace for buyers and sellers, match.com started an online matchmaker for men and women, and Yahoo started a online portal that used content to attract viewers and then attracted advertisers who wanted to reach those views.

Many of the established platforms followed the shift from the PC-browser-centric model to the mobile-app centric model. Entrepreneurs, however, discovered that the mobile-app cen-

[www.mobilecommercedaily.com/mcommerce-sales-to-reach-142b-in-2016-forrester](http://www.mobilecommercedaily.com/mcommerce-sales-to-reach-142b-in-2016-forrester); Matthew Hobbs, "Internet Advertising," 2015, <http://www.pwc.com/gx/en/industries/entertainment-media/outlook/segment-insights/internet-advertising.html>.

23 Simon Khalaf, "Seven Years into the Mobile Revolution: Content is King ... Again," Flurry Insights, August 26, 2015, <http://flurrymobile.tumblr.com/post/127638842745/seven-years-into-the-mobile-revolution-content-is>; <https://www.comscore.com/Insights/Presentations-and-Whitepapers/2015/The-2015-US-Mobile-App-Report>.

24 comScore, "The 2015 U.S. Mobile App Report," September 22, 2015, <https://www.comscore.com/Insights/Presentations-and-Whitepapers/2015/The-2015-US-Mobile-App-Report>.

25 Total time spent on digital media using mobile apps increased at a compound annual growth rate of 38 percent per year between 2013 and 2015, compared to 7 percent for desktops and 24 percent for mobile browsing. The share for mobile apps increased from 43 percent to 54 percent over this period, an increase of 11 percentage points, or a compound annual growth rate of 12 percent. Data are not available back to 2008.

26 BGR, "90% of Facebook's 132 million users from India come from mobile phones," September 27, 2015, available at <http://www.bgr.in/news/90-of-facebook-132-million-users-from-india-come-from-mobile-phones/>

27 Ashwini Gangal, "'Over 60 per cent of our traffic comes through mobile': Manish Kalra, Amazon India," August 28, 2015, [http://www.afaqs.com/interviews/index.html?id=469\\_Over-60-percent-of-our-traffic-comes-through-mobile-Manish-Kalra-Amazon-India](http://www.afaqs.com/interviews/index.html?id=469_Over-60-percent-of-our-traffic-comes-through-mobile-Manish-Kalra-Amazon-India)

28 BGR, "Smartphone shopping to contribute up to 70 percent of total revenue in online shopping: Experts," November 30, 2014, available at <http://www.bgr.in/news/smartphone-shopping-to-contribute-up-to-70-percent-of-total-revenue-in-online-shopping-experts/>.



tric model provided new opportunities. Uber, for example, has built a business that connects drivers and riders in real-time and in physical space using mobile apps.

Tables 1 and 2 provide an overview of online multi-sided platforms based on their presence in the US, which reflects global platforms, and India, which reflects domestic platforms and global ones. In each country we have selected 20 platforms. We include the largest ones based on the number of times over the space of a month people clicked on pages on those sites ("pageviews"). That is a particularly useful measure for content-oriented sites. We have erred on the side of showing diversity of online platforms and the table is not intended to be an accurate summary of the economically most important online platforms. In each case we summarize the multi-sided business model and the extent to which one side receives service for free.

As these tables show online platforms are highly diverse. However, they often have several of the following features that are relevant for antitrust analysis. First, they are all based on software. They can add new features, and introduce new products and services, by modifying or adding software code and related databases. That is much different than physical platforms. Second, the marginal cost of participants to software-based platforms running in the cloud is virtually zero. That increases the normal tendency of multi-sided platforms to allow a group of participants to use the platform for free. Third, dynamic competition is more intense for online platforms because technological change has reduced the capital cost of starting a platform and the software-based nature of these platforms makes it easier for platforms to offer new products and services in competition with other platforms.<sup>29</sup> Fourth, dynamic competition is

also more intense for online platforms because the participants have lower switching costs, and face less lock-in, than on physical platforms where they often have to make costly sunk-cost commitments to the platform. Fifth, online platforms are in the midst of a massive technological shift resulting from the move of consumers from the PC-browser to the mobile-app centric way of using online services.<sup>30</sup> These points are especially true one of the largest categories on online platforms.

### C. Online Attention Seekers

As it has turned out many online platforms make money primarily by helping businesses sell things to consumers through advertising and marketing.<sup>31</sup> As we discussed above the way they do this is simple but clever. They provide reasons to consumers to come visit them by offering engaging content or services valued by consumers. Consumers typically do not pay for obtaining the content or services. They are free in that sense. But consumers are receiving value by coming to these platforms. In that sense the real price of participating in the platform is even better than free, it is negative, so that platform is paying consumers to come visit. Once they have gotten consumers to spend time of the platform they allow businesses to present advertising or other marketing messages to consumers. They charge businesses for this and that

eu/competition/mergers/cases/decisions/m6281\_924\_2.pdf ; "FTC Notifies Facebook, WhatsApp of Privacy Obligations in Light of Proposed Acquisition," Federal Trade Commission, April 10, 2014, <https://www.ftc.gov/news-events/press-releases/2014/04/ftc-notifies-facebook-whatsapp-privacy-obligations-light-proposed>; and Case No COMP/M.7217 – Facebook/WhatsApp, Office of the Publications of the European Union, March 10, 2014, [http://ec.europa.eu/competition/mergers/cases/decisions/m7217\\_20141003\\_20310\\_3962132\\_EN.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf).

<sup>30</sup> See Hemant Bhargava, David S. Evans, and Deepa Mani, "The Move to Smart Mobile and its Implications for Antitrust Analysis of Online Market In Developed and Developing Countries," *Forthcoming*.

<sup>31</sup> David Evans, "Attention Rivalry Among Online Platforms," *Journal of Competition Law & Economics*, May 14, 2013, Volume 9 Issue 2:313-357, <http://jcle.oxfordjournals.org/content/9/2/313.abstract>.

<sup>29</sup> Case No Comp/M.6281 - Microsoft/Skype, Office of the Publications of the European Union, July 20, 2011, <http://ec.europa.eu>.



**Table 1: Summary of Most Frequented Platforms in the US**

Webpage	Category	Page Views in November 2015	Free participants	Paid participants
FACEBOOK.COM	Social Media - Social Networking, Social Media	122,298,603	People and many app developers	Advertisers and some app developers
GOOGLE.COM	Search/Navigation	75,325,987	Searchers and websites	Advertisers
YOUTUBE.COM	Entertainment - Multimedia, Entertainment	38,899,360	Video uploaders and viewers	Advertisers
YAHOO.COM	Portals	25,612,235	Viewers	Advertisers
AMAZON.COM	Retail	11,490,679	Buyers do not pay Amazon MarketPlace	Sellers pay Amazon for sales and advertising
BING.COM	Search/Navigation	9,080,541	Searchers and websites	Advertisers
CRAIGSLIST.ORG	Directories/Resources - Classifieds, Directories/Resources	8,964,010	Viewers and many listers of ads	Certain categories of listers for ads
MSN.COM	Portals	8,483,598	Viewers	Advertisers
EBAY.COM	Retail	6,197,320	Buyers do not pay eBay	Sellers pay eBay for sales and advertising
AOL.COM	Portals	5,363,234	Viewers	Advertisers
ESPN.COM	Sports	3,492,807	None	Viewers pay and advertisers pay
SWAGBUCKS.COM	Services - Coupons, Services	3,131,420	People	Advertisers/marketers
LINKEDIN.COM	Social Media - Social Networking, Social Media	2,722,905	People for basic service	Advertisers and people for premium service
PAYPAL.COM	Business/Finance - Personal Finance, Business/Finance	2,043,564	Receivers of funds	Senders of funds
GROUFON.COM	Services - Coupons, Services	1,966,864	People do not pay Groupon	Groupon is paid by businesses for marketing and advertising services
IMGUR.COM	Social Media	1,892,345	Uploaders of pictures and viewers of them	Advertisers
ANSWERS.COM	Directories/Resources - Reference, Directories/Resources	1,881,808	People looking for information	Advertisers
TWITTER.COM	Social Media - Social Networking, Social Media	1,675,644	People who send and read tweets	Advertisers
INDEED.COM	Career Services and Development - Career Resources, Career Services and Development	1,406,674	People looking for jobs	Employers advertising jobs
CNN.COM	News/Information - General News, News/Information	1,362,865	Viewers	Advertisers

Source: comScore

is how they cover their costs and make profits.

Online attention seekers compete to get the attention of consumers and then sell portions of that attention to businesses that aren't able to get it easily on their own. They seldom make any money directly from providing content or services to consumers. Recognizing this is important

for understanding the dynamics of competition. Entrepreneurs compete to come up with clever ideas for attracting eyeballs—say by inventing tweeting or pinning—not so they can charge people for clever content or services they are providing but so they can sell access to those eyeballs to advertisers. Attention seekers may come up with ways to differentiate themselves

**Table 2: Summary of Most Frequented Platforms in India**

Company	Category	Free participants	Paid participants
Google.com	Search/Navigation	Searchers and websites	Advertisers
Facebook.com	Social Media - Social Networking, Social Media	People and many app developers	Advertisers and some app developers
Youtube.com	Entertainment - Multimedia, Entertainment	Video uploaders and viewers	Advertisers
Amazon.com	Retail	Buyers do not pay Amazon MarketPlace	Sellers pay Amazon for sales and advertising
Yahoo.com	Portals	Viewers	Advertisers
Flipkart.com	Retail	Buyers do not pay Flipkart MarketPlace	Sellers pay Flipkart for sales and advertising
Indiatimes.com	News/Information - General News, News/Information	Viewers	Advertisers
Linkedin.com	Social Media - Social Networking, Social Media	People for basic service	Advertisers and people for premium service
Twitter.com	Social Media - Social Networking, Social Media	People who send and read tweets	Advertisers
Snapdeal.com	Retail	Buyers do not pay Snapdeal MarketPlace	Sellers pay Snapdeal for sales and advertising
Stackoverflow.com	Q&A Website	People looking for information related to computer programming	Advertisers
Ebay.in	Retail	Buyers do not pay eBay	Sellers pay eBay for sales and advertising
Ndtv.com	News/Information - General News, News/Information	Viewers	Advertisers
Jabong.com	Retail	Buyers do not pay Jabong MarketPlace	Sellers pay Jabong for sales and advertising
Rediff.com	Portals	Viewers	Advertisers
Quikr.com	Directories/Resources - Classifieds, Directory	Viewers and many listers of ads	Certain categories of listers for ads
Naukri.com	Employment Recruiting	People for basic service	Advertisers and people for premium service
Pinterest.com	Social Media - Social Networking, Social Media	Viewers	Advertisers
imdb.com	Entertainment - Movies, Entertainment	Viewers	Advertisers
shopclues.com	Retail	Buyers do not pay Shopclues MarketPlace	Sellers pay Shopclues for sales and advertising

Source: <http://www.alexa.com/>

from the standpoint of attracting consumer attention and selling advertising. But overall they are competing to attract a limited pool of attention and advertising and marketing budgets to reach those consumers. Now consider the five features that we highlighted above.

Attention seekers are all built on software platforms. They do not have printing presses, ca-

ble networks, or radio towers. When they want to add features to the platforms they hire software engineers to write code. They can often make changes quickly and roll those changes out globally. It took about 5 months, for example, for Facebook to develop Facebook Messenger which is one of the leading apps for

smartphones.<sup>32</sup>

The marginal cost of another participant on an attention seeker is essentially zero. Google does not incur any significant out of pocket cost when a person conducts another search or when it puts another search ad on a search results page. That is true for virtually all attention seekers with the exception of some, such as Pandora, that have to pay for the content they deliver.

The capital cost of starting an attention seeker is low and that has intensified dynamic competition. That is more so true now as a result of mobile apps. The founders of WhatsApp had to write software code so that messaging app would work for Apple and Android phones and for the cloud-based service those apps were connected with.<sup>33</sup> Once they did that they had a platform that could provide messaging services globally to unlimited number of users with the addition of some cheap server capacity. Many other mobile messaging apps have started. They compete with older messaging PC-based messaging apps as well as the new mobile-based ones.

It is easy for consumers to reduce the amount of attention they provide one platform, or drop it altogether, and increase the amount of attention they provide another platform. Since the platforms are free they can use as many as they want and switch their attention depending upon the relative attractiveness to spending time on one or the other. The consumer bears no cost from shifting time from looking at Yahoo to looking at Flipboard. While some online plat-

forms involve some cost of switching in practice it does not limit people from doing so. In the case of social networks, Americans switched from Friendster to MySpace and then from MySpace to Facebook.<sup>34</sup> People in other countries, such as Brazil and India, switched from Orkut to Facebook.<sup>35</sup>

Finally, the shift of consumers from looking at websites with their browsers to using apps on their mobile phones has resulted in dramatic changes in attention seeking platforms. There has been a dramatic increase in the amount of online attention available as a result of people being able to go online with their mobile devices for much more of the day. The opportunities for connecting businesses with consumers have also changed now that people carry mobile phones all the time and in particular when they go shopping. Search is one of the attention-seeking businesses that is undergoing disruption as a result of this.<sup>36</sup> Search engines index websites and allow people to find things on those websites. But now an enormous amount of online activity is happening with mobile apps. At this point it is unclear how people will be able to find app-based content and what companies will ultimately succeed in doing so. Apple, Facebook, and Google are among the companies that are trying to figure this out.<sup>37</sup>

What's should be clear from the discussion so far is that multi-sided platforms are governed by different rules than traditional linear businesses and that competition among online platforms is often more intense and more dynamic than among physical platforms. Both point have im-

32 Facebook, "Building Facebook Messenger," August 12, 2011, available at <https://www.facebook.com/notes/facebook-engineering/building-facebook-messenger/10150259350998920/>.

33 One estimate is that it would cost about \$250,000 and take about nine months to build a robust version of an app like WhatsApp. See Courtney Boyd Myers, "How much does it cost to build the world's hottest startups?" TNW News, December 2, 2013. Available at <http://thenextweb.com/dd/2013/12/02/much-cost-build-worlds-hottest-startups/#gref>

34 Evans and Schmalensee, *Matchmakers*, Chapter 9.

35 Elena Trost, *Social Media Marketing in BRIC Countries* (Zurich, Lit Verlag GmbH & Co., 2013), Chapter 3.

36 Erin Griffith, "Facebook, Google and the battle for mobile intent," September 8, 2015, available at <http://fortune.com/2015/09/08/facebook-google-mobile-search-advertising/>

37 Erin Griffith, "Facebook, Google and the battle for mobile intent," September 8, 2015, available at <http://fortune.com/2015/09/08/facebook-google-mobile-search-advertising/>

portant implications for antitrust analysis.

## VI. Market Power Analysis of Online Attention Seekers

Economists typically assume that the demand for a product depends on the price of that product, the price of substitute products, and the price of complementary products. The demand for a particular brand of beer, for example, depends on the price of that brand, the prices of other kinds of beer and other alcoholic beverages, and perhaps the demand for nuts, chips, and other things that people eat with beer. Most economic theories relied on in antitrust analysis, such as those involving predatory pricing, and economic tools, such as SSNIP tests, are based on this model of product demand.

All of those factors are relevant for considering the demand for product and services provided by multi-sided platforms. But those standard factors do not include the most critical factor that drives the demand for platforms. The demand by members of one group of customers, say Type A, depends, roughly speaking, on the participation of the other group of customers, say Type B, in the platform.<sup>38</sup> To avoid being mathematically wrong and unreliable, economic models and tools must account for the interdependent demand and consider all sides of the platforms. The fact that the demands by the various groups of platform participants are interdependent also means that analyses that focus on one group of participants in isolation are not correct as a straightforward mathematical matter.<sup>39</sup>

38 More precisely, platform customers care about the likelihood that they will be able to enter into valuable exchange on the platform; we are using the number of potential trading partners as a shorthand for describing all of the characteristics of one side of the platform that affects the demand by the other side.

39 David Evans and Richard Schmalensee, "The Antitrust Analysis of Multi-Sided Platform Businesses," January 30, 2013, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2185373](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2185373); Roger Blair and Daniel Sokol, eds., *Oxford Handbook on International Antitrust Economics*, Oxford University Press, 2015; University of Chicago

Antitrust analysis needs to examine the platform overall taking these interdependencies into account.<sup>40</sup> Generally, that requires treating the platform as a whole, rather than focusing on one group of customers or another, or at least carefully considering the inter-linkages between these groups. Platform competition tends to force overall prices down and reduces the profits the platform can earn. Typically, though, it does not force prices down to incremental costs for all, or even any, sides of the platform. Even with competition platforms may choose to subsidize one side of the platform and make profits for other sides of the platform.

The magazine business, for example, is highly competitive yet most magazines subsidize readers; the cover price for the magazine often does not cover printing and distribution costs let alone the cost of the content that attracts readers. In fact, competition to attract participants to the platform can result in greater subsidies to one side. For example, in the U.S., competition among payment card networks apparently resulted in bidding up payments (called interchange fees) to banks that issue cards to consumers.<sup>41</sup> As a result, evidence that price

Institute for Law & Economics Olin Research Paper No. 623. Available at SSRN: <http://ssrn.com/abstract=2185373>; David Evans, "The Consensus Among Economists on Multisided Platforms and its Implications for Excluding Evidence that Ignores It," *Competition Policy International*, (April 13, 2013). Available at SSRN: <http://ssrn.com/abstract=2249817> or <http://dx.doi.org/10.2139/ssrn.2249817>.

40 In *Cartes Bancaires v. European Commission*, the European Court of Justice concluded that to analyze competitive effects it was necessary to consider the two interlinked sides of the platform. See *Groupement des cartes bancaires v. European Commission*, Judgement of the Court, September 11, 2014. In, *Qihoo 360 v. Tencent*, the Chinese Supreme People's Court found that it was necessary to consider platform competition in evaluating market power. See, David Evans and Vanessa Zhang, "Qihoo 360 v Tencent: First Antitrust Decision by the Supreme Court," October 21, 2014, <https://www.competitionpolicyinternational.com/qihoo-360-v-tencent-first-antitrust-decision-by-the-supreme-court>; Charles Rivers Associates, "Qihoo v. Tencent: economic analysis of the first Chinese Supreme Court decision under Anti-Monopoly Law" February 2015, available at [http://www.crai.com/sites/default/files/publications/China-Highlights-Qihoo-360-v-Tencent-0215\\_0.pdf](http://www.crai.com/sites/default/files/publications/China-Highlights-Qihoo-360-v-Tencent-0215_0.pdf)

41 OECD, "Competition and Payment Systems," June 28, 2013, <http://www.oecd.org/competition/PaymentSystems2012.pdf>.



is great than incremental cost on one side provides no meaningful evidence that the platform has market power and evidence that the platform charges a price less than marginal cost on another side provides no meaningful evidence that the platform is engaging in predatory pricing. The analyst needs to look at the platform overall to assess market power and predation. In practice, it often makes sense to look at pricing and competition on both sides but then accounting for the interdependencies.

This section applies these general principles to the analysis of market power for online attention seekers which is one of the most important categories of online platforms.

#### A. Free and Feature Competition

Traditional antitrust analysis assesses market power by considering whether the firm can increase price profitably. That approach does not make any economic or business sense for online attention seekers. The business is based on paying consumers to use the platform and charging advertisers for access to those consumers. An exercise of market power over consumers would could involve increasing the price to them but, more likely, would involve reducing the quality of the content and services the platform is providing to attract their attention.<sup>42</sup> Whether that reduction in quality is profitable depends on the extent to which it would decrease the attractiveness of the platform to advertisers. A platform could consider reducing its expenditures on quality improvements by \$1 million. Whether this is profitable depends on whether the lower quality would reduce the amount of advertising, given the lower attention it attracts, by less than \$1 million.

This highlights the importance of feature and

quality competition. Online attention seekers do not compete based on price. Therefore, to assess market power, one needs to assess the extent to which a lower provision of quality would divert attention to other online platforms. In considering that diversion there is no business or economic reason to limit the inquiry to online platforms that provide the same service. It is an empirical question whether consumers would turn their attention to completely different services.

In practice market power analysis for online attention seekers can consider substitution possibilities by considering a small but significant increase in price or a small but significant decrease in quality. Either one reduces the value of the platform for users and could induce switching. The SSNIP, however, must consider small absolute increase in price since a percentage increase is undefined when the initial price is zero. The Chinese Supreme People's Court, in *Qihoo 360 v. Tencent*, decided that the SSNIP evidence was not relevant and considered informally how consumers would react to small but significant decreases in quality (SSNDQ) of the instant message products under consideration.<sup>43</sup>

Since attention makers make virtually all of the revenue and profit from advertisers the other issue concerning market power is whether they can take actions that increase the price of advertising above competitive level. The analysis of that question needs to consider the extent to which advertisers can get the attention of consumers in other ways and the extent to which the online platform offers some consumer attention, perhaps based on demographic profiles or the context in which they've captured that attention, for which there are limited substitutes.

Free pricing, however, shouldn't be analyzed in isolation. In fact, the existence of consumers being offered something for nothing is

<sup>42</sup> The decision by online attention seekers to charge fees is quite rare even for ones that are highly successful. Some online newspapers have tried paywalls with mixed success.

<sup>43</sup> See, David Evans and Vanessa Zhang, "Qihoo 360 v Tencent: First Antitrust Decision by the Supreme Court," October 21, 2014, <https://www.competitionpolicyinternational.com/qihoo-360-v-tencent-first-antitrust-decision-by-the-supreme-court>.



almost always an indication that the business is a multi-sided platform. That means that the demand by consumers on the “paid side” is linked to the demand by consumers on the “free side” to the demand. The SSNIP and SSDNQ analyses should account for the interdependencies of demand for taking a holistic approach, and considering the platform overall, or by carefully considering the linkages in demand and their implications for competitive constraints.

### B. New Entry, Cross-Category Entry, and Feature Competition

Market power analysis needs to consider the ease of entry and of feature competition for online attention seekers. As discussed above the capital cost of entry for online attention seekers is low. The main difficulty is attracting consumers to the platform with persuasive content and services. Importantly, though, the analysis needs to at least consider the impact on the platform of entry by completely different services. For example, suppose Facebook reduced its investment in the quality of its social networking platform. It could lose advertising revenue in part because that increases the likelihood that consumers will more likely to shift attention to “the next new thing”—not necessarily to a social network—and that will cost the company advertising revenues. In addition, market power analysis needs to consider entry from other categories. Because it is easy to change features through software online attention seekers can add features that mimic those of other very different attention seekers. Twitter and Pinterest, for example, have both recently introduced “buy buttons” that help businesses make sales on their platforms, like Amazon Marketplace, in addition to just advertising to those consumers. That feature competition is an example of dynamic competition which we turn to next.

### B. Dynamic Competition

Dynamic competition has characterized online attention seekers for the last twenty years and shows no signs of abating. Attention seekers have no guarantee that they can hold onto consumers without engaging in persistent incremental feature and disruptive innovation. We see this in a variety of ways.

First, the relative importance of attention seekers changes dramatically over time.<sup>44</sup> Table 3 shows the 20 largest advertising-supported attention seekers by time spent on the webpage in 2002, 2007, and 2012. Pinterest (8) is a US advertising supported webpages that users spent the most time visiting during September 2012 did not exist in September 2007, while several webpages were in the early stages of development including Facebook (1), Youtube (2), The Huffington Post (9), and Tumblr (10). This illustrates how quickly and dramatically the landscape for online advertising can change.

Second, successful attention seekers have declined and in some cases failed when they have not kept up, while new ones have risen quickly. Orkut was the dominant social networking site between 2005 and 2010 in India.<sup>45</sup> Facebook overtook it in July 2010.<sup>46</sup> MySpace had a similar experience in the US where it was the largest between 2005 and 2009 and also displaced by Facebook.<sup>47</sup> Yahoo was a highly successful attention seeker for many years. While it still attracts a large number of pageviews the market

44 See David Evans, “Attention Rivalry Among Online Platforms,” *Journal of Competition Law & Economics*, May 14, 2013, Volume 9 Issue 2:313-357.

45 Sahil Shah, “Social Networking War in India: Facebook vs Orkut,” January 25, 2011, <https://www.techinasia.com/indian-social-networking-wars-facebook-vs-orkut-2>

46 comScore, “Facebook and Orkut Growth in India,” November 4, 2010. <http://www.comscore.com/Insights/Data-Mine/Facebook-and-Orkut-Growth-in-India>

47 Pete Cashmore, “MySpace, America's Number One,” July 11, 2006. <http://mashable.com/2006/07/11/myspace-americas-number-one/#tqA37Md.SgqA>; Choloé Albanesius “Home/News & Analysis/More Americans Go To Facebook Than MySpace More Americans Go To Facebook Than MySpace,” June 16, 2009, <http://www.pcmag.com/article2/0,2817,2348822,00.asp>.

value of the portion of advertising-supported portion of the business is negligible according to various reports.<sup>48</sup>

Third, mobile apps have provided opportunities for the creation of new attention seekers and have reduced the relative importance of incumbent attention seekers. Facebook, for example, has become one of the largest online advertising platforms in the world through its success in attracting attention of mobile device users and selling that attention to advertisers. It now provides three of the ten mobile apps that attract the largest number of page views.<sup>49</sup> Traditional search advertising, while still important on mobile, is much less significant than it is on the web.

### C. Market Shares as Indicia of Market Power

A number of commentators have pointed out that market shares must be used with care in assessing market power.<sup>50</sup> This advice is particularly sound when it comes to measuring market power on the consumer side of online attention platforms. In traditional markets sound practice involves measuring market shares based on value to account for quality differences between products. It also makes sense to focus on price because it is an important dimension of competition. Most online attention seekers do not charge consumers for using the platform. Price

is therefore not available as a measure of quality differences and for that matter is not an important element of competition relative to the content and service subsidies.

Market shares are poor indicia of market power for online attention seekers in part because precise market boundaries are more difficult to establish. Narrow market definitions, confined to functional substitutes for the content or services provided by the platform, seldom make sense because consumers shift their attention fluidly among different platforms. That is not to say that a broad definition is appropriate either since many platforms have some source of differentiation that makes consumers more likely to give them their attention. To the extent market shares are used they should be calculated using different plausible definitions of the relevant set of substitutes.

## V. Conclusion

Multi-sided platforms comprise an increasingly large portion of the economy, in part as a result of the technological changes described above. Online multi-sided platforms are now behind waves of creative destruction. Protecting competition in this part of the economy is important and competition authorities should be commended for being vigilant in making sure that dominant platforms do not violate the competition rules and that rent-seeking incumbents do not stand in the way of innovative new platforms.

Antitrust analysis, however, needs to adjust the standard tools for assessing market power so that they are accurate, as a matter of economics and mathematics, for multi-sided platforms. That includes recognizing that important implications of interdependent demand, and interlinked sides, for platforms. Particular care is needed to online platforms, and especially online attention seekers, because of the importance of non-price competition, the pervasive use for zero prices, and the role, at least for now, of intense dynamic competition.

<sup>48</sup> Steven Levy, "Yahoo and Alibaba: Joined at the Balance Sheet," March 3, 2015, <https://medium.com/backchannel/yahoo-and-alibaba-joined-at-the-balance-sheet-94b459233894#.cklylx3x3>; Lawrence Meyers, "Yahoo Stock: Is YHOO Worth Nothing Without BABA?," September 21, 2015, <http://investorplace.com/2015/09/yahoo-stock-yahoo-baba-alibaba/#.VnNaiPkrKM8>.

<sup>49</sup> comScore, "comScore Reports July 2015 U.S. Smartphone Subscriber Market Share," September 3, 2015

<sup>50</sup> Louis Kaplow, "Market Definition, Market Power," May 2015, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2605179###](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2605179###); Jonathan B. Baker and Timothy F. Bresnahan, "Economic Evidence in Antitrust: Defining Markets and Measuring Market Power," Economic Evidence in Antitrust, [http://web.stanford.edu/~tbres/research/buccirossi\\_01\\_ch01\\_001-042.pdf](http://web.stanford.edu/~tbres/research/buccirossi_01_ch01_001-042.pdf); Howard H. Change, David S. Evans, and Richard Schmalensee, "Assessment of the Relevant Market in Competition Matters," March 30, 2011.

**Table 3: Top 20 US Advertising Supported Attention Seeker Websites in September 2002, 2007, and 2012, Ranked by User Time Spent on the Website**

Domain	Description	Rank Sept-2002	Rank Sept-2007	Rank Sept-2012
Facebook.com	Social Networking	-	-	1
Youtube.com	Video	-	-	2
Yahoo.com	Portal	1	1	3
Google.com	Search	3	3	4
Msn.com	Portal	2	2	5
Aol.com	Portal	4	4	6
Bing.com	Search	-	-	7
Pinterest.com	Online Pinboard	-	-	8
Huffingtonpost.com	News	-	-	9
Tumblr.com	Social Networking	-	-	10
Pandora.com	Music	-	-	11
Nfl.com	Sports	9	7	12
Cnn.com	News	14	5	13
Tagged.com	Social Networking	-	-	14
Foxnews.com	News	-	18	15
Nbcnews.com	News	-	-	16
Ask.com	Search	16	10	17
Fanfiction.net	Hobby/Interest	-	9	18
Cbssports.com	Sports	-	-	19
Mapquest.com	Maps	17	6	20
Weather.com	Weather	18	17	-
Cartoonnetwork.com	Entertainment	19	-	-
Foxsports.com	Sports	-	12	-
Nytimes.com	News	11	-	-
Mlb.com	Sports	-	13	-
About.com	Reference	-	19	-
Usatoday.com	News	-	20	-
Imdb.com	Movie Reference	-	16	-
Univision.com	Entertainment	-	15	-
Blackplanet.com	Social Networking	6	14	-
Livejournal.com	Blogging	13	-	-
Blogger.com	Blogging	-	11	-
Excite.com	Search	8	-	-
Iwon.com	Portal	10	-	-
Lycos.com	Search	5	-	-
Netscape.com	Software	7	-	-
Altavista.com	Search	20	-	-
Hotmail.com	Web Mail	-	8	-
Ezboard.com	Discussion	12	-	-
Asianavenue.com	Social Networking	15	-	-

Source: Compete.com, September 2002, September 2007, and September 2012

# The double duality of two-sided markets

Alfonso Lamadrid de Pablo \*

## Introduction

The increasing relevance of multi-sided markets<sup>2</sup> and business models in the economy has over the past few years been mirrored in academic writings, mostly in economic literature,<sup>3</sup> and increasingly in competition law enforcement.

The intention of this brief intervention is not to incorporate novel theories into the discussion of multi-sided platforms nor to summarise the main findings of the literature that is currently available. As an avid reader of academic works on the subject, and although I much appreciate their lessons, when I read them I realise that the vast majority of papers have been authored by economists, mostly academics, and only in very rare cases by lawyers in private practice.

\* Garrigues, Brussels. The following pages are an edited transcript of the authors' intervention at the Swedish Competition Authority's 2014 Pros and Cons Conference in Stockholm. The presentation that accompanied the oral intervention is available at: [https://antitrustlair.files.wordpress.com/2014/11/lamadrid\\_the-double-duality-of-two-sided-markets.pdf](https://antitrustlair.files.wordpress.com/2014/11/lamadrid_the-double-duality-of-two-sided-markets.pdf). I am most grateful to Pablo Ibañez Colomo and Kevin Coates for their comments on a previous version of this paper, and to Sam Villiers and Miguel Ángel Bolsa for their help with the editing work.

2 Whereas the title of my intervention at the Pros and Cons conference referred to 'two sided markets', I will hereinafter refer to 'multi-sided platforms' in order to avoid misunderstandings with the competition law notion of 'market' as well as to acknowledge that platforms may have more than only two sides.

This – like other features I will comment on later – has dual implications: on the one hand it means that practitioners haven't (yet) muddled the discussion by writing one-sidedly in defence of the positions they are hired to represent;<sup>4</sup> on the other hand, it also means that certain practical legal issues may not have received the attention they perhaps should.

When legal scholars have touched upon the application of competition law in two-sided platforms they have moreover done so for the most part in relation to specific markets, notably payments, media and search engines. There is nothing to criticise this focus, but while specificity has advantages, it also has downsides. Indeed, in my view, complex problems are better assessed with perspective; it is only with a wider approach that patterns become clear and that conclusions intended to be of general application can be adopted without influence or prejudice derived from fact, case, or market-specific elements.

The relative lack of attention on the part of legal scholars has not been compensated by any clarification by competition authorities. Indeed, the majoritarian position of competition authorities has been one that at first sight may appear as prudent, but that on closer inspection may not be proving the wisest: to argue that

3 For a survey of economic literature on the topic, see D Evans and R Schmalensee, 'The Antitrust Analysis of Multi-Sided Platform Businesses', in R Blair and D Sokol (eds), *Oxford Handbook on International Antitrust Economics* (Oxford University Press, 2015) or University of Chicago Institute for Law / Economics Olin Research Paper No 623, available at: [http://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1482&context=law\\_and\\_economics](http://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1482&context=law_and_economics).

4 Some of the articles written by practicing lawyers (and practicing economists) in this regard are indeed so one-sided that it is surprising to see them written on both sides of the paper. Contrary to this tradition, this article does not intend to defend the particular position of a given client; I have, rather, chosen to adopt a different forward-looking approach and present both the 'pros and the cons' of market structures and business practices in multi-sided settings. This balancing exercise is not only in line with the theme of the Pros and Cons conference, it also should also have the positive externality of lowering my switching costs should that be necessary.



the economic literature is still at an early stage, that there is little empirical work from which to draw lessons and, in sum, that more economic research is needed prior to advancing changes in the way the law is applied.<sup>5</sup>

Against this background, the pages that follow seek to provide the personal views of a practitioner on how to deal with a subject that has become increasingly relevant to the practice of competition law and that lies at the core of some of the most prominent cases in recent times.<sup>6</sup> I essentially intend to submit that – contrary to the most widely held stance – perhaps we know all we need to know about two-sided platforms in order to refine our legal approach to them.

Indeed, ‘unlike, say, macroeconomics or behavioral economics, there is no serious controversy among economists’ on this topic and therefore it seems fair to claim that ‘the multi-sided platform analysis is well within the economic mainstream’;<sup>7</sup> over the past few years thanks to the work of many economists we have robust theoretical and empirical grounds on which to build, these theories already have their Nobel prize,<sup>8</sup> and perhaps the time is ripe for the law to take the driver’s seat in these discussions.

My concern, however, is that we, as lawyers and jurists, seem not to know what to do with it. Indeed, authorities and lawyers are used to (let us not change metaphors) driving in autopilot, repeatedly resorting to the same tools, tests

5 See for example European Commission, ‘Note to the OECD’s Roundtable on Two-Sided Markets’, 28 May 2009, p 5, stating that ‘empirical research is lacking’ and is ‘indispensable’ and that ‘it is still early for a competition authority to adopt any definitive views, let alone concrete policies or assessment methodologies, concerning the application of competition policy in cases involving two-sided platforms’.

6 These include various investigations in Google’s search and mobile OS products, several investigations into payment networks as well as on Most Favoured Nation clauses in online websites.

and rules, and feel uncomfortable in multi-sided platforms because the setting forces us to go back to basics and to interrogate ourselves about where we really want the application of competition law to take us.

In other words, by breaking the inertia of business as usual, multi-sided platforms place us out of our comfort zone, expose our contradictions and insecurities and oblige us to think. This may, on the one side, be most uncomfortable but, on the other side, presents us with a most interesting opportunity to go back to the basics of our discipline, perhaps too often forgotten.

In sum, I will argue that what is missing is not empirical work but a wider reflection on the goals of competition law and on how they are to be attained.

## **The complexity and duality of multi-sided scenarios**

### **On the need to refine traditional tools and rules**

It already has become commonplace to say that multi-sided platforms pose particular challenges to competition law enforcement, and it is true in many ways that the logic, the rules and the tools we are accustomed to are not valid in these settings, at least not without important refinements.

Such claims are not unusual. As a lawyer, I

7 D Evans, ‘The Consensus among Economists on Multi-sided Platforms and Its Implications for Excluding Evidence that Ignores It’ (2013), p 3, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2249817](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2249817). At p 11 he states that ‘[w]hile the result that traditional models may not be applicable to multi-sided platforms is inconvenient in practice, it is not controversial among professional economists’.

8 At roughly the same time both the Swedish Competition Authority and the Swedish Academy decided to honour the developments in the field of two-sided markets, albeit somehow asymmetrically: the latter by granting a Nobel Prize to Jean Tirole, one of the pioneers of this literature and the former inviting me, among others, to participate at the Pros and Cons conference.



do not recall having ever worked on a case in which someone did not claim that the sector at issue deserved special antitrust scrutiny; all sectors claim to be special and, in a sense, they all are. Admittedly, however, multi-sided scenarios (which might arise in many markets, both technological and not) do seem to pose, or rather exacerbate, practical problems that take competition law out of its comfort zone.

Most of the theoretical models on which competition law typically relies assume one-sidedness, in that they consider one single set of customers and their reaction to changes in supply, as well as the response of suppliers to changes in that demand. In multi-sided platforms however, the assessment becomes multi-dimensional. In these settings one needs to factor in the existence of multiple customer groups with interdependent demand and analyse how each side will react to a given move on the part of the platform; (ii) how will the platform react to moves on the different sides; and (iii) how each side will react to each other.

The complexity of these exercises is further enhanced by another important dimension to consider: time. One of the crucial features of these markets – particularly technology markets – is the speed at which they progress; business practices are not only complex, but also highly dynamic; the ability of these platforms to grow, and the speed at which they scale, is unprecedented in any other business. Accordingly, these platforms are constantly increasing their depth and reach, constantly redefining their boundaries as well as those of entire industries. In case things were not difficult enough, competition authorities are asked to react swiftly to rapidly evolving situations. Moreover, and aside from substantive questions, the time dimension also raises enforcement issues: when should competition authorities intervene? Is it preferable to prevent or to cure?

Interdependency, the pattern of cross-responses and speed are, in sum, what makes everything a bit more complicated, in life, in economics and also in multi-sided platforms. And by 'everything' I mean, literally, everything. As acknowledged by the European Commission, '[t]his pattern of cross responses will generally affect each step of standard antitrust analysis, from product market definition, the competitive assessment, entry, efficiencies, etc'.<sup>9</sup>

In light of the above, it is unquestionable that having to apply competition law to multi-sided platforms breaks the inertia and forces us not to do things like we used to, thereby obliging us to think.

Against this background, I submit that the thinking has been asymmetrical on the part of economists, on the one side, and lawyers on the other.

Much attention on the part of economists and scholars has lately centred on how to adapt and make practicable the tools we are most accustomed to (such as the small but significant and non-transitory increase in price (SSNIP) test or the Areeda-Turner/AKZO test), and progress has certainly been made in this regard.

Whereas the refinements and adaptations to our toolkit proposed by economists are most valuable and welcome, my contention is that they may be of little use if jurists continue not to address other questions raised by these markets which go more profoundly both to the root of the discipline and to the way in which the rules are enforced in practice.

<sup>9</sup> European Commission note to the OECD's Roundtable, n 5, above, p 4. For a 'not necessarily complete compendium of known and well-documented problems with applying results based on a single-sided analysis to multi-sided platforms', see Evans, n 7, above, p 9. For a list of eight one-sided fallacies in which may occur when dealing with multi-sided platforms, see JWright, 'One-sided Logic in Two-sided Markets' (2004) 3(1) *Review of Network Economics* 44–64.

As I will submit in the discussion which follows, the duality or ambiguity for competition purposes of practices carried out in multi-sided platforms has not been properly accounted for in the law. As will be explained below, this duality raises substantive and practical questions that expose the inconsistencies and insecurities of competition law and oblige us to question the very values we purport to defend and the objectives we intend to pursue.

### **On the double duality of business practices in multi-sided platforms**

The platforms discussed in this contribution typically receive special attention because of their already explained duality; that is, they are said to be peculiar because they involve two (or more) sets of users that interact with each other through the platform which, in turn, means that business practices will be felt on multiple sides of the market.

But in my view there is a second element of duality of two-sided platforms that has not received equal attention and that relates to the competitive ambiguity of the practices carried out in these settings.

Indeed, the circumstances in which practices in multi-sided platforms may lead to foreclosure are precisely the same ones in which they may yield benefits for consumers.

The defining characteristic of a multi-sided platform is that it solves a transaction problem and creates value by bringing together – physically or virtually – different groups/sides that need each other but that cannot get together easily on their own. The platform makes users better off by harnessing indirect network effects by ensuring that there are enough players on both sides. This means that advantages arise when a platform or intermediary manages to attain a critical mass of users, and balances

and optimises the network effects (often by resorting to asymmetric pricing, exclusivity and/or tying, among other possible strategies).

On the other side, however, attaining the necessary scale may very well imply depriving competing platforms of the critical mass they need, thus leading to their exclusion from the market. Such exclusion may occur as a result either of the natural tipping of the market towards the most valuable platform<sup>10</sup> or of exclusionary strategies which in other contexts would be deemed irrational (in these settings each time a competing platform is deprived of a given customer it loses not only the potential revenues from that customer but also suffers a loss in the overall value of the platform). One illustrative example is that of interoperability denials. Although lack of interoperability diminishes the value of a given network, it may appear as a rational strategy given that it may particularly damage small networks by denying them a minimum viable scale.

This second dimension of the duality of two-sided markets (ie their competitive ambiguity) is indeed not exclusive to this context but rather derives from the existence of network externalities which – although present by definition in multi-sided settings – may well exist in one-sided ones. It implies, in sum, that moves to increase the scale of the side of the market generating those externalities might result both in greater scale and concentration (typically assumed to be detrimental to consumer welfare) as well as in increased platform value (which is welfare enhancing for its members).<sup>11</sup>

<sup>10</sup> Whereas it is by now acknowledged that in most instances multi-sided platforms (or more generally speaking markets characterised by network externalities) do not tend to monopolise given the prevalence of product differentiation on attributes or quality and of the possibilities for multi-homing, switching and, in many cases, interoperability, the fact is that many multi-sided platforms operate in highly concentrated environments. This is not necessarily good (except for competition lawyers) or bad, it simply is part of the background in which competition rules are to be applied.

The problem that competition law faces in these settings is similar to the one faced by multi-sided platforms when conducting business – in essence, how to strike a balance between the two sides, in this case the offensive/anti-competitive and the defensive/pro-competitive.

In what follows, I will contend that whereas it is clear in economics that business practices in multi-sided platforms setting have both an offensive and defensive potential, and whereas this seems to have been acknowledged on a theoretical basis by competition authorities and courts, the practical application of the competition rules results in an imbalance that

11 HJ Hovenkamp, *The Antitrust Enterprise, Principle and Execution* (Harvard University Press, 2005), at 281 ('These same features that make networks attractive also create the opportunity for anticompetitive practices'); M Schanzenbach, 'Network Effects and Antitrust Law: Predation, Affirmative Defenses, and the Case of U.S. v. Microsoft' (2002) 4 *Stanford Technology Law Rev* 3 (asserting that 'network competition provides unique opportunities for anti-competitive strategies', but emphasises that 'network competition also provides some unique pro-competitive justifications for practices that have traditionally received antitrust scrutiny, such as tying, exclusive dealing, and low-pricing strategies', concluding that 'network effects can be a double-edged sword'); GL Priest, 'Rethinking Antitrust Law in an Age of Network Industries' (2007) 4 *Yale Law & Economics Research Paper* No 352, at 4 ('[M]any practices in the context of networks that may seem puzzling become understood when the need to correct for positive network externalities is taken into account'); DJ Gifford, 'The European Union, the United States, and Microsoft: A Comparative Review of Antitrust Doctrine', CLEA 2009 Annual Meeting Paper, available at SSRN: <http://ssrn.com/abstract=1434089> or <http://dx.doi.org/10.2139/ssrn.1434089>, pp 19–20: 'Network effects carry a double edge'; SF Ross, 'Network Economic Effects and the Limits of GTE Sylvania's Efficiency Analysis' (2001) 68 *Antitrust Law Journal* 951: 'Firms that produce goods with network effects can engage in conduct that promotes efficiency, in the sense that the resulting product is cheaper, intrinsically superior in quality, or that the product's greater use by others increases each consumer's utility. The same conduct can simultaneously have significant exclusionary effects because the conduct makes it even more difficult for new entrants to overcome the fact that so many consumers now use the dominant firm's product'; WH Page, 'Microsoft and the Limits of Antitrust' (2009) *Journal of Competition Law & Economics* (forthcoming), University of Florida Levin College of Law Research Paper No 2009–40, available at SSRN: <http://ssrn.com/abstract=1501079>, at 9: 'The very existence of network effects makes certain practices that resemble antitrust violations socially beneficial ...'; WJ Kolasky, 'Network Effects: A Contrarian View' (1999) 7 *George Mason Law Review* 578: 'Network effects may well exhibit unique characteristics, but these characteristics do not all point in one direction. Network effects will as often provide a valid precompetitive business justification for conduct as they will a reason for holding otherwise lawful conduct unlawfully'.

overplays the offensive, or anti-competitive, potential of such practices and makes defences effectively unavailable.

## Multi-sided market features as a sword

Competition authorities have been aware since the early 1990s of the offensive potential of network effects, including in multi-sided platform settings.

Interestingly, both the doctrine and the application of the law in the face of network effects have tended to focus on their anti-competitive potential (which is somehow paradoxical for a positive, theoretically desirable, externality). Indeed, most of the attention paid to network effects by antitrust enforcers and scholars – later consolidated in precedents and guidelines<sup>12</sup> – eminently relates to their characteristic as a barrier to entry. As a result, network effects have proved to be, in practice, a most effective basis for legal arguments challenging allegedly anti-competitive conduct.<sup>13</sup>

This has been evident with regard to a wide array of practices, both price and non-price related, as well as in relation to merger control.

12 European Commission, *Guidance on the Commission's enforcement priorities in applying Article 102 TFEU to abusive exclusionary conduct by dominant undertakings*, paras 17–20 ('The Commission will normally intervene under Article 82 where, on the basis of cogent and convincing evidence, the allegedly abusive conduct is likely to lead to anti-competitive foreclosure. The Commission considers the following factors to be generally relevant to such an assessment: (...) the existence of economies of scale and/or scope and network effects. Economies of scale mean that competitors are less likely to enter or stay in the market if the dominant undertaking forecloses a significant part of the relevant market. Similarly, the conduct may allow the dominant undertaking to 'tip' a market characterised by network effects in its favor or to further entrench its position on such a market. Likewise, if entry barriers in the upstream and/or downstream market are significant, this means that it may be costly for competitors to overcome possible foreclosure through vertical integration'), 24; *Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings* (2004) OJ C 31/5, para 72; *Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings* (2008) OJ C 265/6, paras 62, 101.

The approach of competition authorities to pricing practices is perhaps most striking, at least at first sight.<sup>14</sup> As observed by Rochet and Tirole, 'theoretical models predict that skewed pricing is more likely to be the norm than the exception for MSPs [multi-sided platforms]' but 'surprisingly, skewed pricing has sometimes been used by competition authorities in completely opposed ways'.<sup>15</sup> Indeed, proving true a well-known quote that is often used to ridicule competition law enforcement,<sup>16</sup> competition authorities and courts in the EU have taken action against prices that were too high (notably concerning the multilateral interchange fee (MIFs) applied by card payment systems), against prices that were allegedly too low (see eg the allegations on predatory pricing on the part of Google regarding maps and mobile operating systems) as well as against prices that were considered to be too stiff (eg the recent investigations into MFNs/best price guarantees applicable to online resellers in hotel reservation systems, e-books or Amazon's marketplace). In relation to non-pricing practices attention has tended to focus on exclusivity arrangements,<sup>17</sup> as well

13 Perhaps with the exception of the Microsoft / Skype case (in which the Commission's unconditional authorisation in Phase I was validated by the judgment of the General Court of 11 December 2013 in *Cisco Systems, Inc and Messagenet SpA v European Commission* (Case T-79) EU:T:2013:635, but for reasons not attributable to (and still not well understood by) the lawyers representing the applicants, including myself. For my comments on this case, see <http://chilling-competition.com/2014/05/12/a-comment-on-case-t-7912-cisco-systems-and-messagenet-v-european-commission-microsoftskype/>.

14 In reality, the apparent contradictions observed in this regard may not be such, given that, in practice, pricing practices can certainly be used to exploit, exclude and reinforce a firm's position. That there may not be a real inconsistency in the approach of competition authorities does not mean that the approach in all individual cases has been the right one.

15 J-C Rochet, J Tirole, 'CPI Introduction to the Symposium' (2007) 3(1) 148, available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=987339](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=987339)

16 'Ronald [Coase] said he had gotten tired of antitrust because when the prices went up the judges said it was monopoly, when the prices went down they said it was predatory pricing, and when they stayed the same they said it was tacit collusion', W Landes, 'The Fire of Truth: A Remembrance of Law and Econ at Chicago' (1981) *Journal of Law and Economics* 193.

as on tying/bundling<sup>18</sup> and on alleged access and discrimination issues against so-called 'gatekeepers' – a fashionable term nowadays – or 'competitive bottlenecks' (which arise when a given platform is an unavoidable trading partner for agents on one side of the market to reach the single-homing agents on the other side).<sup>19</sup>

The same vigilant approach is visible in the preventive field of merger control. The predominant tendency on the part of antitrust agencies has typically<sup>20</sup> been to assume that network effects may increase barriers to entry as well as incentives to act anti-competitively following a change of market structure pursuant to a merger.<sup>21</sup>

## Multi-sided market features as a shield

Whereas discussions on network effects have typically focused on their offensive potential, discussions on multi-sided platforms (which, as explained, deal in reality with the same root

17 The prevalent thinking among competition authorities with regard to exclusivity on one side of multi-sided platforms is that it would artificially increase switching costs, thereby hindering competing platforms' ability to obtain the necessary critical mass with which to gain a foothold on the market. In these circumstances it is generally assumed that network effects exacerbate the collective choice problem, since consumers will be aware of the disincentives created by exclusivity for other consumers to shift network. Consequently, a rival firm, even one which could offer a superior product or service, would not have any opportunities unless users have the ability to act coordinately, which may be rare.

18 Tying and bundling are looked at more suspiciously in industries with network effects, economies of scale and high barriers to entry (see, eg, the Microsoft cases, concerning the tying of Windows Media Player and Internet Explorer; see also the European Commission's Staff Discussion Paper on the application of Article 82 EC to Exclusionary Abuses, para 180 (2005), available at <http://ec.europa.eu/competition/antitrust/art82/discpaper2005.pdf>).

19 Theories of harm alleging the existence of competitive bottlenecks have been brought in relation to search engines, computerised reservation systems, mobile communication networks, Internet Service Providers, credit card networks and supermarkets, among others.

20 Perhaps with the exception cited at n.13 (apologies for the one-sidedness on this one).

21 Accordingly, network effects are generally seen as factors with the potential to complicate the anti-competitive effects of a merger.



phenomenon) rather tend to highlight their theoretical defensive potential.

The key idea I want to convey here is that the economic literature shows that demand-side efficiencies achieved by multi-sided platforms may turn typically condemned practices into welfare enhancing ones. This is the case, for example, with horizontal cooperation agreements within the network aimed at capturing externalities or expanding the network (think of the MIFs in the payments industry, of standard setting agreements, of collecting management societies or of airline alliances), of what could *prima facie* be regarded as predatory/excessive pricing,<sup>22</sup> as well as with other unilateral practices such as exclusivity arrangements<sup>23</sup> and tying/bundling,<sup>24</sup> all of which might be used to harness network effects.

In spite of these conceivable defences, it is still most rare to see demand-side efficiencies being effectively acknowledged as a valid de-

fence in real cases.<sup>25</sup>

My contention is that this lack of consideration for possible redeeming virtues arising from demand-side efficiencies stems both from the inability of economics to quantify the externality, as well as from the inability of the law to account for this gap and adapt to it.

I attribute this problem to three main causes:

First, competition authorities are out of their comfort zone when asked to assess defences based on the internalisation of network externalities (ie the increase in the value of the platform to make it viable or more effective) in the absence of quantification. The lack of a reliable method to quantify the advantages derived from the externality means that, in practice, attempts to bring up defences related to the efficiencies arising from a larger or more balanced platform are typically doomed.<sup>26</sup>

The requirement of objective quantification contrasts with the much lighter burden imposed

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Perhaps the first example of the application of network theory to the assessment of merges lies on the MCI/WorldCom case, which was cleared both by the European Commission and by the DOJ upon the condition that WorldCom would divest MCI's internet business. Since then, the European Commission has approached mergers in multi-sided platforms with particular care; think, for instance of Microsoft/Yahoo, Travelport/Worldspan and Google/DoubleClick, all of which were centered on theories of harm which were explicitly based on cross-market effects. Once again, the outlier here is Microsoft/Skype, a case in which a theoretically straightforward cross-market effects theory of harm was put forward but was labelled as 'conglomerate' and rapidly dismissed too 'complex' and 'uncertain'.

22 Contrary to the Areeda/Turner and AKZO assumption that underlying a price below marginal cost there is generally an anti-competitive purpose, exclusionary intent is not necessarily present in relation to penetration pricing aimed at providing incentive for one side to join, thus making the platform viable or expanding its reach and, consequently, its value. In fact, low pricing is the most obvious way in which a network owner can internalise the consumption externality by setting the price charged for joining at a price below the costs that the addition implies for the network firm with a view to building critical mass. In a way, the firm using such strategy is investing in the network through the purchase of its most valuable input: the customer. Low prices on one side of the platform may very well be accompanied by what could be regarded as excessive prices on the other side thereof. Admittedly, the increase in the value of the network could also be coupled by the exclusion of competitors, there by making it necessary to balance pro and anti-competitive effects.

23 As observed by Shapiro, whereas it is widely assumed that in network settings pro-competitive features will be outweighed by greater competitive harm, exclusivity can also serve to differentiate products and networks, to encourage investment in these networks, and to overcome free riding. Exclusivity obligations may also act to the detriment of an incumbent firm facing a particularly strong entrant given that it may '[induce] customers who would otherwise be a member of both networks to join only the new network'. In addition, multi-sided platforms may possibly enhance some of the pro-competitive effects of exclusivity. It is commonly admitted that exclusivity might facilitate long-term planning, thus reducing the risk of incurring fixed costs in production. This contribution to the elimination of uncertainties is particularly useful in multi-sided markets, characterised by the necessity of incurring large sunk costs in unpredictable contexts. C. Shapiro, 'Exclusivity in Network Industries' (1999) 7 *George Mason Law Review* 675.

24 In certain multi-sided settings tying may contribute to preserving or expanding the positive network externality by adding new functionality to network platforms, by helping entrants overcome barriers to entry. See, eg Priest, n 11, above, p 8 and Page, n 11, above, p 9. In a multi-sided market tying / bundling can also be used as a monetisation strategy.

25 This has led even Nobel-prize winners to underline the 'insufficient attention paid to efficiency considerations related with usage externalities', Rochet and Tirole, n. 15, above, p. 148.



on the authorities, which are not obliged to 'objectively quantify' restrictions; they can meet their burden of proof on the basis of qualitative factors, but private undertakings having to defend themselves cannot. This unevenness in the applicable standard of proof risks – as will be discussed in detail later – an effective shift of the burden of proof from the Commission to the undertaking. Consequently, in doubtful cases authorities and courts may risk following the reflex of condemning complex practices despite, or precisely because of, the impossibility to adequately assess their effects.

Secondly, the legal principles typically used to assess redeeming virtues have not always been interpreted in a manner well-suited to account for cross-market efficiency assessments, which will obviously be necessary when more than one side of a platform is affected by a given practice.<sup>27</sup> This is in contrast with the lessons derived from economics, which tell us that the ideal solution here would be to strike a balance

between all interests at play (balancing favourable and detrimental effects of the agreement across markets and across customer groups).

According to the Guidelines on the application of Art 101(3) efficiency gains are in principle assessed 'within the confines of each relevant market to which the agreement relates'.

Whereas the guidelines envisage that where two markets are related one can take into account the efficiencies in the other, they nevertheless require that the group of consumers affected by the restriction and benefitting from it be substantially the same.<sup>28</sup>

The Guidelines on 101(3) not only reflected, or rather set, the creative – and in these settings problematic – approach adopted by the Commission in this regard, but they also somehow captured the General Court,<sup>29</sup> which validated them on this point its Mastercard judgment.<sup>30</sup> On appeal, however, despite upholding the General Court's Mastercard ruling, the Court of Justice of the European Union (ECJ) made it clear that when assessing compliance with 101(3) 'it is necessary to take into account the system of which that measure forms part, including, where

26 An illustration can be found in the Mastercard Interchange Fees case. In a nutshell, a 2007 Commission decision concluded that MasterCard's intra-EEA cross-border multilateral interchange fees for credit and debit cards were contrary to Art 101(1) TFEU in as much as they restricted competition between acquiring banks by artificially increasing the basis on which these banks set their charges to merchants. MasterCard argued that the anti-competitive effect outlined above could be outweighed by efficiencies stemming from MIF in the form of lower cardholder fees on the opposite side of the market. In other words, MasterCard's reasoning was that in light of the 'two-sided' nature of the payment card industry, MIFs were 'set to balance issuing and acquiring demands, so as to 'get both sides on board', thereby internalising network externalities and maximising output and consumer welfare. The Commission observed that MIFs were also able to generate significant efficiencies in light of the 'two-sided' nature of the market. Nonetheless, it rejected MasterCard's allegations considering that even though MIFs could be a potential source of efficiencies, 'MasterCard failed to submit the required empirical evidence to demonstrate any positive effects on innovation and efficiency which would allow passing on a fair share of the MIF benefits to consumers'. The decision was appealed before the General Court and subsequently before the ECJ, both of which upheld the Commission's decision, thus confirming the difficulties incumbent upon any party wishing to claim the benefits arising from network effects in multi-sided markets. The General Court ruled that Mastercard had 'failed to submit empirical evidence on the positive effect of MIFs on system output' and that since these had not been 'objectively quantified', they could not be taken into account. The ECJ did not dispute this finding.

27 The two dualities that we have referred to can furthermore be apparent at the same time whenever a reduction of competition on one side is coupled by welfare enhancing effects on another side of the platform. This, moreover, will frequently be the case for affecting the cross-group externality; those practices might both enhance users' welfare and exclude third parties, often at the same time.

28 Commission Guidelines on the application of Article 81(3) of the Treaty, Official Journal No C 101 of 27.4.2004, at 43.

29 For more developed comments on this issue, see <http://chillingcompetition.com/2015/01/20/on-the-misapplication-of-article-1013-of-judicial-capture-and-cross-market-assessments/>.

30 In its judgment of 24 May 2012 in MasterCard, Inc and Others v European Commission (Case T-111/08) EU:T:2012:260, the General Court acknowledged at para 228 that 'the appreciable objective advantages to which the first condition of Article [101(3)] EC relates may arise not only for the relevant market but also for every other market on which the agreement in question might have beneficial effects', but nevertheless ruled that 'as merchants constitute one of the

appropriate, all the objective advantages flowing from that measure not only on the market in respect of which the restriction has been established, but also on the market which includes the other group of consumers associated with that system, in particular where, as in this instance, it is undisputed that there is interaction between the two sides of the system in question'.<sup>31</sup> The same idea, in relation to Art 101(1) underscores the judgment in *Groupeement des Cartes bancaires* rendered by the ECJ on the very same day.<sup>32</sup>

In these judgments the ECJ showed that it had become aware of this flaw in the traditional analytical framework, and appears to have set the law on a new course, at least with regard to multi-sided platforms.

Thirdly, we have so far proved unable to trade off the benefits and the perils of having one large scaled platform as well as the circumstances in which one platform is preferable to having several.

The Mastercard case once again provides a useful example of a circumstance in which, in the face of doubt or ambiguity, the offensive theory is favoured.<sup>33</sup> A similar illustration can be found in the CFI's judgment in *Microsoft*.<sup>34</sup>

### Addressing a practical imbalance – back to basics

two groups of users affected by payment cards, the very existence of the second condition of Article [101(3) TFEU] necessarily means that the existence of appreciable objective advantages attributable to the MIF must also be established in regard to them'. In other words, since no quantifiable advantages benefitted merchants, there was no need to verify whether any such advantages benefitted cardholders.

31 *MasterCard Inc and Others v European Commission* (Case C-382/12 P) EU:C:2014:2201, para 237. In spite of this sensible statement, para 248 of the same judgment implicitly validates the contrarian approach adopted in first instance by the General Court.

32 *Groupeement des cartes bancaires (CB) v European Commission* (Case C-67/13 P) EU:C:2014:2204, paras 76–79.

We have seen that while business practices in multi-sided platforms are often pro-competitive, or at least ambiguous from a competitive standpoint, the practical application of the law reflects an imbalance in which offensive arguments are favoured and conceivable defences are most often effectively ignored.

This results partly from the inability to quantify the value of the externality, partly from the wording and the 'funnel structure' of competition law provisions, partly from the difficulties inherent in cross-group assessments and partly from our natural inclination to favour narrow prisms and one-sidedness in the face of complexity.

In my view, this imbalance results in a problematic imbalance or, put differently, in enforcement hemiplegia.<sup>35</sup>

Against this background, what this contri-

33 Paragraph 222 of the General Court's judgment states that 'an increase in the platform's output can be the source of efficiencies, so in addition to giving rise to efficiencies, it could also enable Mastercard to extract rents'. In the case at issue, the Court understood that the fact that Mastercard could extract rents was automatically sufficient to nullify the advantages flowing from the output/network expansion sought by MIFs (which theoretically should benefit all members) without considering it necessary to undertake any balancing exercise.

34 In this case the Court rejected Microsoft's arguments on the existence of an objective justification for its conduct. Microsoft had contended that integrating Windows Media Player in Windows provided software developers with a stable and well-defined platform for software development that could facilitate their tasks. In response to this claim, the CFI stated that '[a]lthough, generally, standardization may effectively present certain advantages, it cannot be allowed to be imposed unilaterally by an undertaking in a dominant position by means of tying (...) [I]t cannot be ruled out that third parties will not want the de facto standardization advocated by Microsoft but will prefer it if different platforms continue to compete, on the ground that that will stimulate innovation between the various platforms'. (See *Microsoft Corp v European Commission* (Case T-201/04) EU:T:2007:289, paras 1152–1153.) As pointed out by Larouche, the Court's argument that some third parties would rather prefer competition between platforms is little more than a mere unsupported conjecture. See in this regard Larouche arguing that the CFI's reasoning in this regard calls for 'further research on the link between competition policy, innovation policy, and standardization', P Larouche, 'The European Microsoft Case at the Crossroads of Competition Policy and Innovation' (2008) 22 *TILEC Discussion Paper* No 2008–021, available at <http://ssrn.com/abstract=1140165>.

bution posits is that if there is a problem at the legal level, it is there that we need to act; it is therefore not only economic tools that need to be refined in the presence of multi-sided platforms, but also the law, or rather the application thereof.

These refinements I am referring to do not require a policy revolution, but rather increased analytical vigilance, mainly concerning (i) the assessment of welfare enhancing features; and (ii) the upholding of certain basic limiting principles that should not be forgotten.

### **Assessment of welfare enhancing features/efficiencies**

To start with, in my view many of the identified problems in two-sided markets would be avoided if we were to adopt a more reasonable interpretation of Art 101(3) TFEU and of the 'efficiency defences' as part of the assessment of practices and mergers under Art 102 TFEU and the Merger Regulation.

In what follows I will mainly refer in this regard to Art 101, given that it incorporates an explicit and specific sub-provision laying down the analytical principles governing the assessment of welfare enhancing features that also inspire – in practice – the operation of Art 102 TFEU and of the Merger Regulation,<sup>36</sup> and that make more evident some of the issues that I intend to explain.

From an orthodox perspective, welfare enhancing features pertain to an Art 101(3) analysis, but nevertheless assessments carried out at this stage very rarely prosper in individual cases. I would argue that the overly restrictive interpretation of Art 101(3) endorsed by competition

authorities and exposed in soft law instruments is at the root of many contemporary controversies and contortions in EU competition law, also regarding multi-sided platforms.

In my view, reasonable competition law enforcement should be characterised by fewer object cases, more effects cases, and many more Art 101(3) cases, and it is therefore here that we should first take action. Among others, and in line with what has been explained above, I submit that a proper interpretation of this sub-provision (and of analogous analytical steps in other areas of competition law) should not require 'objective quantification' of demand-side efficiencies, and that it should allow for cross-market assessments, also regarding distinct groups of customers, contrary to what had been done in the recent past.

The EU Courts more recently seem to have acted at this level, but with a twist that is, in my view, a second best, but welcome, solution.

In the light of the truncated analysis carried out under competition law and the circumstances already explained, what we see nowadays is that in any given case the accusing party is able to more easily discharge its burden of proof in a first step of the analysis, whereas the defendant will very rarely be able to comply with the burden of showing the existence of sufficient, objective, in-market welfare enhancing features.

Perhaps the acknowledgement of this situation may have led the EU Courts increasingly to tolerate and encourage that redeeming con-

<sup>35</sup> As José Ortega y Gasset said in one of my favourite quotes, included in *Toward a Philosophy of History* (WW Norton & Company Inc, 2002): 'Aligning oneself fully with the left, as with the right, is only one of the numberless ways open to man of being an imbecile: both are forms of moral hemiplegia.'

<sup>36</sup> See eg para 30, Communication from the Commission – Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009) OJ C 45; Art 2(1) of Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (the EC Merger Regulation) (2004) OJ L 24; Section VII of Guidelines on the assessment of horizontal mergers under the Council Regulation on the control of concentrations between undertakings (2004) OJ C31.

siderations be looked at within a first stage in which the burden of proof remains on the accusing party.

This, once again, is particularly evident in the Mastercard and Cartes bancaires judgments of 11 September 2015, in which the ECJ arguably conveyed the message that welfare enhancing features derived from two-sidedness can be better assessed as part of Art 101(1), instead of within Art 101(3).<sup>37</sup>

In my view, the analytical framework called for in these two recent judgments implies that, in the future, if a competition authority or complainant were to suspect a *prima facie* Art 101 or 102 infringement in a case, it would then be up to the defendant to bring a *prima facie* – even if abstract – claim that the practice is necessary to create, maintain, balance or expand the platform at issue. Should the defendant then be able to make such claim, it would be up to the party claiming the existence of an infringement to motivate why such contentions are not valid and/or to conduct itself the balancing of pro- and anti-competitive effects, dispensing the defendant of that burden.

This is also in many ways the message that, in the US the DC Circuit Court sent in its Opinion in *Microsoft II* with regard to similar issues: that one should not hurry to condemn practices for which a *prima facie* justification could be put forward.<sup>38</sup>

Given that, in practice, the operation of the burden of proof often determines the outcome of cases, acting at this level – by alleviating the burden of proof incumbent upon the defendant – is probably the most simple and effective way of addressing these difficulties.

## **Do not forget the value of limiting principles – back to basics**

In addition to the above, and in order to achieve consistency in the application of competition rules in these markets, I believe that we also need to revisit some basic tenets of competition law.

The ‘double duality’ of two-sided markets raises substantive and practical questions that expose the inconsistencies and insecurities of competition law and oblige us to interrogate ourselves about the very values we purport to defend and of the goals we intend to pursue.

In my view, the main challenge posed by these markets/platforms lies not in the novelty of the issues they raise, but on the intensity with which those issues – notably related to the ‘old’ phenomenon of ‘scale’ – arise in these settings.

This means that the questions we are facing now are to a great extent ones to which anti-trust already replied in earlier days; the difference is mainly one of degree.

Indeed, in any given case involving multi-sided platforms competition enforcers will invariably face certain empirical questions<sup>39</sup> but, ultimately there will remain other more ‘philosophical’ ones that go to the heart of the discipline and that risk being answered on casuistic, inconsistent and almost reflexive or ideological – and, as such, unsupported – grounds.

Against this background, I submit that it is necessary to recall clear principles, filters or bright

<sup>37</sup> See notably *Groupeement des cartes bancaires (CB) v European Commission* (Case C-67/13 P) EU:C:2014:2204, paras 72–79 and *MasterCard Inc and Others v European Commission* (Case C-382/12 P) EU:C:2014:2201, paras 170–180.

<sup>38</sup> *United States v Microsoft Corp*, 253 F.3d 34 (DC Cir 2001), at 58–59. (‘If a plaintiff successfully establishes a *prima facie* case under s.2 by demonstrating anticompetitive effect, then the monopolist may proffer a “pro-competitive justification” for its conduct. If the monopolist asserts a precompetitive justification – a nonpretextual claim that its conduct is indeed a form of competition on the merits . . . then the burden shifts back to the plaintiff to rebut the claim . . . [I]f the monopolist’s pro-competitive justification stands un rebutted, then the plaintiff must demonstrate that the anticompetitive harm of the conduct outweighs the precompetitive benefit.’)

lines capable of adding some predictability to the law or, in other words, to go back to basics.

I would propose to go back to basics and to reinstate some key principles that competition law has learnt over the years, but that are worth recalling now that some of the earlier questions antitrust faces are resurfacing with increased intensity.

In my view, we should hold the following to be self-evident, also, and particularly, in multi-sided settings:

**(1) Absence of rivalry does not equal infringement (protecting competition vs protecting competitors).**

Economics teaches us – and competition authorities have accepted in some settings<sup>40</sup> – that, at the extreme, a monopolistic structure could in some scenarios (natural monopoly, no diseconomies of scale on the cost side, no congestion effects on demand, homogeneous consumers on both sides) be the most efficient market structure. In this regard, it is perfectly conceivable, at least in theory, that the benefits of a larger platform outweigh other possible downsides of market power such as higher prices.<sup>41</sup>

**(2) Remedies and objective justifications follow the establishment of an infringement by the authority, not the other**

39 Among others, how strong is the interdependency/network effects across the different sides? What is the relative strength of differentiation versus network effects? How easy is it for users to switch platform? Is multi-homing possible and/or prevalent? What is the optimal scale and what is the minimum critical mass for others to compete?

40 See the European Commission note to the OECD's Roundtable on Two-Sided Markets, n 5, above, p 7: '... as in all markets with network externalities, there is often the possibility that one platform will corner (both sides of) the market if the inter-group externalities are powerful. It can be very hard for an entrant in such markets to get started. However, this outcome is not necessarily bad from a societal point of view when externalities are strong'.

**way around.**

As competition law has become increasingly more regulatory<sup>42</sup> this – I would say obvious – principle seems to have been partly forgotten. Competition law, which is repeatedly held to be *quasi-criminal* in nature, is not supposed to kick-in in the face of a sub-optimal functioning of markets, but only when an infringement has been established by the authority or plaintiff.

**(3) Companies must be free to choose their business model.**

It is companies and not competition enforcers which will strive or fail in the adoption of their business models, and it is therefore companies and not competition enforcers who are to decide on what business models to use. Some will prove successful and others will not; some companies will thrive and some will disappear, but with experimentation with business models, success and failure are and have always been part of the game.<sup>43</sup>

In other words, we should not forget that competition law is, or should be, business-model agnostic, and that regulators are – like anyone else – far from omniscient.

**(4) Competition law is about protecting the process of competition from undue restraints.**

It is not about shaping the process (see above), and it is not about creating or preserving competition in the face of the natural evolution of markets.

41 Kolasky, n 11, above, at 585. ('[S]ince positive network effects give rise to efficiencies which firms may capture and pass on to consumers, it is important that we not interfere with the natural operation of the market, making the old mistake of protecting competitors, rather than competition.')

42 P Ibañez Colomo, 'On the application of competition law as regulation: elements for a theory' (2010) 29 Yearbook of European Law 261–306.



**(5) Competition law should be applied consistently and there is no reason to favour one parameter of competition over others.**

There will be situations in which our natural reflexes will lead us to think – in the abstract – that an apparent reduction in static competition might possibly reduce innovation, choice or quality even if (or especially when) the analytical framework centred on price does not enable us to find an infringement.

However, since we are not yet capable of adequately balancing the benefits of differentiation and possible innovation against the increases in value of a multi-sided platform these decisions may be adopted on the basis of ideological considerations,<sup>44</sup> which are, in my view, ill-suited to be the basis of a sanctioning regime.<sup>45</sup>

In sum, the fact that it is harder to measure parameters other than price and output does not mean that these should be privileged over others (rather the contrary) or that it is justified to depart from well-established principles when intervention is a response to the alleged impact of a practice on a parameter other, and more abstract, than price.

**(6) In dubio pro reo (or, when in doubt, don't chill competition).**

In many ways, the above can be summed up in one simple idea, that competition law should explicitly acknowledge its limitations and not condemn what it does not fully understand.

<sup>43</sup> See FA Hayek, 'Competition as a Discovery Procedure', in *New Studies in Philosophy, Politics, Economics and the History of Ideas* (University of Chicago Press, 1978), at 179.

<sup>44</sup> Interestingly, the use of an ideological approach to condemning conduct in network markets has been explicitly advocated by some commentators. See Ross, n 11, above, at 947 (proposing that 'where monopolistic conduct significantly inhibits the ability of rivals to engage in fair competition by means that to some extent frustrate consumer preferences, and network effects suggest that courts cannot practically determine if claimed efficiency benefits outweigh these harms, courts should employ a "Jacksonian" value of equal economic opportunity to proscribe the conduct and give others a meaningful chance to compete with the dominant firm').

Indeed, being aware of the fact that many practices carried out by or within multi-sided platforms may be efficiency enhancing and that the prohibition of such arrangements may greatly damage consumer welfare is useful and necessary, and pleads in favour of the inadequacy of outdated and simplistic *per se* rules to these settings. In other words, traditional assumptions and inclinations should be relaxed, and particular caution is needed to approach multi-sided platform issues with more humility.

Established economics tells us that any welfare enhancing policy should encourage, or at least tolerate, internalisation strategies. On the contrary, failing to identify and protect network efficiencies in multi-sided platforms will be to the detriment of societal welfare. The main competition law issue must therefore be to sort the practices that effectively contribute to balancing the externalities and contribute to the optimal size of the platform from those that do not.

To be sure, this is not to say that competition law does not have a role to play in multi-sided platforms markets. The fact that authorities are to try harder does not mean that they may not be able to bring solid theories of harm; it only means that they cannot do this in a simplistic manner or in the abstract. In particular, I believe that the proposed filter does not in any way hinder authorities' ability to pursue cases concerning what should perhaps be their main target in these markets: 'cheap exclusion'.<sup>46</sup>

Finally, I submit that it would be most useful for these principles to be reflected in some informal guidance, deserving specific treatment within the main soft law instruments issued by competition authorities. Competition law is often seen as too special an animal by companies and judg-

<sup>45</sup> On a personal level I could even agree with the contention that in some settings the most economically efficient outcome might not be the most convenient for societal welfare. That, however, is a problem that can, if needed, be addressed via regulation, but not through the use of competition law.

<sup>46</sup> See in this regard SA Creighton, DB Hoffman, TG Krattenmaker and EA Nagata, *Cheap Exclusion* (2005) 72 *Antitrust Law Journal* 975.

es, and all of them would benefit from having an established analytical framework in writing, which would moreover contribute to minimising the risk of divergences in the resolution of cases.

### **Conclusions – a reminder of the fallibility of competition law**

The preceding pages submit, first, that a crucial peculiarity of multi-sided settings derives from the fact that when there are various sides to one platform, there are often two sides for every story or theory of harm; that everything has pros and cons.

Economic lessons have served us well in this regard by providing us with a balanced view of the ambiguity of business practices in these settings and confirming that some problems are so complex that one needs to be very well informed just to be undecided about them.

In spite of economic consensus on the duality or ambiguity of practices carried out in multi-sided settings (as a subset of the situations in which network effects are key), I have attempted to show that there is an imbalance in the practical application of the law that favours offensive theories to the detriment of equally plausible defensive ones.

Against this background, what my contribution posits is that we need to be aware of that imbalance with a view to correcting it at the level of the application of the law, and that what is needed is not a policy revolution, but analytical prudence.

In many ways, however, the ideas that I have tried to develop in this contribution do not relate to multi-sided platforms alone. In reality, they are pertinent to the application of competition law in general.

Indeed, and as already noted, the main spec-

ificity of multi-sided markets is that they pose the very same issues that have troubled antitrust law since its inception; the difference is that those same issues arise now with renewed strength, particularly in technology enabled markets in which the phenomenon of scale has reached new heights.

By presenting us with extreme cases and questions, multi-sided platforms not only reveal the inadequateness of traditional tools and proxies to these specific settings, they also expose the insecurities and inconsistencies of this discipline by reminding us that, in those tools and proxies are, in reality, and irrespective of multi-sidedness, never accurate.

In this sense, the challenges raised by multi-sided platforms are a useful reminder of the fallibility of competition law, and of the need for humility, prudence and clear limiting principles.

# Should Uber be allowed to Compete in Europe? And if so How?

Damien Geradin\*

The disruptive market entry of Uber has generated lively debate, several taxi drivers' demonstrations and a number of court decisions all over the world. The question of whether such entry should be accommodated or banned by regulators has been the object of thoughtful analysis by policy-makers, judges and scholars. Damien Geradin goes a step forward and, recognizing that sooner or later innovative services will find their way to the market, explores different alternatives of making such transition smoothly and compatible with EU and domestic regulations.

## Abstract

Uber's arrival in Europe has generated massive demonstrations by taxi drivers and a number of court judgments banning or restricting Uber's services on the ground that the company engaged in "unfair competition". Uber and other online-enabled car transportation services to connect passengers with drivers offer an attractive alternative to regular taxi services.

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The difficulty is that these services are protected by regulatory measures that create significant barriers to entry. Uber's business model presents many efficiencies and there is little doubt that it will prevail over time. Regulatory authorities thus face two options. One option is to resist the market entry of Uber and other similar companies. This approach would deprive users of attractive services and trigger many years of litigation. The other option is to embrace technological change and allow Uber to compete on a level playing field with taxi companies. The regulatory changes that will be needed raise complex questions, but these questions are unavoidable and it is important to tackle them early. Taxi companies can also embrace technologies and rely on the competing online-enabled car transportation services that are already available to them.

## I. Introduction

While many industries are characterized by constant innovation, the development of the peer-to-peer economy has injected dynamism in industries, which for a long time operated under static business models. That is, for instance, the case of the taxi industry. For almost a century, taxi companies in all parts of the world relied on a similar business model. Passengers can hire taxis by queuing at a cab stand, by hailing them in the street or by making a telephone reservation. Historically, technology played little role in the industry, which is not surprising since taxi services are subject to barriers to entry created by regulatory intervention. Taxi regulations, for instance, limit the number of vehicles authorized to provide taxi services in a given locality. This would not matter so much if the industry was characterized by high levels of performance. However, taxi fares remain often expensive while the quality of the service can be mixed. At certain periods of the day, taxis tend to be scarce. Users may thus experience long waiting times and, in some cases, taxis do not show up

at all. This led some countries to engage deregulatory initiatives to improve the performance of the taxi sector, but the often reverted to regulation given the mixed results of these initiatives.<sup>1</sup> Until recently, it seemed that this sector was not called to evolve and that users would have to put up with the service as it is.

This situation changed with the arrival of Uber and other providers of what I will refer to as online-enabled car transportation services to connect passengers with drivers.<sup>2</sup> While Uber likes to call itself as a ride- or car-sharing service, the ride or the car are not truly shared. What characterizes Uber compared to regular taxi services is that it is a marketplace where independent drivers are connected to passengers through an online platform. Uber's mobile app is user-friendly and its rates are generally attractive compared to the rates charged by regular taxis.<sup>3</sup> That made the service popular in many cities. While Uber has *aficionados* among users and investors,<sup>4</sup> it has however a large number of enemies in the taxi industry. The arrival of Uber in Europe has triggered massive protest from taxi drivers and companies on the ground that Uber does not comply with taxi regulations and therefore engages in "unfair competition".<sup>5</sup> This led taxi companies to seize the courts and Uber ac-

tivities have been banned or subject to serious restrictions in Member States, such as Belgium,<sup>6</sup> Germany,<sup>7</sup> Italy<sup>8</sup> and Spain.<sup>9</sup> Although some public authorities are considering changes in the applicable regulatory framework in order to accommodate Uber and similar companies,<sup>10</sup> the situation remains chaotic.

Against this background, this short essay argues that the restrictions that have been placed on Uber's activities are undesirable as they deprive users of an attractive and innovative alternative to regular taxi services. While some of these restrictions can possibly be challenged under EU law, this does not mean that Uber should be allowed to operate in a legal void. Innovation does not alter the need for measures designed to ensure public safety, as well as to protect users from various categories of risks. This means that the regulatory framework should be adapted to allow Uber to operate legally, as well as to compete on a level playing field with taxi services. The legalization of Uber and similar services raises, however, a number of complex issues that will only be briefly touched upon in this essay. A complex question is, for instance, whether online-enabled car transportation services and taxi services should be subject to the same regulatory regime or to separate regimes adapted to their characteristics. Another question is whether taxi companies and/or drivers should be compensated for the loss of the in-

1 See, e.g., Ambrosius Baanders and Marcel Canoy, "Ten Years of Taxi Deregulation in the Netherlands – The case for Re-regulation and Decentralisation", Association for European Transport and contributors, 2010, available at <http://abstracts.aetransport.org/paper/index/id/3411/confid/16>

2 The notion of online-enabled platform has, for instance, has been used by the California Public Utilities Commission (CPUC). See *infra* footnote 45. While Uber is the best known online-enabled platform, other companies such as Lyft or Sidecar provide comparable services.

3 See, e.g., Sara Silverstein, "These Animated Charts Tell You Everything About Uber Prices In 21 Cities", *Business Insider*, 16 October 2014 at [www.businessinsider.com/uber-vs-taxi-pricing-by-city-2014-10](http://www.businessinsider.com/uber-vs-taxi-pricing-by-city-2014-10)

4 Sarah Mishkin, "Uber raises \$1.6bn from Goldman clients", *Financial Times*, 21 January 2015 (indicating that Uber had a \$40bn valuation")

5 See Matthew Field, "'Uber protest' by black cab drivers brings traffic chaos to Westminster", *The Guardian*, 26 May 2015.

6 James Fontanella-Khan, "€10,000 fines threat for Uber taxis in Brussels", *Financial Times*, 15 April 2015.

7 Eric Auchard and Christoph Steitz, "German court bans Uber's unlicensed taxi services", *Reuters*, 18 March 2015, available at [www.reuters.com/article/2015/03/18/us-uber-germany-ban-idUSKBN0ME1L820150318](http://www.reuters.com/article/2015/03/18/us-uber-germany-ban-idUSKBN0ME1L820150318)

8 "Italian court bans unlicensed taxi services like Uber", *Reuters*, 26 May 2015, available at [www.reuters.com/article/2015/05/26/us-italy-uber-idUSKBN0OB1FQ20150526](http://www.reuters.com/article/2015/05/26/us-italy-uber-idUSKBN0OB1FQ20150526)

9 Harriett Alexander, "Judge in Spain bans Uber taxis", *The Telegraph*, 9 December 2014.

10 Frances Robinson, "Brussels to Propose New Laws Governing Uber", 24 November 2014, available at [blogs.wsj.com/digits/2014/11/24/brussels-to-propose-new-laws-governing-uber/](http://blogs.wsj.com/digits/2014/11/24/brussels-to-propose-new-laws-governing-uber/)

vestment that they may have made in, for instance, acquiring a license, the value of which will considerably decrease following Uber's market entry. These questions will be briefly examined in this essay and looked at in greater detail in a subsequent paper.

This paper is divided in VI sections. Section II provides a brief history of the regulation of taxi services, which in some cities is almost one century old. Section III describes Uber's business model and how it contrasts with the services provided by traditional taxi companies. Section IV discusses the EU law provisions that could be used by Uber and other similar companies to challenge the regulatory restrictions that prevent them from offering their services in many parts of the EU. Section V argues that the way forward is for the relevant public authorities to revisit the regulatory framework applied to taxi services in order to allow Uber to compete legally against taxi companies. Section VI concludes.

## II. A brief history of taxi regulation

Although taxi services are fairly basic in nature (transporting passengers from point A to point B) and do not require much capital or skill (a car and a driver), they have been for a long time subject to fairly intrusive regulation with variations across countries and localities.<sup>11</sup> Among the reasons evoked for regulating taxi services figure, for instance, the fact that in the absence of control on entry there would be too many taxis in the streets and this would create congestion.<sup>12</sup> There has also been a fear, particularly during the great depression, that if taxis were in excessive numbers, they would engage in ruinous competition, which would in turn lead

to low quality of service.<sup>13</sup> Regulation has also be seen as necessary to correct information asymmetries as, in the absence of rate control, consumers would have no guarantee that the fares they pay are fair and reasonable.<sup>14</sup> Similarly, besides having a superficial look at the aspect of the car, users have no means to know whether they will be driven in a safe vehicle. Hence, regulatory requirements are needed to ensure the safety of passengers.

As a result, with some degree of variation, regulation of taxi services typically involves: (i) control of entry (with local authorities, for instance, setting the maximum number of vehicles that can be used to provide taxi services); (ii) licensing and performance requirements (for the drivers and the taxi companies) designed, for instance, to ensure safety standards for both drivers (who need to receive proper training) and vehicles (which must be inspected on a regular basis); (iii) financial responsibility standards (such as compulsory insurance); and (iv) the setting of maximum rates based on various methodologies.<sup>15</sup>

The regulation of taxi services created, however, a series of problems, such as for instance the insufficient availability of cars during peak hours or in certain areas (seen as less profitable by drivers). In many instances, efforts to prevent the oversupply of taxi services effectively led to an undersupply of such services leading to user discontent.<sup>16</sup> With the prices and quality standards set by public authorities, taxi regulations also did not incentivize taxi companies to innovate or provide superior quality of service. This led some countries or local authorities to de-

11 For an historical perspective, see Paul Stephen Dempsey, "Taxi Industry Regulation, Deregulation & Reregulation: The Paradox of Market Failure", (1996) 24 *Transportation Law Journal* 73.

12 See, e.g., House of Commons - Transport Committee, *The Regulation of Taxis and Private Hire Vehicle Services in the UK*, Third Report of Session 2003–04 Volume I, at p. 15, available at [www.publications.parliament.uk/pa/cm200304/cmselect/cmtran/251/251.pdf](http://www.publications.parliament.uk/pa/cm200304/cmselect/cmtran/251/251.pdf)

13 See Dempsey, *supra* note 11, at p. 77.

14 See "The Taxi Market in Ireland: To Regulate or Deregulate?", *Public Policy.IE*, 23 October 2014, available at <http://www.publicpolicy.ie/the-taxi-market-in-ireland-to-regulate-or-deregulate/>

15 Dempsey, *supra* note 11, at 75.

16 See "The Taxi Market in Ireland", *supra* note 14.



regulate taxi services.<sup>17</sup> While in most cases, the number of taxis increased, this did not necessarily translate into lower waiting time and cheaper services. In fact, some studies report that service performance often decreased following deregulation,<sup>18</sup> which led authorities to re-regulate the sector.<sup>19</sup>

A critically important aspect is that these deregulatory efforts did not lead to major innovation as new entrants essentially used the same business model as incumbents. Of course, these efforts occurred for the most part before the development of the peer-to-peer platforms, which, as observed in several industries (air travel, hospitality, etc.), are true game changers in that they are remarkably effective at matching the demand with the supply of services without the need for costly intermediaries. Thus, the fact that deregulation did not bring innovation in the past does not mean that it will not happen in the future.

### III. Uber's disruptive business model

Uber is a marketplace connecting drivers offering rides and passengers seeking them through its mobile application.<sup>20</sup> A prospective passenger who has downloaded the software on his smartphone and set up a user account can, when clicking on the application, see Uber drivers near his location and on that basis submit a trip request which is then routed to the drivers. The passenger is given an estimation on

how long his car will take to show up at his location. Uber charges are based on a combination of time and distance parameters and all payments are handled automatically by the Uber service, which will charge the passenger's business card on file. Once destination is reached, a receipt is sent automatically to the passenger's email address. On average 80% of the fares will go to the driver, the rest being kept by Uber.<sup>21</sup>

The strength of the Uber model is that it considerably reduces search costs for users.<sup>22</sup> Rather than calling a dispatcher and waiting without knowing for sure whether and when the taxi will show up, users can hail a car through Uber's online platform and watch it progress toward their location. During periods when available cars are scarce (e.g., Friday and Saturday nights), Uber can incentivize drivers to take the road by increasing their fees (a process referred to as "dynamic" or "surge" pricing).<sup>23</sup> Dynamic or surge pricing changes are "driven algorithmically when wait times are increasing dramatically, and 'unfulfilled requests' start to rise."<sup>24</sup> Prices increase will at same time increase supply as drivers will be incentivized to take the road to earn higher fees, but also reduce demand as price-sensitive users are incentivized to consider alternatives, such as take their car or public means of transport.

In sum, Uber's business model offers several advantages to users.<sup>25</sup> First, the software is extremely easy to use and it gives users a clear indication of where the car they have just hired is located, as well as the ability monitor its progress on the screen of its mobile devices. This reduces the anxiety associated with desperately

17 See supra note 14. Note that in France, the report of the so-called Commission Attali, which aimed to stimulate growth in France, also suggested that taxi regulations should be relaxed in order to facilitate entry. See Rapport de la Commission pour la libération de la croissance française, 2008, available at <http://www.ladocumentation-francaise.fr/var/storage/rapports-publics/084000041.pdf>, at 161.

18 See Dempsey, supra note 11, at 102 et seq.; Baanders and Canoy, supra note 1; Roger F. Teal and Mary Berglund, "The Impacts of Taxicab Deregulation in the USA", *Journal of Transportation Economics and Policy*, January 1987, 37.

19 Id.

20 See Bill Gurley, "A Deeper Look at Uber's Dynamic Pricing Model", *Above the Crowd*, available at <http://abovethecrowd.com/2014/03/11/a-deeper-look-at-ubers-dynamic-pricing-model/>

21 Id.

22 See "Pricing the Surge", *The Economist*, 29 March 2014.

23 See Gurley, supra note 20.

24 Id.

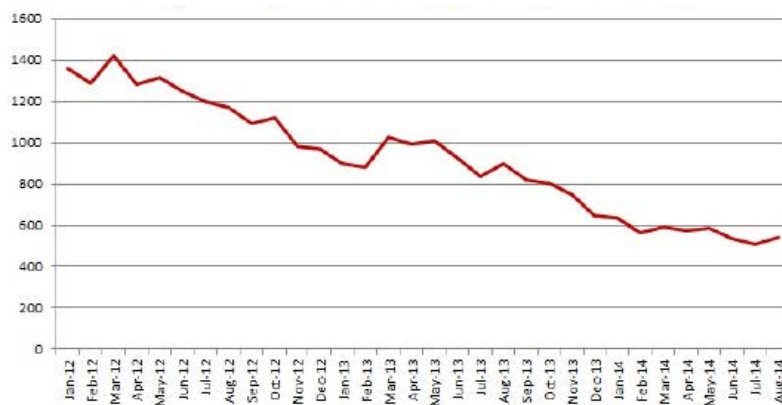
25 It is important to note that some of these features are not unique to Uber. Other companies like for instance Hailo also offer software that allow users to hail cars through an online platform. See infra footnote 41.

waiting for a taxi. Second, surveys suggest that compared to regular taxi services, Uber prices tend to be attractive.<sup>26</sup> Third, there is no need for users to carry cash or cards as all transactions are performed electronically. Finally, users can rate their driver and thus incentivize the driver to provide good service in order to boost his or her reputational score.

Because of its attractive features, Uber's entry on a given market is usually bad news for taxi companies and their drivers. For instance, the chart below indicates that during the period between January 2012 and August 2014, cab use in San Francisco declined 65%.<sup>27</sup>

**Figure : Average monthly number of trips per cab (San Francisco)**

This has led taxi drivers to vigorously protest against Uber's effort to penetrate their market, as well as taxi companies to challenge the legality of Uber's activities before the courts. In recent months, several national courts declared



Taxis and Accessible Services Division report by SF Municipal Transportation Agency, 2014

that Uber services are illegal on various grounds

(such as, for instance, the fact that Uber drivers operate without a license and that Uber engages in "unfair competition").<sup>28</sup> As a result, Uber is no longer able to provide services in some EU Member States and operates in a "grey zone" in many others. This is far from ideal for Uber and the passengers who would like to use its services.

The question for Uber is of course to find out what it can do to restore its ability to provide its service unimpeded by regulatory restrictions. As will be seen in the next section, EU law may provide some solutions.

#### IV. Could public restrictions preventing Uber to compete be challenged under EU law?

Although Uber has announced that it has filed a complaint to the Commission against the German and Spanish bans of its services,<sup>29</sup> it has not revealed the legal arguments on which it relies in its complaint. *Prima facie*, the EU treaties contained several provisions that can be invoked by companies whose activities are impeded by public restrictions of competition. Whether these provisions can be relied upon to challenge these restrictions, however, depends on the circumstances of each case since the regulatory frameworks applicable to taxi services can vary considerably.

A first possibility for Uber would be to invoke Articles 101 and 102 TFEU with Article 4(3) TEU,<sup>30</sup> which provides for a

<sup>26</sup> See supra note 3.

<sup>27</sup> See Sergiy Golovin, "The Economics of Uber", Bruegel, September 2014, available at <http://www.bruegel.org/nc/blog/detail/article/1445-the-economics-of-uber/>

<sup>28</sup> See supra notes 6 to 9.

<sup>29</sup> See Julia Fioretti, "Uber files complaints against German and Spanish bans", *Reuters*, 1 April 2015, available at [www.reuters.com/article/2015/04/01/uber-eu-complaint-idUSL6N0WY2TP20150401](http://www.reuters.com/article/2015/04/01/uber-eu-complaint-idUSL6N0WY2TP20150401)

<sup>30</sup> The duty of "sincere cooperation" set out in Article 4(3)

duty of loyal cooperation between the EU and the Member States.<sup>31</sup> In its case-law, the Court of Justice of the European Union ("CJEU") has found that a Member State could breach its obligations under these provisions by adopting or maintaining legislation that could deprive the competition rules of their effectiveness.<sup>32</sup> The application of this case-law, however, requires the existence of an agreement contrary to Article 101(1) TFEU, which will be strengthened or encouraged by the legislation in the Member State.<sup>33</sup> In some cases, the CJEU also found that Article 101 TFEU and Article 4(3) TEU were breached when the Member State had delegated the power to fix prices to operators.<sup>34</sup> In practice, this means that a pure regulatory measure adopted by a public authority, i.e. a decree regulating taxi services, cannot be challenged under these provisions unless this decree transforms an anti-competitive agreement adopted by taxi operators into binding law or, alternatively, delegates to taxi operators the power to set taxi fares or impose other regulatory requirements.

Another possibility consists in invoking Articles 101 and 102 TFEU in conjunction with Article 106 TFEU. Article 106(1) TFEU provides that

"In the case of public undertakings and undertakings to which Member States grant special or exclusive rights, Member States shall nei-

ther enact nor maintain in force any measure contrary to the rules contained in the Treaties, in particular to those rules provided for in Article 18 and Articles 101 to 109."

While there is an abundant case-law of the CJEU in which Article 102 TFEU is combined with Article 106(1) TFEU, the difficulty in this case is that the application of Article 106(1) requires that the State measure in question, e.g. a decree regulating taxi services, should benefit companies which have been granted exclusive or special rights. While it cannot be excluded that a taxi company could have been granted an exclusive right to provide the service in a given location, in the majority of the cases, the right to provide such services is granted to the limited number of companies or drivers that are allowed to acquire a license. The question is thus whether the licenses granted would amount to "special rights" as understood in EU law.<sup>35</sup> While there is no clear definition of the notion of special rights (as the case law typically lumps together this notion with the notion exclusive rights by referring to "exclusive or special rights"), it can be inferred from EU legislation that "special rights" concerns rights that are granted by a Member State to two or more undertakings within a given geographical area.<sup>36</sup> Moreover, given the combination with Article 102 TFEU, the State measure in question must maintain or strengthen a dominant position. Thus, even if the taxi companies can be considered as enjoying exclusive or special rights, they still need to exercise a "single" or "collective" dominant position, which is by no means a given.

A further possibility is to argue that the taxi legislation in question breaches the free movement provisions of the TFEU, such as Articles 49 (right to establishment) or 56 (freedom to provide services). As the CJEU observed "Articles [49 and 56 TFEU] preclude any national measure which, even though it is applicable without dis-

TEU requires Member States to take appropriate measures to "ensure fulfillment of the obligations arising out of the Treaties or resulting from the acts of the institutions of the Union" as well as to "refrain from any measure which could jeopardise the attainment of the Union's objectives".

31 In theory nothing prevents to combine Article 102 TFEU with Article 4(3) TEU, but this provision has been essentially applied in the context of Article 101 TFEU. As will be seen below, State measures raising issues in relation to abuses of a dominant position have usually arisen in the context of Article 106(1) TFEU.

32 See Case 13/77, *Inno v. ATAB*, [1977] ECR. 2115.

33 See, e.g., Case 231/83, *Cullet v. Leclerc*, [1985] ECR. 305 (challenge to a fixed minimum price failed because the minimum price was a pure State measure unrelated to any agreement between competitors).

34 See, e.g., Case 136/86, *BNIC v. Yves Aubert*, [1987] ECR. 4789; Case 66/86, *Ahmed Saeed*, [1989] E.C.R. 803.

35 Article 1(4) of Directive 2008/63

36 See, e.g., Article 1.4 of Directive 2008/63 on competition in the markets in telecommunications terminal equipment, O.J. 2008, L 162/20.

crimination on grounds of nationality, is liable to prohibit, impede or render less attractive the exercise by Community nationals of the freedom of establishment and the freedom to provide services guaranteed by those provisions of the Treaty.”<sup>37</sup> It should thus be possible to argue that taxi regulations making very hard for companies based in other Member States to provide their services could fall foul with Articles 49 and/or 56 TFEU. Restrictions to the free movement principles contained in the TFEU are, however, permitted when “those provisions are necessary to meet overriding requirements of general public importance [...], whether they are proportionate for that purpose and whether the aims or overriding requirements could have been met by less restrictive means.”<sup>38</sup> The question thus becomes whether the restrictions that are contained in taxi regulations in question are necessary to meet overriding requirements of general public importance and whether they proportionate to achieve the objectives they seek to protect. This is of course an intensely factual assessment.

While the above approaches may help Uber and other online-enabled car transportation services to remove specific obstacles to the provision of their services, they do not create a framework allowing regular taxi services and online-enabled car transportation services to compete on a level playing field. In my view, allowing competition between regular taxi services and online-enabled services requires an overhauling of the various lawyers of taxi legislation in place in the Member States.

## V. The need for a regulatory solution

From a high-level standpoint, the most effective way to set up a pro-competition regulatory

framework might be for the EU to adopt a Directive setting up the principles that should govern the regulation of taxi services and online-enabled car transportation services, while leaving the implementation of such principles to the Member States. Such an approach would, however, be resisted on subsidiarity grounds as such services are likely to be seen as a local matter.<sup>39</sup> Moreover, the elaboration of a proposal by the Commission and its adoption by the Council of Ministers and the European Parliament would likely take several years to complete during which Uber and other similar services would continue to operate in a grey zone to the detriment of users. The better approach is thus for the national authorities in charge of regulating taxi services in the Member States to take the initiative and elaborate regulatory frameworks allowing taxi and online-enabled car transportation services to compete on a level playing field.

Conceptually, there are several alternative ways to create such a pro-competitive framework. First, regulatory authorities could create a single framework applying to both taxi services and online-enabled car transportation services. The advantage of such an approach is that it would ensure a high degree of convergence in the ways in which these services are regulated. Yet, this approach would face several difficulties. Because the services proposed by taxi companies and online-enabled car transportation services are currently so far apart, it may be difficult to find a regulatory regime suiting them both. While incumbent taxi companies may wish to ensure that Uber is forced to comply with the same regulatory requirements as applying to them, such an approach is a non-starter for Uber and other online-enabled car transportation services as it would eviscerate their business

<sup>37</sup> Case C-376/08, *Serrantoni Srl*, [2009] ECR. I-12169, at § 41.

<sup>38</sup> Joined cases C-34/95, 35/95 and 36/95, *De Agostini*, [1997] ECR I-3843, at § 52.

<sup>39</sup> “Given the essentially local significance of taxi services and in line with the principle of subsidiarity, existing Community legislation in the field of transport does not cover taxi services”, Answer given by Commissioner Tajani on behalf of the Commission to a Parliamentary Question, 22 June 2009, E-3230/2009

model. Ideally, taxi companies should realize that in the medium-term Uber's business model is likely to prevail and that it is therefore a matter of time before they will have to revisit their *modus operandi*. In the short-term, such an approach is, however, likely to be resisted because it would lead to job losses, as well as an acceptance by taxi companies that the business model they have so much decried is the right way to go.

The commercial triumph of online-enabled car transportation services is, however, only a matter of time because of its inherent efficiencies. This is also what investors seem to think.<sup>40</sup> Thus, unless local authorities decide to protect taxi companies through anti-competitive regulatory requirements, it will not take long before all market actors realize it is in their own benefit to start relying on online platforms. Some taxi companies already do so as alternatives to Uber's platform exist.<sup>41</sup> There might still be a role for traditional taxis waiting for passengers at cab stands, but traditional reservation models will likely go away. This type of evolution is by no means unique to the taxi industry as the power of the Internet and online reservation systems have already allowed consumers to largely do away with travel agents.<sup>42</sup> There is no reason why you would want to pay a fee to an intermediary when you can book a flight, hotel accommodation and a car as effectively. The difference, however, between many industries affected by the online platforms and the taxi industry is that the latter is protected by regulation, hence making the transition slow and difficult.<sup>43</sup>

40 See *supra* note 4.

41 Some taxi companies are, for instance, relying on Hailo, technology platform that matches taxi drivers and passengers through its mobile phone application. See <https://www.hailoapp.com/>

42 See Danny King, "Report finds agents losing ground to online", mobile bookings, 23 December 2014, available at [www.travelweekly.com/Travel-News/Travel-Agent-Issues/Report-finds-agents-losing-ground-to-online-and-mobile-bookings/](http://www.travelweekly.com/Travel-News/Travel-Agent-Issues/Report-finds-agents-losing-ground-to-online-and-mobile-bookings/)

43 Although companies, such as Airbnb are also facing regulatory changes, see Roberta A. Kaplan and Michael L. Nadler, "Airbnb:

In the meantime, the better approach is probably to set up a new regulatory regime specifically designed for online-enabled car transportation services.<sup>44</sup> The challenge for this regime will be to allow Uber and other similar companies to compete on the merits with regular taxi services. This means that this regime should be no less favorable than that the regime being applied to regular taxi services. After all, in all regulated industries, new entrants are subject to a lighter regular burden than incumbents.<sup>45</sup> While there is perhaps no reason why Uber should benefit from a more favorable regime than taxi services, there is no reason either why it should be penalized for offering an attractive alternative to these services and create competition in a rather amorphous sector. What equal treatment means is difficult to determine in the abstract as it largely depends of the local circumstances, but it should be one of the guiding principles of the regime that applies to online-enabled car transportation services.

A Case Study in Occupancy Regulation and Taxation", 82 (2015) U Chi L Rev Dialogue 103, <https://lawreview.uchicago.edu/page/airbnb-case-study-occupancy-regulation-and-taxation>

44 This is, for instance, what has been done in California where the California Public Utilities Commission (CPUC) created a specific regime to apply to "companies that provide prearranged transportation services for compensation using an online-enabled application (app) or platform to connect passengers with drivers using their personal vehicles". See CPUC Establishes Rules for Transportation Network Companies, Press Release, 19 September 2013, available at <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M077/K132/77132276.PDF> This regime establishes 28 rules and regulations for Transportation Network Companies whereby they must obtain a license from the CPUC to operate in California; require each driver to undergo a criminal background check; establish a driver training program; implement a zero-tolerance policy on drugs and alcohol; hold a commercial liability insurance policy that is more stringent than the CPUC's current requirement for limousines, requiring a minimum of \$1 million per-incident coverage for incidents involving TNC vehicles and drivers in transit to or during a TNC trip, regardless of whether personal insurance allows for coverage; and conduct a 19-point car inspection. *Id.*

45 That is, for instance, the case in the electronic communications field where only companies with significant market power (typically the incumbent telecommunications operator) are subject to regulatory remedies. See European Commission, Regulatory framework for electronic communications in the European Union, available at <https://ec.europa.eu/digital-agenda/sites/digital-agenda/files/Copy%20of%20Regulatory%20Framework%20for%20Electronic%20Communications%202013%20NO%20CROPS.pdf>



*Prima facie*, some regulatory requirements should be equally imposed to taxi drivers and operators, and to Uber and its drivers. That is, for instance, the case of safety standards. There is no reason why Uber cars should escape the safety controls that apply to taxi vehicles. Similarly, Uber drivers should not be less qualified or trained than taxi drivers, and they should be subject to background checks. There may also be some areas where online-enabled car transportation services should be subject to regulatory requirements that do not necessarily apply to taxi services. One example relate to the usage of personal data. Uber is able to collect sensitive information about its passengers, such as their locations at various moments in time. They also collect financial information, such as credit card details, etc. It is, however, not clear that Uber and other online-enabled car transportation services should be subject to specific regulation regarding the storage and treatment of their passengers' personal and financial data as "horizontal" legislation typically exists preventing holders of such data to misuse them.<sup>46</sup>

Now, if a specific regime is created for online-enabled car transportation services, it is subject to question whether taxi regulations should also be modified. Does it, for instance, make sense to continue to control taxi fares when they are subject to competition from Uber and other similar companies? This is a particularly difficult question, although one answer may be to maintain price regulation until such time online-enabled car transportation services have captured a certain size of the market (assuming that there are in the same market as taxi services, which is a complex question I do not address here) and are thus able to exercise sufficient pressure to keep taxi rates at bay.

Another complex question in this respect is

<sup>46</sup> See, e.g., Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, 1995 OJ L281/31.

whether incumbent taxi operators and/or drivers should be compensated for the investment they may have made in acquiring a license to operate taxi services. This question may be particularly acute in cities where such licenses (or medallions as they are called in some places) trade at very high prices.<sup>47</sup> Giving the right answer to this question is not necessarily easy, although pioneering work has been done on this type of issue.<sup>48</sup> On the one hand, offering compensation may facilitate regulatory change as it will make change easier to accept for the likely losers. On the other hand, granting compensation to taxi drivers or operators that have invested in acquiring a license may create a host of problems. First, compensation may not be deserved when the investment has been fully amortized. Second, compensation creates a problem of valuation.<sup>49</sup> Calculating the amount to which a driver should be allowed will not be simple and alleged calculation errors will lead to litigation. Third, the prospect of obtaining compensation in case of change of regulatory regime may incentivize operators in a variety of fields to try to obtain exclusive or special rights from public authorities, hence reducing competition.<sup>50</sup> Finally, as the taxi industry is not the only sector that is sheltered from competition by regulation, liberalizing the economy may become a very expensive proposition that may induce local authorities to not engage in desirable reforms. It thus seems on balance that there are more reasons not to grant compensation to taxi drivers or operators than to grant them compensation for the investment losses that may

<sup>47</sup> See Josh Barro, New York City Taxi Medallion Prices Keep Falling, Now Down About 25 Percent, *The Upshot*, New York Times, 7 January 2015.

<sup>48</sup> For an excellent discussion of the question of compensation, see Michael J. Trebilcock, *Dealing with Losers – The Political Economy of Policy Transitions*, Oxford University Press, 2014.

<sup>49</sup> See Edmund W. Kitch, "Can we Buy our Way out of Harmful Regulation?" in Donald L. Martin and Warren F. Schwartz, *Deregulating American Industry: Legal and Economic Problems*, Lexington Books, 1976, 51, 54.

<sup>50</sup> *Id.* at 52.

incur when Uber and other companies are allowed to operate legally.

Another possible approach to address the investment issue is to open the market to online-enabled car transportation services only gradually, hence giving taxi companies the time to adapt to the arrival of Uber and other companies providing similar services. That is the approach that has been taken by the EU when it decided to liberalize network industries, such as telecommunications, energy and posts. One of the reasons for this gradual approach is that it was a political compromise between pro-liberalization Member States and anti-liberalization ones. The need to broker such a compromise would of course not be needed if the decision to open the market to online-enabled car transportation services is taken at a local level. Moreover, the problem with gradual liberalization in this case is that it would unavoidably delay the benefits of competition by several years at the expense of consumers. In any event, opening the market in this case would be nowhere as near complicated in legal and institutional terms than opening the market in network industries, which for instance required the setting-up of access to the network regimes and the adoption of measures designed to protect universal service.

These are some of the difficult questions that will face local authorities seeking to develop a regulatory regime allowing online-enabled car transportation services to operate legally.

## **VI. Conclusion**

While Uber has been subject to a great deal of criticism, there is no doubt that it offers an attractive alternative to regular taxi services. There is therefore no reason why Uber and other online-enabled car transportation services to connect passengers with drivers should not

be allowed to compete on a level playing field with taxi companies. Because taxi companies are protected by regulation, it is for public authorities to take the initiative. These authorities have two options. One option is to resist Uber's market entry and face many years of litigation, which will eventually result in Uber being able to operate legally. The other, preferable, option is to embrace technological change and adopt a regulatory framework allowing Uber and other similar companies to compete. This does not mean that Uber should be allowed to operate free of regulation. For instance, passenger safety should remain a priority. As to the taxi companies, they do not need to remain passive bystanders waiting for their market share to be lost to Uber and other similar companies. They can also embrace change by, for instance, relying on other existing online platforms.

# Online Intermediation Platforms and Free Trade Principles – Some Reflections on the *Uber* Preliminary Ruling Case

Damien Geradin\*

## Abstract

Commercial Court No 3 of Barcelona sent a request for a preliminary ruling to the CJEU regarding the extent to which Uber which operated its uberPOP service in Spain without an authorization from the Spanish authorities should be protected by EU law provisions designed to ensure the free movement of services in the European Union. The paper demonstrates that uberPOP is not a “transport service” falling under Title VI TFEU, but an “information society service” within the meaning of the E-commerce Directive. Therefore, uberPop benefits from the protection against undue trade restrictions provided by this directive, as well as by Article 56 TFEU. This implies that regulatory requirements that do not protect a public interest objective in a proportionate and non-discriminatory manner are incompatible with EU law. The judgment of the CJEU will have significant implications on the way EU Member States are able to regulate Uber services, but also the services provided by other intermediation platforms in the future.

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## I. Introduction

On 7 August 2015, the Commercial Court No 3 of Barcelona (the “referring Court”) sent a request for a preliminary ruling to the Court of Justice of the European Union (the “CJEU”) regarding the extent to which Uber Systems Spain, S.L., which operated its services in Barcelona, as well as in Madrid and Valencia, without authorization from the Spanish authorities, should be protected by EU law provisions designed to ensure the free movement of services in the European Union (“EU”).<sup>1</sup> While the CJEU is unlikely to render its judgment before the end of 2017, the questions raised by the Barcelona Court are of great practical importance as the answers that will be given to them are likely to shape the ways in which Uber, but also other intermediation platforms, will be regulated in the European Union.

Uber is a marketplace connecting drivers offering rides and passengers seeking them through its mobile software application.<sup>2</sup> A prospective passenger who has downloaded the Uber software on his smartphone and set up a user account can, when clicking on the application, see Uber partner-drivers near his location and on that basis submit a trip request which is then routed to the partner-drivers. The passenger is given an estimate of how long the driver who has picked up the ride will take to show up at his location. Uber's charges are based on a combination of time and distance parameters and all payments are facilitated by Uber. Once destination is reached, a receipt is sent automatically to the passenger's email address. On average 80% of the fares will go to the driver, the balance representing the commission

1 Case C-434/15: Request for a preliminary ruling from the Juzgado Mercantil No 3 de Barcelona (Spain) lodged on 7 August 2015 — *Asociación Profesional Élite Taxi v Uber Systems Spain, S.L.*, OJ 2015, C 363/21.

2 See generally, Damien Geradin, “Should Uber be Allowed to Compete in Europe? And if so How?”, *Competition Policy International*, 18 June 2015, available at <https://www.competitionpolicyinternational.com/should-uber-be-allowed-to-compete-in-europe-and-if-so-how/>

charged by Uber. Uber offers various categories of services, such as uberPOP (relying on drivers not professionally licensed) and UberX (relying on professionally licensed drivers).<sup>3</sup>

Although Uber's business model is distinct from traditional taxi companies, these companies see Uber as a major threat, and individual taxi companies and taxi associations have filed lawsuits against Uber in several EU Member States on the ground that, because it does not comply with the license obligations imposed on taxi companies, Uber would engage in "unfair competition".<sup>4</sup> This is one of such cases, where a trade association called Asociación Profesional Élite sued Uber, which led to the preliminary ruling to the CJEU. This case opposes two distinct logics. On the one hand, taxi companies see no reason why Uber should be exempted from the licensing requirements imposed on them by public authorities. On the other hand, Uber considers that unlike taxi companies it does not provide transport services, but online intermediation services connecting prospective passengers with drivers.<sup>5</sup> Uber's view is that because of the nature of its services, it should not have to comply with the same requirements as taxi companies as these requirements go beyond what is needed to correct market failures, and do not support innovation and consumer choice.<sup>6</sup>

Using the questions asked by the Barcelona Court to the CJEU as a departing point, the objective of this paper is to help clarifying the nature of the services provided by Uber, i.e. whether Uber's services are transport services or intermediation services, as well as the regulatory

implications of this distinction. An issue at the core of the questions asked by the Barcelona Court is the extent to which Uber should benefit from the free movement provisions contained in the so-called "Services" and/or the "E-Commerce" directives, as well as the free movement provisions of the Treaty on the Functioning of the European Union ("TFEU"). In this paper, I volunteer some observations that should ideally assist the CJEU in its analysis of these questions, as well as provide a broader perspective on the regulatory challenges created by online intermediation platforms.

The issues discussed in this paper are not only relevant to Uber, but also to other online intermediation platforms, such as Airbnb. It is, for instance, hotly debated whether Airbnb should be allowed to escape the regulatory obligations imposed on hotels, such as for instance safety rules and zoning requirements, as well as various taxes.<sup>7</sup> However, the regulatory requirements applied to industries that are vulnerable to challenges by online platforms contain measures designed to protect incumbents, hence creating barriers to entry. The extent to which these requirements are compatible with the free movement principles contained in the Treaty on the TFEU is thus an important question.

This paper is divided in six parts. Part II describes Uber's activities in Europe, as well as the way in which its smartphone software application functions. Part III discusses the Spanish lawsuit, which led to the request for a preliminary ruling by the Commercial Court No 3 of Barcelona. Part IV analyses the various legal issues raised by the referring court and, in particular, whether uberPOP is a "transport service" or an "information society service". Part V outlines the implications that the answers given by the CJEU to the questions raised by the referring court will have beyond Uber's activities. Finally, Part VI concludes.

3 With variation from country to country, Uber offers a variety of other services, such as for instance uberPOOL (a car pooling service), uberRUSH (a courier package delivering service) or even uberBOAT (a boat service across the Bosphorus).

4 See, e.g., Alissa J. Rubin and Mark Scott, "Clashes Erupt Across France as Taxi Drivers Protest Uber", *New York Times*, 25 June 2015, available at [www.nytimes.com/2015/06/26/business/international/uber-protests-france.html?\\_r=0](http://www.nytimes.com/2015/06/26/business/international/uber-protests-france.html?_r=0)

5 See, e.g., Christine Lagorio-Chafkin, "Uber Advisor David Plouffe: We're 'Not Driven by Greed'", *Inc.*, 3 November 2015, available at [www.inc.com/christine-lagorio/uber-david-plouffe-gig-economy-greed.html](http://www.inc.com/christine-lagorio/uber-david-plouffe-gig-economy-greed.html)

6 *Id.*

7 Ron Lieber, A Warning for Hosts of Airbnb Travelers, *New York Times*, 30 November 2012, available at [www.nytimes.com/2012/12/01/your-money/a-warning-for-airbnb-hosts-who-may-be-breaking-the-law.html?\\_r=0](http://www.nytimes.com/2012/12/01/your-money/a-warning-for-airbnb-hosts-who-may-be-breaking-the-law.html?_r=0)

In my view, uberPOP is not a “transport service”, but an “information society service”. Therefore, it falls within the scope of Directives 2006/123 and 2000/31, as well as under Article 49 and 56 TFEU. This does not mean that Uber’s activities cannot be regulated, but that regulation should be limited to protecting objectives of public interest and they should be proportionate to the accomplishment of these objectives. In other words, licensing requirements and other rules that may apply to Uber’s activities and other similar companies should be limited to what is necessary to correct market failures. Measures that have the object or effect to restrict entry should be struck down unless they can be objectively justified.

## II. Uber’s activities in Europe

Since its creation in 2009, Uber Technologies (“Uber”) has developed a large worldwide presence, including in the European Union. As of January 2016, Uber was active in over 20 Member States and 50 European cities.<sup>8</sup>

Uber has created a smartphone application that allows it to provide a range of services. In the EU, the two main services provided by Uber are: (i) uberPOP, which Uber refers to as a “peer-to-peer rideshare service” which enables a rider to “share” the use of a vehicle with the driver and owner of that vehicle (which Uber refers to as “partner-drivers”) against the payment of a fee; and (ii) uberX, which is a professional transportation service provided by licensed “private hire vehicle” (“PHV”) drivers operating licensed private hire vehicles.<sup>9</sup> Thus, a key difference between these services is that while uberX drivers are professional drivers who need to satisfy the conditions applicable to licensed PHV drivers, uberPOP drivers are non-professional

drivers, who have to satisfy a number of conditions set by Uber regarding their credentials and car, such as the ownership of a driving licence, a clean criminal record, proof of insurance for the car, certificate of third party liability insurance, etc.<sup>10</sup>

The services which form the basis of the preliminary ruling discussed in this paper, are provided by means of a smartphone application, licensed by Uber BV to end user licensees located in Spain, i.e. it is downloaded and installed both by drivers and riders. This application licensed by Uber BV, a company located in the Netherlands, performs a variety of intermediation functions, such as matching potential riders with drivers, calculating the price to be paid by the rider to the driver, facilitating the payment transaction of the service between the rider and the driver, allowing drivers and riders to rate each other through a one-to-five stars system, etc. Uber does not employ drivers (they are self-employed) and does not own any cars (they are owned by the drivers). It is a software firm.

Uber’s software application is a source of considerable efficiencies, which has contributed to its success among users and investors.<sup>11</sup> However, Uber has a large number of enemies in the taxi industry. The arrival of Uber in Europe has triggered massive protest from taxi drivers and companies on the ground that Uber does not comply with the licensing and other requirements that apply to them and therefore engages in “unfair competition”.<sup>12</sup> This led taxi companies to file lawsuits in the national courts and uberPop has been banned in Member

<sup>8</sup> See <https://www.uber.com/cities> (last visited on 14 January 2016)

<sup>9</sup> Uber has developed additional services, such as, for instance, UberEATS, a service which allows a customer to order food from a restaurant and have it home delivered.

<sup>10</sup> See <http://www.uberkit.net/blog/uberx/>

<sup>11</sup> Sarah Mishkin, “Uber raises \$1.6bn from Goldman clients”, *Financial Times*, 21 January 2015 (indicating that Uber had a \$40bn valuation”)

<sup>12</sup> See Matthew Field, “‘Uber protest’ by black cab drivers brings traffic chaos to Westminster”, *The Guardian*, 26 May 2015.



States, such as Belgium,<sup>13</sup> Germany,<sup>14</sup> Italy<sup>15</sup> and Spain.<sup>16</sup> Although some public authorities are considering changes to the applicable regulatory framework in order to accommodate Uber and similar companies,<sup>17</sup> the situation remains largely chaotic.

### III. The lawsuit leading to the preliminary ruling

In 2014, Uber BV started providing its uberPOP service in Spain in the cities of Barcelona, Madrid and Valencia. Based on the EU free movement legislation on information society services, Uber BV (or any of its related entities) did not request any prior authorization to the competent Spanish authorities before initiating its activities in Spain.

On 27 October 2014, Asociación Profesional Elite Taxi, a trade association, filed a lawsuit against Uber Systems Spain on the ground that its uberPOP service allegedly breached Spanish Act 3/1991 on Unfair Competition ("Unfair Competition Act").<sup>18</sup> Specifically, the plaintiff request-

ed the Commercial Court nº 3 of Barcelona to declare that Uber Systems Spain had infringed Article 5 (covering misleading practices that can lead to a significant distortion of the economic behaviour of the consumer) and Article 15(2) (declaring unfair non-compliance with a provision regulating competitive activity) of the Unfair Competition Act.<sup>19</sup>

The issue at the core of this case relates to whether Uber's services can benefit from the free movement provisions included in the TFEU, and in particular Article 49 (free establishment) and 56 (free movement of services), but also from the guarantees included in:

- Directive 2006/123/EC of the European Parliament and of the Council of 12 December 2006 on services in the internal market (the "Services Directive"),<sup>20</sup> Article 9(1) of which provides that Member States should not make access to a service activity or its exercise "subject to an authorization scheme unless the following conditions are satisfied: (a) The authorization scheme does not discriminate against the provider in question; (b) The need for an authorization scheme is justified by an overriding reason relating to the public interest; (c) The objective pursued cannot be attained by means of a less restrictive measure, in particular because an a posteriori inspection would take place too late to be genuinely effective."
- Directive 2000/31/EC of the European Parliament and of the Council of 8 June 2000

13 James Fontanella-Khan, "€10,000 fines threat for Uber taxis in Brussels", *Financial Times*, 15 April 2015.

14 Eric Auchard and Christoph Steitz, "German court bans Uber's unlicensed taxi services", *Reuters*, 18 March 2015, available at [www.reuters.com/article/2015/03/18/us-uber-germany-ban-idUSKBN0ME1L820150318](http://www.reuters.com/article/2015/03/18/us-uber-germany-ban-idUSKBN0ME1L820150318)

15 "Italian court bans unlicensed taxi services like Uber", *Reuters*, 26 May 2015, available at [www.reuters.com/article/2015/05/26/us-italy-uber-idUSKBN0OB1FQ20150526](http://www.reuters.com/article/2015/05/26/us-italy-uber-idUSKBN0OB1FQ20150526)

16 Harriett Alexander, "Judge in Spain bans Uber taxis", *The Telegraph*, 9 December 2014.

17 Frances Robinson, "Brussels to Propose New Laws Governing Uber", 24 November 2014, available at [blogs.wsj.com/digits/2014/11/24/brussels-to-propose-new-laws-governing-uber/](http://blogs.wsj.com/digits/2014/11/24/brussels-to-propose-new-laws-governing-uber/)

18 In parallel, a similar lawsuit had been filed by the Asociación Madrileña del Taxi before the Commercial Court nº 2 of Madrid. On 9 December 2014, this Commercial Court adopted *inaudita parte* a preliminary injunction with an order to Uber Technologies Inc. to cease operations in the whole territory of Spain. The injunction also ordered local telecommunications and payments operators to block traffic and transactions with [www.uber.com](http://www.uber.com) and to Uber software application. Uber BV complied with the order and suspended its electronic intermediation of uberPOP in Spain. See "Uber taxi app suspended

ed in Spain", *BBC News*, 9 December 2014, available at [www.bbc.com/news/business-30395093](http://www.bbc.com/news/business-30395093)

19 It is important to note that Uber Systems Spain only provides marketing and support services to Uber BV and its related entities. It does not operate or license the software application service. Therefore, Uber Systems Spain, S.L. has argued in the Spanish national litigation that the subject-matter of the main proceedings – namely the qualification of the service provided by the Uber company – pertains to Uber BV's activity not that of Uber Systems Spain.

20 O.J. 2006, L 376/36.

on certain legal aspects of information society services, in particular electronic commerce in the Internal Market ("E-commerce Directive"),<sup>21</sup> Article 3.2 of which provides that Member States may not restrict the freedom to provide information society services from another Member State. Pursuant to Article 3.4, Member States may only adopt measures derogating from the freedom to provide information society services if such measures are: (i) necessary for reasons of public policy, the protection of public health, public security, the protection of consumers; (ii) taken against a given information society service which prejudices the objectives referred to in point (i) or which presents a serious and grave risk of prejudice to those objectives; (iii) proportionate to those objectives.

Whether or not uberPOP can benefit from these guarantees depends on how this service is defined and, in particular, whether it can qualify as an "information society service" which is "any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services" as per Article 1.2 of Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations as amended by Directive 98/48/EC.<sup>22</sup>

Against that background the referring Court suspended its proceedings and decided to address four questions for preliminary ruling to the CJEU (which I streamline a bit for reason of space):

1. Inasmuch as Article 2(2)(d) of Directive 2006/123/EC ... excludes transport activities from the scope of that directive, must the

activity carried out for profit by the defendant, consisting of acting as an intermediary between the owner of a vehicle and a person who needs to make a journey within a city, by managing the IT resources ... which enable them to connect with one another, be considered to be merely a transport service or must it be considered to be an electronic intermediary service or an information society service, as defined by Article 1(2) of Directive 98/34/EC ... laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services?

2. Within the identification of the legal nature of that activity, can it be considered to be ... in part an information society service, and, if so, ought the electronic intermediary service to benefit from the principle of freedom to provide services as guaranteed in the Community legislation — Article 56 TFEU and Directives 2006/123/EC and ... 2000/31/EC?
3. If the service provided by UBER SYSTEMS SPAIN, S.L. were not to be considered to be a transport service and were therefore considered to fall within the cases covered by Directive 2006/123, the question arising is whether Article 15 of the Law on Unfair competition ... is contrary to Directive 2006/123, specifically Article 9 on freedom of establishment and authorisation schemes, when the reference to national laws or legal provisions is made without taking into account the fact that the scheme for obtaining licences, authorisations and permits may not be in any way restrictive or disproportionate, that is, it may not unreasonably impede the principle of freedom of establishment.
4. If it is confirmed that Directive 2000/31/EC is applicable to the service provided by UBER SYSTEMS SPAIN, S.L., the question arising

21 O.J. 2000, L 178/1.

22 Directive 98/48/EC of the European Parliament and of the Council of 20 July 1998 amending Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations, O.J.1998, L 217/18.

ing is whether restrictions in one Member State [regarding] the freedom to provide the electronic intermediary service from another Member State, in the form of making the service subject to an authorisation or a licence, or in the form of an injunction prohibiting provision of the electronic intermediary service based on the application of the national legislation on unfair competition, are valid measures that constitute derogations from paragraph 2 in accordance with Article 3(4) of Directive 2000/31/EC.<sup>23</sup>

These questions are not free of ambiguities. First, it is not clear what the referring court understands by a situation where uberPOP could be “in part” an information society service. Second, I assume that in question 3, the issue is not whether Article 15 of the Spanish Unfair Competition Act breaches Directive 2006/123, but whether its *application* in the case at hand violates Directive 2006/123. Moreover, as Article 15 considers as “unfair” a firm’s non-compliance with a provision regulating a competitive activity, question 3 seems to presume that uberPOP breaches Spanish legislation, which is not necessarily a given if it is not a “transport service”, as I will argue below. Third, while questions 3 and 4 refer to the services provided by Uber Systems Spain, uberPOP is provided by Uber BV, Uber Systems Spain’s activities being limited to marketing and support. The fact that the Uber company the court has effectively in mind is Uber BV (based in the Netherlands) rather than Uber Systems Spain is confirmed by the following passage of question 4 whereby the question arising is “whether restrictions in one Member State [regarding] the freedom to provide electronic intermediary service from another Member State.” (emphasis added)

#### **IV. Analysis of the issues raised by the referring court**

The issues at the core of this case are (i) whether the uberPOP service should be characterized as a “transport service” or an “information society service” or both and (ii) the regulatory implications of this characterization.

In order to address these issues, this part is divided in four sections. Section A seeks to determine whether uberPOP should be characterized as a “transport service” or an “information society service” or both. Section B, C and D analyze the regulatory implications of the answers which can be given to the nature of Uber’s activities and, in particular, whether – depending on the answer given – these activities can be protected under Directives 2000/31 and/or 2006/123, and/or the free movement of services and the freedom of establishment rules contained in the TFEU.

##### **A. Is uberPOP a “transport service” or an “information society service” or both?**

Directive 2000/31 defines “information society services” as services within the meaning of Article 1(2) of Directive 98/34 as amended by Directive 98/48. In turn, Directive 98/34 defines such services as “any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services” and specifies that for the purposes of this definition: “‘at a distance’ means that the service is provided without the parties being simultaneously present; ‘by electronic means’ means that the service is sent initially and received at its destination by means of electronic equipment for the processing (including digital compression) and storage of data, and entirely transmitted, conveyed and received by wire, by radio, by optical means or by other electromagnetic means, and ‘at the individual request of a recipient of services’ means that the service is provided through the transmission of data on individual request.”

23

See *supra*, note 1.

There is little doubt that uberPOP meets the different elements required by Directive 98/34 to be defined as an information society service. First, uberPOP is provided “at a distance” since the service is provided without the driver and the rider being simultaneously present. Second, uberPOP is clearly provided “by electronic means”, i.e. a mobile software application. Third, uberPOP is provided “at the individual request of a recipient of services” in that Uber provides its services to both users and drivers, which request the service by connecting to the Uber platform. Finally, uberPOP is a “service normally provided for remuneration”. While Uber’s services are frequently referred to as “ride sharing”,<sup>24</sup> there is a clear pecuniary element to the transaction in that the driver expects a payment for transporting the rider.

In fact, Uber can be described as an online “market making” platform in that it connects producers (in this case drivers) with “consumers” (riders) and facilitates their interactions and exchanges. In other words, Uber does not create value by performing transport services, but by enabling direct interactions between two distinct categories of users. Like other platforms, such as eBay or Airbnb, Uber’s platform is also two-sided in that the two sides that the platforms connects (partner-drivers and riders) are linked by “indirect network effects” in that a large number of drivers benefits riders, and vice-versa.<sup>25</sup> Traditional taxi companies hold none of these features, although companies that limit their activities to dispatching services can also probably be considered as market-making platforms.

Another question is whether uberPOP should

be considered as a “transport service” and therefore be excluded from the scope of Directive 2006/123. Article 2(2)(d) of Directive 2006/123 provides that “[t]his Directive shall not apply to services in the field of transport, including port services, falling within the scope of Title V of the Treaty [now Title VI TFEU],” but it does not elaborate further on what a service “in the field of transport” within the scope of Title VI means. However, Recital 21 of Directive 2006/123 provides that “[t]ransport services, including urban transport, taxis and ambulances as well as port services, should be excluded from the scope of this Directive.”

Although such a conclusion may be tempting, recital 21’s reference to “taxis” does not necessarily mean that uberPOP should be considered as a transport service. As pointed out by Advocate General Wahl in its June 2015 Opinion in *Grupo Itevelesa*, when a service falls under Title VI TFEU neither the freedom to provide services (Article 58(1) TFEU) nor Directive 2006/123 (Article 2(2)(d) thereof) apply, hence the exercise of defining what constitutes a “service in the field of transport” must be carried out “with care”,<sup>26</sup> “especially in respect of services which are only incidental, ancillary or even tangentially connected to transport.”<sup>27</sup> In this respect, Advocate General Wahl observes that

“a ‘service in the field of transport’ must consist of or be inherently linked to the physical act of moving persons or goods from one place to another by means of a vehicle, aircraft or waterborne vessel. If the service in question does not mainly involve actual transport, then the mere fact that it can be linked in one way or another to transport does not, in itself mean that it ought to be characterised as such.” (empha-

24 See, e.g., Mark Harris, “Uber: why the world’s biggest ride-sharing company has no drivers”, *The Guardian*, 16 November 2015, available at <http://www.theguardian.com/technology/2015/nov/16/uber-worlds-biggest-ride-sharing-company-no-drivers>

25 See, “Everybody wants to Rule the World”, *The Economist*, 29 November 2014, available at [www.economist.com/news/briefing/21635077-online-businesses-can-grow-very-large-very-fast-what-makes-them-exciting-does-it-also-make](http://www.economist.com/news/briefing/21635077-online-businesses-can-grow-very-large-very-fast-what-makes-them-exciting-does-it-also-make)

26 Opinion of Advocate General Wahl delivered on 3 June 2015, Case C-168/14, *Grupo Itevelesa et al. v. OCA Inspección Técnica de Vehículos SA, Generalidad de Cataluña*, [2015] E.C.R. I-0000, at § 22.

27 *Id.*

sis added)<sup>28</sup>

In *Trijber*, Advocate General Spuznar followed a similar line of analysis.<sup>29</sup> In that case, which concerned the transportation of passengers by open sloop on the internal waterways of Amsterdam for entertainment purposes, he reflected on the applicability *rationae materiae* of Directive 2006/23. In this respect, he observed that “the meaning and scope of a term must be determined by considering its usual meaning in everyday language, while also taking into account the context in which it occurs and the purposes of the rules in which it is part.”<sup>30</sup> On that basis, he concluded that “where the main purpose of the activity is not the physical conveying of goods or people but others matters [...], one cannot speak of services in the field of transport.”<sup>31</sup>

The CJEU followed the approach proposed by Advocate General Spuznar in that it observed that while transport by inland waterway fell within Title VI TFEU, it does not mean that “any service consisting in the provision of transport by waterway must automatically be classified as ‘transport’ or ‘urban transport’ within the meaning of [Directive 2006/123]” as

“A service of that type could include, besides transport, one or more other elements that fall within a commercial sphere that the EU leg-

islature has included in the scope of Directive 2006/123. In those circumstances, it is necessary to consider what the main purpose of the service at issue is.”<sup>32</sup>

Seen under that light, I submit that the “main purpose” of uberPOP is not to provide a “transport service”, but an intermediation service connecting partner drivers with riders. First, unlike regular taxi services, Uber is not in the business of physically conveying people from point A to point B. Thus, while many people may consider that Uber provides transport services not unlike those offered by taxi companies in that “Uber cars” or “Uber taxis” (as they are sometimes referred to), there is no such thing as an Uber car let alone an Uber taxi. Thus, the fact that “taxis” are mentioned at recital 21 of Directive 2006/123 does not exclude Uber’s services from the scope of that Directive. The purpose of Uber’s service is not to “transport” passengers. Uber does not own cars and its “partner drivers” are independent contractors using their own vehicles. They connect to the Uber platform whenever they want for as long (or as short) a period of time as they want.

In fact, Uber’s services share many features with well-known online intermediation platforms, such as Airbnb or Booking.com. For instance, Uber facilitates the payment transaction of the service between the rider and the partner-driver like online booking websites typically provide an electronic means of payment to the people booking a room through their website. Another feature that Uber shares with online platforms is the ability for users to rate the quality of the service provided. Online ratings are indeed an essential element to ensure quality of service and ensure trust amongst users.<sup>33</sup> Finally, like oth-

28 *Id.* at § 28. Note, however, that in its judgment, the CJEU concluded that the service in question (the provision of roadworthiness tests) was a transport service. The CJEU observed in that the purpose of Directive 2009/40 on roadworthiness tests (as amended by Directive 2014/45) sought to guarantee road safety and “Directives 2009/40 and 2014/45 were adopted on the basis of Article 71 EC and Article 91 TFEU respectively, both of those provisions being included respectively in the EC Treaty and the TFEU under the Title ‘Transport’ and constituting the legal basis expressly authorizing the EU legislature to lay down ‘measures to improve transport safety.’”

29 Opinion of Advocate General Spuznar of 16 July 2015, Joined Cases C-340/14 and C-341/14, *R.L. Trijber and J. Harmsen*, 2015 [E.C.R.] I-0000.

30 *Id.* at § 30.

31 *Id.* at § 37.

32 Judgment of the Court of 1 October 2015, Joined Cases C-340/14 and C-341/14, *supra* note 29, at § 51.

33 James Cook, “Uber’s internal charts show how its driver-rating system actually works”, *Business Insider*, 11 February 2015, available at [uk.businessinsider.com/leaked-charts-show-how-ubers-driver-rating-system-works-2015-2](http://uk.businessinsider.com/leaked-charts-show-how-ubers-driver-rating-system-works-2015-2)



er online platforms Uber generates revenues by charging a commission to the service provider, which it connects to users.

In fact, the distinct advantage of online intermediation platforms is their ability to intermediate an extremely large number of transactions between users and providers with limited staff and physical assets through the use of software solutions. This is also the strength of Uber, which is able to intermediate millions of daily transactions with limited physical and human assets, precisely for the reason that it does not offer a transport service by operating cars and employing drivers. Should that be the case, Uber would be one of the world's largest employers and would own for billions of dollars of assets.

In light of the above considerations, I have no doubt that uberPOP is an information society and is not a transport service. Based on the information in my possession, it is the answer that I would give to question 1 raised by the referring court. Now, if the CJEU was to disagree and consider that uberPOP is a transport service, this would not leave this service without protection against regulatory interferences, but this protection would have to be based on the freedom of services (Article 56 TFEU). We explore this aspect below.

#### B. Regulatory implications of defining uberPOP as "information society service" and not a "transport service"

If, for the reasons discussed above, uberPOP is not a "transport service" within the scope of Title VI TFEU, but an "information society service" within the meaning of Directive 98/34, this means that uberPOP falls within the scope of both Directives 2000/31 and 2006/123, as well as Article 56 TFEU. In fact, both directives are based on the principles developed by the CJEU in its interpretation of Article 56 TFEU, and they

largely complement each other.<sup>34</sup>

The referring court unbundles this scenario into two separate questions, with question 3 taking as a starting point the situation where uberPOP is not a "transport service" and therefore falls under the scope of Directive 2006/123, whereas question 4 takes as a starting point the situation where uberPOP is an "information society" service and therefore falls under the scope of Directive 2000/31. I suppose that the reason for this approach is that it is not because a service is not a "transport service" falling under Title VI TFEU that it is necessarily an "information society service" within the meaning of Directive 98/34. For instance, a service that would intermediate drivers with passengers without charging a commission would neither be a "transport service" nor an "information society service".

Question 2 also raises a scenario where uberPOP would be "in part" an "information society service" and asks whether in that case uberPOP can benefit from the protection against regulatory interferences contained Article 56 TFEU, as well as Directives 2006/123 and 2000/31.

This Section is divided in four subsections. Subsection 1 discusses the scenario where uberPOP would be "in part" an "information society service". Then, subsections 2 and 3 respectively discuss the regulatory implications of the (non-mutually exclusive) scenarios where uberPOP is not a "transport" service and is an "information society" service. Finally, subsection 4 emphasises the point that even if Uber's services fall under the scope of Directive 2006/123 and/or Directive 2000/31, and/or Articles 49 and 56 TFEU it does not mean that they cannot be regulated by the Member States, but that regulation is subject to constraints.

#### 1. uberPOP is "in part" an "information society

<sup>34</sup> See Directive 2006/123, Recital 1; Directive 2000/31, Recital 1.

service”

As mentioned above, the difficulty here is that the referring court does not clearly describe the scenario it has in mind. One interpretation is that the court considers that uberPOP is a “transport service” within the scope of Title VI TFEU, but also an “information society service” within the meaning of Directive 98/34. Otherwise, it would not be easy to understand why uberPOP would only be “in part” an information society service. Another interpretation would be that the court considers that uberPOP is composed of two distinct services: (i) a transport service performed by a “partner driver” (who is driving his own car) and (ii) an intermediation service based on Uber’s software application and platform, which is “detachable” from the transport service provided by the driver. In my view, the latter interpretation is preferable because otherwise it would be hard to understand why the court’s question would refer *inter alia* to the applicability Article 56 TFEU and Directive 2006/123. If uberPOP was a transport service, this would automatically rule out the application of Article 56 TFEU and Directive 2006/123.

The legal consequences of the latter interpretation would be that the intermediation service provided by Uber would benefit from the principle of freedom to provide services as guaranteed in Article 56 TFEU, as well as in Directive 2006/123 and 2000/31. What this means in practice will be discussed in subsections 2 and 3 below. This latter interpretation might still create challenges for Uber, however, as its partner-drivers, who physically convey people from A to B and therefore provide a “transport service” within the meaning of Title VI TFEU, might be subject to the licensing obligations required under Spanish law. While that may not impede Uber’s uberX service, which relies on professionally licensed drivers, it might create obstacles to uberPOP, which relies on drivers who are not professionally licensed.

## 2. uberPOP is not a “transport” service

In this sub-Section, I analyse the scenario where uberPop is neither a transport service nor an information society service. In that scenario, uberPOP falls within the scope of Directive 2006/123 and can benefit from the free movement provisions it contains.

As we have seen, the claim made by Asociación Profesional Elite Taxi in the Barcelona court is that Uber breaches Article 15 of the Spanish Unfair Competition Act by operating its service without the necessary authorization, this raises the question – as asked by the referring court – of whether the abovementioned provision is compatible with Article 9 of Directive 2006/123. As we have seen, Article 9 provides that Member States shall not make access to a service activity or the exercise thereof subject to an authorization scheme unless : (i) the authorization scheme does not discriminate against the provider in question; (ii) the need for an authorization scheme is justified by an overriding reason relating to the public interest ; and (iii) the objective pursued cannot be attained by means of a less restrictive measure.

Article 15 of the Unfair Competition Act, which Uber has allegedly breached, considers as “unfair”, and thus objectionable, the non-compliance with a provision regulating competitive activity.<sup>35</sup> Article 15 does not contain any “substantive” regulatory requirements. Thus, it seems to me that the question that is effectively at stake is whether the fact of imposing the licensing requirements required for taxis or so-called private hire vehicles (“PHV”) in Spain on uberPOP is in breach with the requirements contained in Article 9 of Directive 2006/123. In my view, this question raises two distinct issues.

35 Ley 3/1991 de Competitio Desleal (Article 15): “Tendrá también la consideración de desleal la simple infracción de normas jurídicas que tengan por objeto la regulación de la actividad concurrencia”.

The first issue is whether the Spanish authorities can subject Uber's activities to licensing requirements without breaching Article 9 of Directive 2006/123. This issue triggers two observations. First, as in many other sectors, licensing requirements may be needed to ensure compliance with important issues of public interest, such as public safety and protection of the consumer. When justified by genuine public interest objectives, licensing requirements cannot in themselves breach Article 9 of Directive 2006/123 provided that these requirements are not discriminatory and the objective sought cannot be achieved in a less restrictive manner.<sup>36</sup> Second, it is subject to question whether the licensing requirements should be imposed on the platform (Uber) or on the drivers operating through the platform. The answer may depend on whether it is by licensing the platform or the driver that the objectives sought by the regulator are best protected.

The second issue is whether the licensing requirements required for taxis or PHVs meet the above test. This is a factual issue that I am not well placed to address, but I will nevertheless make the following observations.

First, while the licensing requirements imposed on taxis or PHVs often seek to address market failures, they may also contain measures restricting competition. This is particularly so when, as I understand is the case in Spain, the number of licenses is strictly limited. Historically, these limitations were justified by the need to prevent "ruinous" competition between taxis in situations where there were too many cars chasing too few passengers.<sup>37</sup> While one can seriously question whether it is the role of the State to regulate

supply and demand, the quotas sometimes imposed decades ago have not kept up with demand and many cities are currently undersupplied, particularly at certain times of the week/day.<sup>38</sup> In most cases, it is hard to see how they can be objectively justified.

Second, while licensing requirements represent a burden for the taxi industry, it now seems that the main objective of taxi companies is to maintain these requirements and use them as barriers to entry. As I have written elsewhere,<sup>39</sup> while licensing requirements may be needed to correct market failures, regulation should not be used to prevent Uber and other intermediation platforms to offer their innovative services to the benefit of consumers. As will be seen below, the CJEU has made it clear that the protection of incumbent operators cannot be seen as a legitimate public interest objective.

In sum, licensing requirements restricting the number of authorizations or imposing requirements that cannot be justified by market failures should be inherently suspect under Article 9 of Directive 2006/123 or, more generally, Article 56 TFEU.

For the sake of exhaustiveness, I note that if the CJEU was to decide that uberPOP is a transport service within the scope of Title VI TFEU, it would not mean that national authorities would be entirely free to regulate the service as they wish. As the CJEU made clear in the *Yellow Cab* case,<sup>40</sup> national legislation requiring that an authorization be obtained to operate a transport

<sup>36</sup> In this respect, it is interesting to note that Spanish law itself seems to provide for a particularly light-touch approach to intermediation services. The prior authorization regime for intermediation of passenger transport services has been abolished in Spain by Act 9/2003.

<sup>37</sup> See Paul Stephen Dempsey, "Taxi Industry Regulation, Deregulation & Reregulation: The Paradox of Market Failure", (1996) 24 *Transportation Law Journal* 73, at 77.

<sup>38</sup> "Pricing the surge", *The Economist*, 29 March 2014, available at [www.economist.com/news/finance-and-economics/21599766-microeconomics-ubers-attempt-revolutionise-taxi-markets-pricing-surge](http://www.economist.com/news/finance-and-economics/21599766-microeconomics-ubers-attempt-revolutionise-taxi-markets-pricing-surge)

<sup>39</sup> Benjamin G. Edelman and Damien Geradin, "Efficiencies and Regulatory Shortcuts: How Should We Regulate Companies like Airbnb and Uber?", forthcoming *Stanford Technology Law Review* (2016), current draft available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2658603](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2658603)

<sup>40</sup> Case C-338/09, *Yellow Cab Verkehrsbetriebs v. Landeshauptmann von Wien*, [2010] E.C.R. I- 13927.

service (in that case a transport bus service):

“constitutes, in principle, a restriction of freedom of establishment within the meaning of Article 49 TFEU, in that it seeks to restrict the number of services providers, notwithstanding the alleged absence of discrimination on grounds of nationality of the persons concerned. ... Consequently, it is necessary to examine whether the legislation at issue ... may be justified objectively.”<sup>41</sup>

Pursuant to the case-law of the CJEU, a legislation “applicable without discrimination on grounds of nationality, may be justified by overriding reasons of general interest, provided that it is appropriate for ensuring attainment of the objective pursued and does not go beyond what is necessary for attaining that objective”.<sup>42</sup> Thus, licensing requirements needed to ensure the protection of objectives such as car and passenger safety may be justified. The CJEU, however, observed in its *Yellow Cab* judgment that:

“[b]y contrast, the objective of ensuring the profitability of a competing bus service, as a reason of a purely economic nature, cannot, in accordance with settled case-law, constitute an overriding reason in the public interest justifying a restriction of a fundamental freedom guaranteed by the Treaty.”<sup>43</sup>

Thus, licensing requirements that cannot be justified by the need to correct a market failure, but on the contrary seek to protect the economic interests of incumbent operators are not objectively justified.

### 3. uberPOP is an “information society service”

For the reasons discussed in Section A above,

there is no doubt in my view that uberPOP should be considered as an “information society service” within the meaning of Directive 98/34. Hence, Directive 2000/31 applies. In that context, question 4 asked by the referring court is whether restrictions in one Member State regarding the freedom to provide electronic intermediation services from another Member States either in the form of making the service subject to a licence or in the form of an injunction based on the legislation on unfair competition, are valid derogations from Article 3(2) in accordance with Article 3(4) of Directive 2000/31. Thus, my observations in subsection 2 on the type of measures than can be objectively justified, largely apply to this subsection as well.

Although, as already observed above, the drafting of that question is confusing as Uber Systems Spain does not provide the uberPOP intermediation service, there is no question that the Spanish legislation imposes restrictions on the provision of Uber BV, a company located in the Netherlands. As to the question's reference to an injunction based on the legislation on unfair competition, it should be understood as an allusion to the preliminary injunction rendered by the Commercial Court No 2 of Madrid ordering on (i) Uber Technologies to cease its operations in Spain and on (ii) telecommunications services providers and payment operators to block the traffic and transactions with [www.uber.com](http://www.uber.com) and with Uber's software application.<sup>44</sup> The claim was once again that Uber had breached the Spanish Unfair Competition Act, and vice-versa.

Article 3(2) of Directive 2000/31 contains the general principle that: “Member States may not, for reasons falling within the coordinated field, restrict the freedom to provide information society services from another Member State.” However, Article 3(4) provides that Member States may nevertheless adopt measures derogating

41 *Id.* at §§ 45-46.

42 Case C-169/07, *Hartlauer*, [2009] ECR I-1721, § 44.

43 *Id.* at § 51.

44 See *supra* note 16.

from the freedom to provide information society services if such measures are: (i) necessary for reasons of public policy, the protection of public health, public security, the protection of consumers; (ii) taken against a given information society service which prejudices the objectives referred to in point (i) or which presents a serious and grave risk of prejudice to those objectives; (iii) proportionate to those objectives.

Given the conceptual proximity between Article 9 of Directive 2006/123 and Article 3(4) of Directive 2000/31, the analysis performed in section 2 above is relevant as well here. The notion of public interest contained in Article 9 of Directive 2006/123 certainly covers the reasons of public policy, protection of public health, public security and the protection of consumers mentioned above. The principle of “proportionality” is also conceptually close to the “least restrictive means requirement” contained in Article 9 of Directive 2006/123.<sup>45</sup> Thus, it is unlikely that a measure that would fail under the Article 9 test would succeed under Article 3(4) of Directive 2000/31.

There is little doubt that license requirements restrict the freedom to provide information society services across Member States. However, as noted above, there may also be circumstances where regulation may be needed to achieve public interest objectives, such as public security and protection of consumers. It could, for instance, be argued that by connecting prospective passengers with unsafe drivers (or drivers using unsafe cars), Uber could harm its users (passengers) and non-users (pedestrian). Thus, for instance, a measure requiring Uber to comply with safety measures going beyond those it voluntarily performs may not in itself be seen as a breach of Article 3(4) of Directive 2000/31 provided, of course, that the measure adopted is

proportionate to the objective sought. By contrast, imposing licensing requirements that have the object or effect of creating barriers to entry cannot be compatible with that provision.

As to the issuance by the Commercial Court No 2 of Madrid of a preliminary injunction not only ordering Uber to cease its activities in Spain, but also telecommunications services providers and payment operators to no longer assist Uber in its transactions, it appears as an overkill. That is particularly the case considering that the implementation of this measure by Spanish mobile operators not only prevent smartphone users to use Uber's services in Spain, but also in other Member States. It is not clear why the extension is necessary to protect a legitimate objective.

#### 4. Regulating Uber in a proportionate manner

One concern that some may have with a finding that Uber's activities fall under the scope of Directive 2006/123 and/or Directive 2000/31 is that these activities may end up being unregulated, or at least under-regulated, with the risks that it leaves its users and non-users without sufficient protection and give it an unfair competitive advantage compared to taxi and other regulated forms of services.<sup>46</sup> However, as noted above, that does not need to be the case. Neither Directive 2006/123 nor Directive 2000/31 prevent regulating Uber's activities provided that the regulatory requirements comply with a series of principles designed to avoid unjustified interference with Uber's freedom to provide its services.

For instance, the State of California has adopted a regulatory regime specifically designed for “companies that provide prearranged transportation services for compensation using an online-enabled application (app) or platform to connect passengers with drivers using their per-

<sup>45</sup> See Opinion of Mr Advocate General Van Gerven delivered on 5 February 1991, Case C-347/89, *Freistaat Bayern v Eurim-Pharm GmbH*, [1991] E.C.R. I-01747, at §§ 9 et seq.

<sup>46</sup> *Id.*



sonal vehicles".<sup>47</sup> This regime, which was adopted by the California Public Utilities Commission (CPUC), establishes 28 rules and regulations for so-called Transportation Network Companies ("TNC"), such as Uber, whereby they must obtain a license from the CPUC to operate in California; require each driver to undergo a criminal background check; establish a driver training programme; implement a zero-tolerance policy on drugs and alcohol; hold a commercial liability insurance policy that is more stringent than the CPUC's current requirement for limousines, requiring a minimum of \$1 million per-incident coverage for incidents involving TNC vehicles and drivers in transit to or during a TNC trip, regardless of whether personal insurance allows for coverage; and conduct a 19-point car inspection.<sup>48</sup>

Closer to home, Estonia adopted a new Public Transport Act ("PTA") in February 2015, which comprises a regulatory regime applying to occasional service providers, such as the drivers that typically operate under the uberPOP banner.<sup>49</sup> The PTA defines "occasional services" as "the carriage by road, except for regular services and taxi services, and the main characteristic of which is the carriage of groups of passengers constituted on the initiative of the customer or the carrier."<sup>50</sup> Providers of occasional services are subject to a mandatory license comprising requirements, such as obligations to register as commercial or non-commercial entity, to show the absence of criminal convictions, the need to appoint a transport manager, etc.<sup>51</sup> Moreover, Estonia is currently considering

further amending the TPA to allow ride-sharing services.<sup>52</sup> The draft legislation would require intermediation platforms such as Uber to meet certain transparency and safety standards, for instance by requiring transparency regarding the fares are calculated, providing riders with electronic receipts; and displaying a driver's photo and license plate number before the passenger enters a vehicle. The draft legislation would not, however, subject Uber or other equivalent service providers to an authorization or licensing regime.

While it is early to tell how the Estonian regime will apply in practice, the approach of the CPUC seems a step in the right direction in that it ensures that Uber's activities are regulated, with requirements that are however adapted to its intermediation business model.

## V. Looking beyond Uber

Uber is probably the best known and most controversial online intermediation platform in the world. The reasons why Uber has raised so much attention is that, on the one hand, it has attracted a large number of *aficionados* amongst users who enjoy the cheap and convenient service it offers, but, on the other hand, it has drawn the hatred of taxi companies and drivers as they see Uber's services as an existential threat to their business. This situation is not unlike what we have seen throughout the 1980s and 1990s where a large number of sectors of the economy (air transport, telecommunications, etc.) were liberalized, with incumbents complaining that new entrants did not have to comply with some of the heavy requirements (such as, for instance, universal service obligations) that applied to them.

But Uber is only a pioneer in a segment of the

47 See CPUC Establishes Rules for Transportation Network Companies, Press Release, 19 September 2013, available at <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M077/K132/77132276.PDF>

48 *Id.*

49 See <https://www.riigiteataja.ee/en/eli/526032015005/consolide>

50 *Id.* at § 5.

51 *Id.* at §§ 41 et seq.

52 See Avi Pau, "Estonia to regulate Uber and Taxify ride-sharers", 15 February 2016, available at [news.postimees.ee/3583509/estonia-to-regulate-uber-and-taxify-ride-sharers](https://news.postimees.ee/3583509/estonia-to-regulate-uber-and-taxify-ride-sharers)

economy that is likely to grow as various activities historically carried out by humans (such as, for instance, taxi dispatchers or booking agents) can now be performed by software applications.<sup>53</sup> Already Airbnb has become a powerful player in the hospitality industry drawing criticism from hotels it is largely free from the regulatory burden they are subject to.<sup>54</sup> Hence, like Uber is criticized for engaging in unfair competition and lawsuits abound.<sup>55</sup> Similar claims will be made every time a popular platform creates losers, although they generate significant benefits for both providers and users.

The answers that will be given by the CJEU to the questions of the referring court are thus likely to have an impact beyond the dispute opposing Uber and taxis. The broad question is how to reach the dual objective of ensuring that online intermediation platforms are allowed to provide their (usually efficient and attractive) services, while ensuring that they comply with the regulatory requirements needed to correct clearly identified market failures.<sup>56</sup> While Uber's services have been subject to challenges in many countries inside and outside the European Union, I strongly believe that the right approach for regulatory authorities is to adopt regulatory regimes that achieve the dual objective identified above. This of course requires independence (as there are strong vested interests) and creativity, although the principles contained in Directives

2006/123 and 2000/31, as well as the case-law of the CJEU on articles 49 and 56 TFEU may offer useful guidance.

## VI. Conclusion

The answers that will be given by the CJEU to the questions asked by the Commercial Court No 3 of Barcelona regarding the nature of uberPOP, as well as the compatibility of Spanish legislation restricting these activities with Directives 2006/123 and 2000/31, and the free movement rules contained in the TFEU, will have a fundamental impact on the way Uber, but also other online intermediation platforms will be regulated in the future. The judgment of the CJEU could result in forcing Member States to rethink the regulatory frameworks that apply to taxis and/or VTCs in a manner that truly serves competition, innovation and user choice.

In my view, uberPOP is not a "transport service", but an "information society service". Therefore, it falls within the scope of Directives 2006/123 and 2000/31, as well as under Article 56 TFEU. This does not mean that Uber's activities cannot be regulated, but regulation should be limited to protecting objectives of public interest and they should be proportionate to the accomplishment of these objectives. In other words, regulatory requirements that may apply to Uber's activities and other similar companies should be limited to what is necessary to correct market failures. Measures that have the object or effect to restrict entry should be struck down unless they can be objectively justified.

<sup>53</sup> Marc Andreessen, "Why Software Is Eating The World", *The Wall Street Journal*, 20 August 2011, available at [www.wsj.com/articles/SB10001424053111903480904576512250915629460](http://www.wsj.com/articles/SB10001424053111903480904576512250915629460)

<sup>54</sup> Asha Barbaschow, "Airbnb raises \$100m and maintains \$25.5b valuation", *ZDNet*, 23 November 2015, available at [www.zdnet.com/article/airbnb-raises-100m-and-maintains-25-5b-valuation/?ftag=YHRe31c277](http://www.zdnet.com/article/airbnb-raises-100m-and-maintains-25-5b-valuation/?ftag=YHRe31c277)

<sup>55</sup> See, e.g., Jason Abbruzzese and Jessica Plautz, "New York Goes to War Against Airbnb for Disrupting Hotel Business", *Mashable*, 26 April 2014, available at [mashable.com/2014/04/26/new-york-vs-airbnb/#ISXkJBuIEq1](http://mashable.com/2014/04/26/new-york-vs-airbnb/#ISXkJBuIEq1)

<sup>56</sup> Damien Geradin, "Uber and the Rule of Law: Should Spontaneous Liberalization be Applauded or Criticized", forthcoming Competition Policy International (2016), draft available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2693683](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2693683)

# Competition Policy in Consumer Financial Services: The Disparate Regulation of Online Marketplace Lenders and Banks

By Thomas P. Brown and Molly E. Swartz\*

## I. INTRODUCTION

In October 2014, Washington D.C. City Council passed legislation that effectively allowed Uber to operate in the District. David Plouffe, formerly an advisor to the President and now an executive with Uber, greeted the new legislation with the following observation:

Obviously what we're doing doesn't necessarily in all cases fit in existing regulation. I think that's what Washington really wrestled with and decided they needed to chart a new pathway forward. So rather than say how do we fit this new technology and service into existing regulations, let's look at how do we create new regulations that give citizens of the city the right kind of confidence on things like safety, on things like insurance.<sup>1</sup>

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<sup>1</sup> Dana Rubenstein, "Uber Publicly Embraces Regulation, the 'Modern' Sort," *Politico New York*, October 29, 2014,

Uber is just one of many startups struggling to fit their businesses into existing regulatory frameworks. As technological innovation leads to new business models, there is increasing friction between these new companies and the existing regulatory regime.

The tension between regulated entities and new entrants is particularly acute in the context of online marketplace lending.<sup>2</sup> While bank lenders enjoy regulatory privileges that enable them to lend immediately to consumers in all 50 states, non-bank lenders are forced to engage in resource-intensive analyses to satisfy state-specific compliance requirements. As non-bank lenders expand access to credit to those currently under served by banks—providing new underwriting methodologies, real-time data transmission and new financing mechanisms—disparate regulation of banks and non-bank lenders appears problematic.

In the past, where new entrants have challenged existing regulatory frameworks, restructuring has occurred to ensure a functioning market. This continues to happen in a number of industries, with the Uber-led transformation of taxi regulation being the most prominent. This kind of regulatory reorganization is also needed in the lending space. The existing framework for regulating the delivery of financial services works against the interests of consumers, competition, regulators and society as a whole. A state-by-state legal regime serves as barrier to entry protecting incumbent banks from competition and depriving consumers of alternatives.

<http://www.capitalnewyork.com/article/city-hall/2014/10/8555647/uber-publicly-embraces-regulation-modern-sort>.

<sup>2</sup> For purposes of this paper, we use the phrase "marketplace lenders" to distinguish between bank lenders and technology driven lenders. In our experience, however, this taxonomy is a bit narrow in that technology driven lenders follow two variations—(1) those that involve discrete sources of third-party capital and are generally described as "marketplace lenders" such as Prosper, Lending Club, and OnDeck; and (2) those that lend off their own balance sheet such as PayPal Credit but that use an essentially identical origination model and are generally described as "platform lenders."

There is simply no reason why banks should enjoy access to the common market while non-bank lenders cannot.

This is not to say that banks and non-banks should be treated similarly on all counts. There are numerous situations in which it is appropriate for banks to maintain regulatory privileges inaccessible to non-banks. In fact, in the context of financial services, banks tend to bear a greater regulatory burden than non-banks (e.g., application of customer identification program requirements, required maintenance of leverage ratios, etc.). In the lending context, however, banks' unique ability to offer products on a nationwide basis remains largely unjustified.

In Part I below, we provide an overview of online marketplace lending. We suggest that marketplace lenders offer value that is not currently replicable by banks. Part II examines marketplace lending across state lines, recognizing the near impossibility of full compliance. Part III provides examples of cases in which new entrants have successfully challenged existing regulatory frameworks. In these cases, regulatory change reinvigorated competition to the benefit of consumers. Finally, in Part IV, we suggest the need for reorganization of the existing lending regulatory framework. The current bifurcated regulatory framework increases costs to consumers, limits consumer choice and insulates banks from competition.

## **II. Online Marketplace Lending Benefits Both Underserved Borrowers and Investors**

In the past few years, marketplace lending has emerged as an alternative to traditional bank lending. In the wake of the 2008-2009 financial crisis, banks tightened credit guidelines. This left many consumers and small businesses without access to bank-issued credit. Total consumer lending fell by 6.1 percent between Jan-

uary 2009 and March 2010.<sup>3</sup> At the same time that they tightened credit standards, banks found themselves a safe haven for deposits even as yields on those deposits plummeted.

The simultaneous tightening of credit standards and drop in yields created an opportunity for new credit intermediaries to emerge. Marketplace lenders filled this gap. In their initial incarnation, firms such as Prosper and Lending Club enabled lenders to fund loans to borrowers. They and other alternative lenders simultaneously expanded the pool of available credit and enabled yield-starved investors to obtain a positive rate of return on funds that would have generated no return had they been left on deposit at banks and other depository institutions.

Marketplace lenders differ from traditional financial institutions in a number of ways. First, marketplace lenders often serve demographics that are underserved by bank lenders. Marketplace lenders have enabled "thin file" borrowers and small business borrowers to access credit that traditional financial institutions were unwilling to extend. Borrowers rendered ineligible by traditional bank underwriting models may find investors on online marketplaces willing to finance their credit needs. Alternative underwriting models may enable such lenders to extend credit to thin file borrowers who would not qualify for credit based solely on traditional underwriting criteria such as FICO score.

Second, marketplace lenders rely on technology to reduce the cost of connecting borrowers with lenders. They use algorithms, rather than lending officers, to screen borrowers, and they provide granular information about repayment risk to investors. Further, many such platforms have eliminated unnecessary or unwanted services associated with traditional lenders,

3 "Epic Consumer Credit Crunch Unfolding," *Seeking Alpha*, March 2, 2010, <http://seekingalpha.com/article/191517-epic-consumer-credit-crunch-unfolding>.

such as branches and other physical locations.<sup>4</sup> Through better underwriting and more efficient operations, marketplace lenders and other lending platforms have lowered the cost of obtaining loans and are able to offer borrowers credit on better terms.

Third, platform lenders offer value to investors. Marketplace lenders have enabled investors to diversify their investment portfolios by investing directly in individual loans. Even to the extent that investors choose to fund pools of loans rather than individual loans, marketplaces may be able to pass a larger portion of the interest that those loans generate to the investors that fund their loans.<sup>5</sup>

### III. Marketplace Lending Across State Lines Triggers Significant Compliance Obligations

In lending across state lines, marketplace lenders, like other non-bank lenders and, indeed, all non-bank providers of financial services, confront a complex, unstable and fragmented regulatory regime. The regulatory thicket that surrounds the financial services industry in the United States, particularly the lending business, is Byzantine. A firm that is considering launching a product that provides liquidity to customers must grapple with a long list of Federal laws and regulations, including the Truth-in-Lending Act,<sup>6</sup> the Fair Credit Reporting Act,<sup>7</sup> the Electronic Funds Transfer Act,<sup>8</sup> the Equal Credit Opportunity Act,<sup>9</sup> Regulation Z,<sup>10</sup> and Regulation E<sup>12</sup> (to

name but a few). Individual states have their own laws. California, for example, regulates non-bank lenders through the California Constitution,<sup>11</sup> the Finance Lenders Law<sup>12</sup> and, in some instances, the Consumer Legal Remedies Act.<sup>13</sup>

How and whether any one of these laws or regulations applies turns on a number of factors, including the following: (1) whether the service is provided for household use; (2) whether the service provider is a bank (or other federal insured deposit taking institution); (3) whether the service creates a debt enforceable against the customer; (4) whether the service involves a finance charge on a loan or a “time-price” charge associated with a sale; (5) whether the service is associated with a prepaid account but not a deposit account; and (6) whether the information on which the decision to provide liquidity is collected from the customer directly, third parties that have a direct relationship with the customer, or third parties that collect information from others about the customer.

This body of law and regulation is also unstable. Regulators, courts, and, of course, legislatures change the rules from time-to-time, and these changes can have significant repercussions for industry participants. The Second Circuit’s recent decision in *Madden v. Midland Funding, LLC*,<sup>14</sup> provides one timely example. *Madden* arose from a dispute between a consumer and purchaser of debt owed by the consumer to the bank that had issued the consumer a credit card.<sup>15</sup> The consumer sued the debt collector in New York state court alleging that the fees charged by the debt collector ex-

4 Andrew Verstein, “The Misregulation of Person-to-Person Lending,” U.C. Davis Law Review 45, (2011): 445, 457.

5 *Id.*

6 15 U.S.C. §§ 1601 *et seq.*

7 15 U.S.C. §§ 1681 *et seq.*

8 15 U.S.C. §§ 1693 *et seq.*

9 15 U.S.C. §§ 1691 *et seq.*

10 12 C.F.R. §§ 1026 *et seq.*

11 Cal. Const. art. XV, § 1.

12 Cal. Fin. Code §§ 22000 *et seq.*

13 Cal. Civ. Code §§ 1750 *et seq.*

14 *Madden v. Midland Funding, LLC*, 786 F.3d 246 (2d Cir. 2015).

15 *Id.* at 247-49.



ceeded the cap set by New York usury law.<sup>16</sup> The Second Circuit held that federal preemption was not available to the debt collector in collecting the debt pursuant to the terms of the loan agreement because the debt collector was acting on behalf of itself rather than the bank.<sup>17</sup> The court deflected criticism that its decision would undermine the sale of charged-off debt by banks by arguing that it “would not significantly interfere with any national bank’s ability to exercise its powers under the [National Bank Act].”<sup>18</sup>

Among other things, *Madden* illustrates that the regulatory burdens and benefits are not evenly distributed in the lending space. On its face, the Second Circuit’s decision creates a special privilege for banks relative to non-banks. A bank purchaser of another bank’s debt can, under the Second Circuit’s analysis, invoke its ability to preempt state law to block a consumer’s challenge to the fees collected by the second bank based on the loan originated by the first. Most non-banks not exercising the powers of a national bank, according to the Second Circuit, have no such right.<sup>19</sup> Both of the publicly traded platform lender, Lending Club and OnDeck, saw their valuations decline relative to traditional lenders in the wake of the decision, and commentators have attributed the relative severity of the decline to regulatory risk.<sup>20</sup>

16 *Id.*

17 *Id.* at 245-53

18 *Id.* at 249.

19 *Id.* at 251 (stating that “[i]n most cases in which NBA preemption has been applied to a non-national bank entity, the entity has exercised the powers of a national bank—i.e., has acted on behalf of a national bank in carrying out the national bank’s business. This is not the case here.”). See also *Marquette Nat. Bank of Minneapolis v. First of Omaha Service Corp.*, 439 U.S. 299, 308, 313- 316 (1978) (holding that a federally chartered bank may offer loans to consumers in any of the other 49 states at any interest rate allowed by the bank’s state of residence regardless of whether the consumer’s home state recognizes a lower usury cap); *Smiley v. Citibank (South Dakota), N.A.*, 517 U.S. 735 (1996) (holding that the NBA preempts state limits on fees as well as finance charges).

20 Leena Rao, “Once-hot Online Lending Companies Go Cold

The existing regulatory framework for regulation of non-bank lenders is a patchwork of complicated and overlapping state laws and regulations. Each state sets a different maximum interest rate that parties may contract for, and this rate may vary depending on whether the credit will be used for personal, household or family purposes (i.e., consumer credit) or for business purposes (i.e., commercial credit). In many states, consumer and/or commercial lenders may be authorized to charge interest above a state’s usury cap if they obtain a state lender license—a time-consuming and expensive process. For example, a marketplace lender may contract with a Utah-based borrower for any rate of interest without a license.<sup>21</sup> In Virginia, a lender must obtain a lender license to offer consumer loans to Virginia residents at interest above 12 percent per annum.<sup>22</sup> In California, a license is required to engage in the business of a finance lender, regardless of what interest rates are offered.<sup>23</sup>

Lender license applications can also be quite burdensome and appear designed to deter applications. The applications often require applicants to submit background checks and fingerprints on all persons owning or controlling 10 percent or more of the lending entity, financial statements, and surety bonds. Nevada, for example, requires lenders to maintain a physical office in the state—a requirement that is particularly onerous for online lenders with no physical location.<sup>24</sup>

## IV. To Avoid State Lending Laws, Marketplace Lenders Are Forced to Partner with Banks

in Face of Skepticism,” *Fortune*, June 30, 2015, <http://fortune.com/2015/06/30/lending-club-ondeck-shares>.

21 Utah Code Ann. § 15-1-1 (West).

22 Va. Code §§ 6.2-1501, 6.2-303.

23 Cal. Fin. Code § 22100(a).

24 Nev. Rev. Stat. §§ 675.090(2)(a); 675.090(3).

To avoid this morass of state lending laws, a number of marketplace lenders have chosen to partner with banks. A regulatory regime where the burden of compliance is so high that companies are forced to partner with competitor incumbents to provide cost-effective products seems unequivocally problematic.

Both Prosper and Lending Club were, in their original incarnations, fairly novel. They enabled investors to fund loans extended to individuals without a traditional financial institution, either a bank or licensed lender, serving as originator. Yet although Prosper and Lending Club were serving as intermediaries between borrowers and investors, neither used the form that has dominated the consumer lending business in the United States since the early part of the Twentieth Century—i.e., a chartered financial institution such as a bank, credit union or thrift. And it was not at all clear how either company thought that it was complying with the raft of Federal and state laws related to consumer lending.<sup>25</sup>

But times have changed. In the almost ten years that have passed since Prosper got its start, Prosper and Lending Club have almost completely reinvented their businesses. Today, both companies rely on banks to originate loans. Likewise, both companies have jettisoned the direct investment approach. Under the model that both companies have now adopted, investors no longer directly fund loans to borrowers. Rather, the companies interpose intermediaries that own the right to the receivables generated by borrowers, and those intermediaries then

pay investors based on the repayment history of borrowers. Although the platforms offer investors far more visibility into the performance of particular loans, the structure of the relationship between investors in the loans and borrowers is similar in form to traditional securitization.<sup>26</sup>

Viewed through this lens, the “new” platform lending businesses look pretty similar to “old” consumer lending businesses. That is, a non-bank contracts with a bank to help the bank acquire borrowers, underwrite those borrowers, service those borrowers and manage the resulting portfolio for the benefit of third-party investors. Although some of the details have obviously evolved, the basic components of the “new” platform-lending model should be familiar to anyone who has followed the credit card industry since General Motors offered the GM Rewards card in the 1980s.<sup>27</sup> In fact, the 1996 Narratives to the Office of the Comptroller of the Currency handbook issued for the supervision of credit card lending describes the component parts of a credit card business in terms that mirror the relationship between platform lenders, their bank origination partners, consumers, and investors.<sup>28</sup>

Having chosen to partner with a state chartered bank for the origination of the loans, Lending Club and Prosper have subjected themselves to regulatory supervision in more or

25 Eileen Ambrose, “Peer-to-Peer Lending Alternative Runs into a Regulatory Wall,” *Baltimore Sun*, December 7, 2008, [http://articles.baltimoresun.com/2008-12-07/business/0812060058\\_1\\_lending-sites-peer-to-peer-lending-prosper-loans](http://articles.baltimoresun.com/2008-12-07/business/0812060058_1_lending-sites-peer-to-peer-lending-prosper-loans) (stating that “Peer-to-peer lending . . . recently has come into regulators’ sights . . . [sidelining] the largest peer-to-peer lending site, Prosper.com,” and also quoting Lending Club CEO’s statement that he “concluded that the industry was headed toward regulation.”).

26 Jane Kim, “Peer-to-Peer Lender Relaunched,” *Wall Street Journal*, April. 28, 2009, <http://www.wsj.com/articles/SB124088142201761953>; Prosper Funding LLC, August 2015 prospectus for up to \$500,000,000 in principal amount of Borrower Payment Dependent Notes at \*10, [https://www.prosper.com/Downloads/Legal/Prosper\\_Prospectus\\_2015-08-13.pdf](https://www.prosper.com/Downloads/Legal/Prosper_Prospectus_2015-08-13.pdf); Lending Club, August 2014 prospectus for Member Payment Dependent Notes at \*7, [https://www.lendingclub.com/fileDownload.action?file=Clean\\_As\\_Filed\\_20140822.pdf&type=docs](https://www.lendingclub.com/fileDownload.action?file=Clean_As_Filed_20140822.pdf&type=docs).

27 S. Evans and Richard Schmalensee, *Paying with Plastic* (Cambridge: The MIT Press, 2005), 78-79.

28 See OCC Credit Card Handbook 1996 at 12 (“Although some institutions develop their own scoring models, most are built by outside vendors.”); *id.* at 5 (“Issuing banks often employ outside vendors to perform solicitation, servicing, collections, or other functions . . .”).

less the same way that non-bank technology providers have been subjecting themselves to regulatory supervision for decades. The loans are bank products, and the banks that originate them are answerable to their regulators for the financial performance of those loans as well as the many regulatory issues that arise in connection with the issuance of such loans. In short, Lending Club and Prosper have achieved regulatory compliance by relying on banks' preemptive privileges.

## V. Varied State and Federal Regulation in the Airline, Telecommunications and Taxi Industries Demonstrate the Need for Regulatory Reorganization

The fact that Lending Club and Prosper felt compelled to partner with a bank to reduce the regulatory burden should be understood as broad indictment of that regulatory regime. In other industries where new business models have challenged existing regulatory frameworks, the government has been willing to revise the overarching regulatory framework to ensure a functioning market. In the airline, telecommunications, and taxi industries, for example, existing regulations unfairly advantaged incumbents, thus precluding competition. To ensure a functioning market, regulatory reorganization was necessary.

Prior to passage of the Airline Deregulation Act of 1978<sup>29</sup> ("ADA"), airlines were heavily regulated by the Civil Aeronautics Board ("CAB"). The CAB had jurisdiction to control route entry and exist of air carriers, regulate fares, award subsidies, and control mergers and inter-carrier agreements.<sup>30</sup> The inflexibility of this federal reg-

ulation made it increasingly difficult for carriers to comply. A number of studies determined that economic regulation resulted in excessively high fares and a net economic loss to society at large.<sup>31</sup>

In an effort to avoid this stringent federal regulation, some carriers began investing in intrastate travel—a market that remained outside of CAB jurisdiction. Carriers operating in the unregulated intrastate markets were able to offer lower fares to consumers and avoid CAB regulation all together.<sup>32</sup> As Lewis A. Engman, then chairman of the Federal Trade Commission stated,

If you have any doubt that one consequence of the CAB's control over rates and routes is higher prices, you need only look at what happened some years ago in California when Pacific Southwest Airlines, an intrastate carrier not subject to CAB regulation or entry restrictions entered the San Francisco/Los Angeles market with rates less than half those being charged by the interstate CAB certified carriers TWA, Western, and United.<sup>33</sup>

Fares were 30 percent less for the unregulated intrastate airlines in Florida.<sup>34</sup>

Eventually, economists determined that economic regulation in the airline industry was distorting the efficient performance of the marketplace. With leadership from Senator Edward Kennedy, Congress eventually passed the ADA. The ADA rescinded CAB's au-

*Commerce* 54, (1986): 927, 929.

<sup>31</sup> *Id.* at 930.

<sup>32</sup> *Id.*

<sup>33</sup> Christine Chmura, "The Effects of Airline Regulation," *The Freeman, Foundation for Economic Education*, August 1, 1984, <http://fee.org/freeman/the-effects-of-airline-regulation/> quoting Lewis A. Engman, "Regulating Industry," *Washington Post*, October 15, 1974.

<sup>34</sup> *Id.* quoting Robert Lindsey, "Airline Deregulation is Weighted," *New York Times*, February 7, 1975, p. 39.

<sup>29</sup> Airline Deregulation Act of 1978, Pub. L. No. 95-504, 92 Stat. 1705 (codified as amended in scattered sections of 49 U.S.C.).

<sup>30</sup> Andrew R. Goetz and Paul S. Dempsey, "Airline Deregulation Ten Years After: Something Foul in the Air," *Journal Air Law and*

thority over route entry and exist, airline fares, and mandated that the CAB be dissolved by 1984. In essence, the government acknowledged that there was a problem: consumers were poorly served by a system that incentivized airlines to provide only intrastate travel.

Similarly, the telecommunications faced significant organization where state and federal regulation were set up so as to encourage monopolistic behavior. Prior to 1969, the telecommunications industry was regulated as a lawful monopoly.<sup>35</sup> Local telephone service was provided by an operating company of the AT&T-owned Bell System or by one of approximately 1,600 independent telephone companies. Long distance telephone service was provided by the long Lines Department of AT&T in partnership with the Bell operating companies.<sup>36</sup>

In 1969, however, the Federal Communications Commission approved an application submitted by AT&T competitor MCI to construct and operate a long distance telephone system between Chicago and St. Louis.<sup>37</sup> Effectively, however, to provide long distance service, MCI would need to rely on AT&T-owned interconnections and local distribution facilities. Although MCI and AT&T attempted to negotiate a permanent agreement regarding access to this infrastructure, negotiations failed. Among other things, MCI claimed that AT&T was unlawfully denying it interconnections and that it was being charged excessive and discriminatory prices for local distribution facilities.<sup>38</sup> MCI filed suit. Shortly thereafter, the Department of Justice ("DOJ") began an investigation.

35 *MCI Communications Corp. v. American Tel. & Tel. Co.*, 708 F.2d 1081, 1093 (7th Cir. 1983).

36 *Id.*

37 *Id.* at 1094.

38 *Id.* at 1096.

Again, consumers were unable to benefit from competition in the market. And again, the government was forced to step in. After a protracted lawsuit, AT&T settled with the DOJ. Among other things, AT&T agreed to divest itself of the operating companies that provided the local exchange service. Challenging AT&T's established monopoly, new entrant, MCI effectively transformed the existing regulatory paradigm, opening telecommunications up to multiple providers and offering consumers greater choice.

This trend—new business models threatening existing regulatory frameworks—continues today. As noted at the beginning of this article, Uber poses a tremendous threat to the incumbent taxi industry. While common carrier regulations are well intentioned, these regulations were written in a time before geolocation-enabled smartphones and ride-sharing applications. They reflect and benefit regulatory concerns associated with taxi service, not peer-to-peer ride-sharing. Yet as consumers continue to use Uber's services and demand regulatory changes to support Uber's business, state governments have begun to revise state utility laws to accommodate Uber—despite taxi industry protests.

In California, for example, Uber was successful in lobbying the California Public Utilities Commission ("CPUC") to create a new category of regulated entities ("Transportation Network Companies") to cover peer-to-peer ride-sharing services. Recognizing the value of Uber's product, the CPUC altered its regulatory framework, thus expanding the market for transportation services and consumer choice.

## **VI. Leveling The Playing Field Between Banks and Non-Banks**

In the same way that new entrants have forced re-examination of the regulatory frame-

work for the airline, telecommunications and now, taxi industries, the effort of Prosper, Lending Club and countless others to reinvent financial services should lead regulators to re-evaluate the regulatory framework for that industry. The fact that Lending Club and Prosper have effectively joined the club by partnering with incumbents does not give regulators in this industry a pass.

Banks have a vested interest in preserving the regulatory status quo. Banks benefit from the complexity, instability and fragmentation of regulation in two ways. First, banks are incumbent providers of services that others would like to offer, and as incumbents, the complex and unstable regulatory regime serves as a barrier to entry. Second, banks have a unique ability to export the terms of the loans that they offer from the states in which are chartered to the states in which their consumers reside.<sup>39</sup>

There is no policy justification for giving banks and other chartered financial institutions a monopoly on the ability to export contract terms from one state to another. Although banks are subject to prudential supervision, there is no discernable connection between onsite government supervision to protect against the systemic risks that massively leveraged institutions create for the economy as a whole and banks' unique ability to exploit the efficiencies associated with the common market. Exportation of product terms is not a source or solution to the systemic risks created by the enormous leverage that lurks on bank balance sheets. In short, the risks that uniquely justify much of the supervision of banks do not also justify their sole ownership on exportation. After all, the massive risks of leveraged institutions simply are not present for online lending marketplaces or other alternative lenders. To the extent that exportation of product terms creates regulatory issues, those regulatory

issues fall in the realm of consumer protection, and in the wake of the passage of Dodd-Frank, that playing field has been largely leveled with the creation of the Consumer Financial Protection Bureau.

The bank monopoly on national contracting is also a relatively recent creation. Until the mid-1960s, the prevailing rule in U.S. courts when faced with disputes about which law to apply to a lending agreement—the law of the domicile of the lender or the law of the domicile of the borrower—did not turn on whether the lender was a bank or an unchartered financial institution. Courts generally enforced the law of the lender, rather than the borrower.<sup>40</sup> When the prevailing judicial approach to conflict of laws changed in the 1960s, banks sought new ways to ensure that their contracts could be enforced on a nationwide basis, and courts eventually latched on to the pre-emptive force of federal banking statutes. Although non-banks cannot currently claim a similar right, they could regain the ability to export terms if courts simply reverted to the conflict rule that used to apply to lenders regardless of charter—i.e., that the law of the state of the lender, not the borrower, governs the relationship between the two.

## V. Conclusion

The broader point goes well beyond giving non-banks the same ability to contract across state lines as banks. In the financial services industry today, as in the telecommunications and transportation industries a generation ago, competition has essentially been lost as a guiding regulatory principle. Regulatory compliance has become an economic moat that existing providers are using to fend off disruptive competition. Rather than looking for ways to force upstarts to join with those incumbents, regulators in this industry should look for inspiration in

39 12 U.S.C. § 1831d; *Greenwood Trust Co. v. Mass.*, 971 F.2d 818, 826 (1st Cir. 1992).

40 *Ury v. Jewelers Acceptance Corp.*, 227 Cal. App. 2d 11 (Ct. App. 1964).



the examples of the past and find ways to level the regulatory playing field. Leveling the playing field will ensure greater consumer access to better financial products.

# Legal boundaries of Competition in the Area of Internet: Challenges and Judicial Responses

By Zhu Li \*

## Abstract

Some new characteristics of competition in the Internet industry, e.g., competition for attention, innovation competition, cross-market competition etc., have brought about new challenges and difficulties for the legal regulation of competition. In virtue of the theoretical innovation and the innovation of law applicability, Chinese courts gave creative judicial responses in the scopes of Anti-Unfair Competition Law and antitrust Law, clarified the legal boundaries of competition and effectively regulated competition in the online environment. Certain trends and rules implicit in this kind of judicial responses are worth noting.

\* Zhu Li, the Judge of the Intellectual Property Division of Supreme People's Court, JD. The article represents only the author's own views beyond the position of its organization. Certain content of this paper was discussed and reviewed in "Chinese IP judges Forum" of Southwest University of Political Science & Law, № 4, as well as in the second meeting of the Forum Internet Competition Policy and Innovation, organized by the Electronics Intellectual Property Center of Industry and Information Technology Ministry. Thanked the participants of the forum for their comments, certainly the author is responsible for any error in this paper.

The growth of the Internet industry in our country has become a new engine for the development of domestic economy. The on-line technology has been updating rapidly; new products, new services and new business models have been emerging uninterruptedly, impacting existing models and established order of the traditional commercial community, changing the structure of commercial interests in the economy and the society. This process is accompanied with the increasingly fierce competition in the Internet area and the continuous emergence of new kind of competition that constantly challenge legal boundaries. At the early stage of Internet development, the challenge had mostly appeared to be the difficulties in protecting online copyright. In pace with the maturity and progress of the Internet technology, the scale of e-commerce enlarges rapidly, new business models relying on the Internet are emerging uninterruptedly, therefore the mentioned challenge has expanded to areas such as trademark protection, competition regulation, etc. in the Internet. By examining specific cases, Chinese courts have clarified and delimited competition rules on the internet, filled the legal gaps, and thus, played an important role in the regulation of competition on the Internet. First, the paper describes the characteristics of competition on the Internet. Second, it explores the special challenges this kind of competition has brought to the judicature, and third, the paper will analyze the creative judicial responses to the challenge, and endeavor to reveal the trend and the regular pattern in such judicial actions.

## I. Basic features of competition in the internet area

### A. Competition for attention

The expansion of information continues constantly in Internet, whereas everyone's time and

energy are limited and valuable. Hence, Internet users' attention has become a scarce resource. Each Internet service provider tries to do its best to obtain customers' attention and to focus it on its product by virtue of its particular tools, operations and services in purpose to gain its business benefits through customers' attention.<sup>1</sup> There are two ways to turn customers' attention into business benefits: 1) to develop value-added services for interested customers and thus gain profit and 2) to sell the gathered customers' attention to a third party that seeks this kind of resource. Baidu, for instance, has gathered great amount of Internet users via its search engine platform and then began to gain business benefit by selling advertising or by offering value-added services.

The competition to obtain customers' attention in online environment has derived three subsidiary features. First, the zero price (or negative price) competition. Internet service providers have found in the competition of obtaining customers' attention that the most effective way to attract customers' attention is zero price, or even negative price. Zero prices for basic services have become a mainstream business model of Internet service providers. Recently, for instance, in areas of instant messaging, search, social networks, security, e-commerce etc. all providers offer their basic services for zero prices. In some areas of intensive competition providers prefer even negative price competition by subsidizing customers in order to continuously attract and maintain users' attention. Second feature is the platform competition. In the online environment the operations and services offered by the providers are increasingly platform-related. Services, offered by Internet service providers, turn to be the platform, connecting two or more groups of different entrepreneurs who take part

of business via the platform; in this form of business the benefit of one group of participants by joining the platform depends of the scale and the development of another group of entrepreneurs joining this platform. Internet service providers who offer the platform service will "create value by virtue of reducing the conflict between different participants of the platform or lowering the transaction cost."<sup>2</sup> Internet service provider will continuously increase the user's dependence on their platforms and improve customer stickiness by virtue of offering added particular function that other platforms cannot propose or supplying the function of better quality than that of other platforms. Third of these features is the motto "the customer is the king." Internet service providers pay high attention to customers' needs, constantly update their products or offer new type of services, and this way attempt to improve the users' experience, to enhance the attractiveness of their products and services, and finally to keep customers.

## B. Innovation competition

Given the new ways to disseminate information and the speed to do so, Internet, to a large extent, provides endless resources and spaces to expand innovation. The magic weapons in the competition are rapid innovation and seize and keep customers as soon as possible. In the area of Internet the focus of innovation is shifting from traditional innovation of technology and production to innovation of business models, and the leading innovation factor is to shift from a closed mode of innovation to an open one. That is, innovation is no longer limited to the companies' development centers, but opened to the community, providers and end-users, and innovation is carried out in accordance with customers' demands and ideas. No doubt that in online environments the customer is the de-

<sup>1</sup> "Many network providers are competing in order to obtain the limited attention of consumers, their featured products and services are in fact just the tools to gain the customers' attention in competition." David S. Evans, "Attention Rivalry Among Online Platforms," University of Chicago Institute for Law & Economics, no. 627 (2013): 3. Available at SSRN: <http://ssrn.com/abstract=2195340>.

<sup>2</sup> Cited from David S. Evan, "Market Definition and Market Power for Internet Industries" (discourse in Seminar of Implementation of Antitrust Law in ICT Industry of the Forum Internet Competition Policy and Innovation, organized by the Electronics Intellectual Property Center, 24 march, 2015).

cisive factor for the survival of the enterprise, creativity is the leading factor for development of the enterprise. Competition in online environments appears to be a dynamic competition, where operators attempt to build their competitive advantage by virtue of constant innovation. "The period for leading enterprises of many industries to keep their dominant position is getting shorter. Enterprises resting on their dominant position and revealing their former laurels will soon be replaced by more innovative competitors."<sup>3</sup> Meanwhile products and services differentiation offered by different providers is becoming more relevant. Providers compete for customers by offering different functions and user experience.

### C. Cross-market competition

Another obvious feature of competition in the area of Internet is cross-market competition. Products and services, offered by a typical network provider, are mostly based on software and provided via Internet, where the market entry threshold is not very high and the cost of changing the scope of products and services is relatively low. Thus, the network provider can easily bring its existing customers into a new area by adding services without customer churn, if he has already obtained massive customer resource. Therefore, in the area of Internet, service providers who offer different products and services are used to look at each other as competitors and do not stop to compete for customers' attention.

### D. Huge impact

The scope, magnitude, breadth, and depth of impact caused by competition behavior may expand unlimitedly and spread to the entire Internet environment in a very short period of time; it is difficult to eliminate the result

of such impact effectively. An Internet service provider that faces intensive competition could suffer customer churn for a couple of days, lose its competitive advantage and even be forced to withdraw from the market.

## II. Challenges brought to court by competition in the area of internet

The abovementioned characteristics of the competition in the area of Internet have brought about new challenges to court, concerning at least three aspects: changes of judicial functions; industry's stronger expectation of reasonably determined legal rules; right holders' higher requirements for the prompt and effective judicial relief.

### A. Changes of judicial functions

It is often difficult for the law to timely respond to changes, occurring when technology and business models are developing dramatically. At the same time it is also difficult for the administrative law enforcement organs to promptly investigate the competitive behavior in the area of Internet due to lack of a clear basis for enforcement. The court is thus inevitably pushed to the forefront of solving disputes of network competition. According to an incomplete statistics report, Chinese courts have heard 126 cases involving disputes of unfair competition in the internet industry as of October 2014.<sup>4</sup> These disputes demonstrate the following characteristics: disputes occur frequently and easily shift along with hot new technology and revolution of business models; numerous disputes occur due to new type of competitive behaviors that are not yet clearly regulated by law and are to be adjusted by applying the guidelines of anti-unfair competition law; many disputes are tentative, i.e. the purpose of the litigation parties is not

<sup>3</sup> Jian-cai Zhang, "Dynamic competition and enterprise core competitiveness," East China Economic Management, no. 4 (2002): 81.

<sup>4</sup> For particularities of dispute of competition in the area of Internet see Qin-kun Zhang, "A empirical analysis of unfair competition cases of Internet development in China," Electronics Intellectual Property, no. 10, (2014): 26-37.

just fighting the interests of the pros and cons, but rather requiring the judiciary clear industry rules and code of conduct; disputes between Internet service providers, spreading to disputes between traditional enterprises and Internet service providers, appear to be intense competition for each one's own interest. Thus, it becomes a major issue for the courts to provide proper administered judicial rules for new type of competitive behaviors, to guide and regulate healthy competition while resolving disputes. That means that the justice must assume not only the functions of legal performer of competition law, but also the functions of competition policy/rule maker. Along with implementing national strategy of establishing an innovative country and accelerating the pace of innovation-driven development, the role of competition policy is increasingly prominent. "The closer the forefront of knowledge, the higher the complexity and uncertainty."<sup>5</sup> The lower the accuracy and efficiency of industrial policy and the greater the role and value of competition policy, the more urgent of demands to maintain a healthy competitive environment. The actual situation requires justices to define the legal boundaries of the legality of acts by virtue of creative application of the law in every specific case, "bridging the gap between law and constantly changing reality."<sup>6</sup>

To perform this function properly and to creatively apply the law, the justice needs to be not only proficiency in the spirit of the law and rules, but also to have a deep understanding of the competition reality in the area of Internet, knowledge of information technology and a good understanding of the business development model and innovation requirement. In the process of dealing with some knotty disputes of

competition in the area of Internet, the court, applying guidelines of Article II of the Anti-Unfair Competition Law, has carried out certain exploration of the standard of legitimacy of competitive behavior. In Baidu, Inc. vs. Qihoo case of violation of robots protocol, the trial court, for instance, has put forward the rule of procedures of "consultation-notice."<sup>7</sup> In Baidu, Inc. vs. Qihoo case of inserted standard, the trial court has put forward the principle of "no interference in case of non-public necessity."<sup>8</sup> These explorations have, to a certain extent, deepened the understanding of the principle of Article II of the Anti-Unfair Competition Law. These explorations have, of course, sparked considerable controversy that demonstrates a fact that a relatively broad social consensus is not yet established in this area.<sup>9</sup> The justice still has to take a heavy burden and to embark on a long road for properly shaping the rule of law, responding to demands of market and uniting social consensus.

## B. Difficulty of legal evaluation

The competition for obtaining customers' attention, innovative competition and cross-market competition with the retrofit of competition means in the area of Internet leave a gray area where competition bears the characteristics between legality and illegality that cause serious difficulty of legal evaluation. The difficulty is reflected in the scopes of anti-unfair competition and antitrust laws.

This difficulty is mainly reflected in two aspects of unfair competition. One of them is the problem of judging the competitive relationship. In civil cases of unfair competition, the traditional

5 Rajneesh Narula, *Globalization and technology: Interdependence, innovation systems and industrial policy*, (Blackwell Publishing Ltd., 2003).

6 Aharon Baraka, *The Judge in a Democracy*, trad. Bi Hong-hai (Law Press, 2011), 17.

7 Ltd. vs. Beijing Qihoo Technology Co., Beijing Baidu FMCT no. 2668 (Network Technology Co., Ltd. Case of unfair competition dispute (violation of robots protocol), (2013).

8 Baidu Online Network Technology (Beijing) Co., Ltd v. Beijing Qihoo Technology Co., Ltd. (Beijing High Court Civil Judgment (2013) Gao Min Zhong Zi no. 2352)

9 Xue Jun: Question "the principle of no interference in case of non-public necessity," *Electronics Intellectual Property*, (2015): 66-70.



theory and practice of the anti-unfair competition law sets the existence of competition between the plaintiff and defendant as the preconditions for relief of the plaintiff. In the online environment the real and strong competition exist also between the operators of different products and services due to the competition of obtaining customers' attention, platform competition and cross-market competition. Many victims of unfair competitive behaviors cannot be protected by law, if the existence of competition (even direct competition) remains to be the precondition for legal remedy. It is thus appears to be the theoretic and practical issue the justice should address to re-identify the competitive relationship and to re-define the competitive relationship in anti-unfair competition law.

Another aspect of the difficulty mentioned above is to judge the legitimacy of competitive behavior. Unfair competitive behaviors in the Internet environment are carried out mostly by means of the implementation of information technology and often in the name of technological innovation with powerful technical features. Operators tend to defend their competitive behaviors on the excuse of necessary measures to meet customers' demands. The competitive behavior of one operator usually does not immediately have an impact on its competitor, but it does through the customer as the intermediary, i.e. the customer's interest is kidnaped by the Internet service providers who exploit their customers as a shield to fight their competitors for their own business benefit. In comparison with traditional competition, competition in the Internet environment is more neutral, at least on the surface; its boundaries of legitimacy are blurred. Technological and neutral features of competitive behaviors make more difficult to define the subjective fault of the operator and the economic effects on competition. Under certain conditions, the competitive behavior, though injuring the competitor, can enhance consumer's welfare or it might impact consumer's welfare for a short time, but can

enhance consumer welfare in the long term. The traditional anti-unfair competition law simply defines the boundary of legality based on the virtue of typical characteristics of conducts. Such a method could not be used in an online environment.<sup>10</sup> The "technologization" of competition increases the relevance and interdependence of competing operators: products and services offered by one provider, inevitably relate to products and services offered by other providers, and thus will impact the business of the latter. The standard of competition and business achievement is characterized by competing for its own business results and trying not to disturb others. Such standard increasingly shows its drawbacks in judging the justification of competition since it has wider scope of attack and hampers free competition.<sup>11</sup> Meanwhile, the innovation in area of Internet is frequent, competition is complex and evolving. It is thus difficult to form commonly recognized business ethics timely. It is increasingly difficult to seek an ethical consensus in a fragmented, divided society. The moral evaluation criteria, applied in traditional anti-unfair competition law, is fallen in straitened circumstances, it is thus not an easy task for us to extract stable and clear legal criteria.

Competition in the area of Internet also seriously challenges the applicability of antitrust law. First of all, the difficulty in defining the relevant market. The zero price competition and the platform competition and other features

10 The so-called typed features of behavior refer to the typical characteristics of a behavior reflected on the subject, object, subjectivity and objectivity which are the four constituent elements of a behavior. Constituent elements of unfair competition are commonly the following: the subject is the participant of various market trade operations; objectivity is the behavior which violates the principle of good faith or generally accepted business ethics; the perpetrator is subjectively fault; the object of the infringement is the interest of the operator, the interest of the customer and the public interest of the society. See Wang Xianlin, *Competition Law*, (China Renmin University Press, 2006), 96-98.

11 The so-called performance competition refers to the performance of their goods or services at competitive prices or to start competition of their own business activities, also known as the effectiveness competition. See Fan Chang-jun, *A study of German Anti-Unfair Competition Law*, (Law Press China, 2010), 114-115.

of competition in the area of Internet have brought about greater uncertainty in defining the relevant market. Theorists and practitioners are debating whether the free market under conditions of zero price competition is the relevant market in sense of antitrust law and how to carry out Hypothetical Monopolist Test ("HMT") in this circumstance. Influenced by the platform effect due to the existence of bilateral or multilateral market, the market boundaries in the area of Internet are characterized by the high ambiguity and thus far less clear than that of traditional market. The widely applicable method for market definition in traditional areas cannot therefore be directly applied to define the relevant market in the area of Internet. Another issue is the increasing difficulty to define the abuse of dominant market position. Under the condition of blurred market boundaries the market share has significantly reduced its role of indicators, which used to measure the enterprise market forces. The probability of miscarriage of justice will increase in case of defining the dominant market position based solely on market shares. It is hence an urgent issue, which the justice must resolve, to improve the rationality of definition of the dominant market position and the abuse of dominant market position.

### C. New demands of judicial relief

The competition in area of Internet is a far-reaching behavior, it increases rapidly, is hardly eliminated so that the survival of some enterprises will be threatened. The characteristics of Internet competition have proposed new requirements of the timeliness and effectiveness judicial protection. If the innovation and fair competition of an enterprise cannot be promptly protected, the enterprise might fall into the dilemma of "won the lawsuit, but lose the market," even if it could ultimately succeed in the litigation. From the point of view of judicial precedents the most serious problems the Parties complain about are insufficient com-

pensation, delayed temporary remedial measures etc. Among more than 120 cases of disputes of unfair competition in area of Internet, the amount of highest compensation is RMB 5 million, only 4 percent of the claim of the Party of this case.<sup>12</sup> The case of genuine "Kaixin001" had lasted more than one year, the corporation, though had won the litigation and got RMB 400,000 for compensation, had lost its market share, eroded by its competitors, and had not been able to reemerge. The function of judicial relief, suffering great shortage in the timeliness and effectiveness, cannot yet fully meet the demand of competition in area of Internet.

## III. Creative responses and adjustments from the judiciary

### A. Innovation and breakthrough of competition theory

The new characteristics of competition in the online industry (e.g. competition for attention, cross-market competition etc.) have redefined the competitive relationships and the role of judicial relief in unfair competition cases. Judicial precedents have to break through the limitations of existing theories by resorting to theoretical innovation. In Baidu Inc. vs. Unicom Qingdao, Osun Network and others, for instance, the appeal court held:

There exists competition between Unicom Qingdao and Baidu Inc, insofar as Unicom Qingdao has carried out the commercial activity of popping-up ads prior to the result of Baidu search. Thus, Unicom Qingdao competes with the paid search activity of Baidu, although Unicom Qingdao (network provider) and Baidu Inc. (provider of search service) offer entirely different services.<sup>13</sup>

12 Qihoo vs. Tencent of "QQ guards", civil judgment of CF no. 5 (the Supreme People's Court. 2013).

13 Shandong Province Higher People's Court, the civil judgment of LCSF №5-2.

This definition has broken through the theoretic limitation of direct competition and included indirect competition. Summing up precedents, the Supreme Court further points out in its justice policy: "the competitive relationship should be correctly defined, i.e. among all competitors that take part in the market and are impacted by the unfair competition. Between them, there exists competitive relationships, no matter if it is direct competition or not."<sup>14</sup> According to this justice policy, the competitive relationship between operator A and other operators, whose business is impacted by the competitive behavior of operator A, can be defined as such. In *Heyi Information Technology (Beijing) Co., Ltd vs. Security Software Company Kingsoft Corp.* about "Cheetah browser shielded video advertising" the appeal court had proposed two conditions to define a relationship of competition: whether the behavior of the operator can harm the interest of other operators; whether the operator can gain actual or potential benefit by virtue of this behavior. Meanwhile the trial court held that the criterion to define a competitive relationship does not rely on whether competitors are of the same industry.<sup>15</sup> It can clearly be seen that the position of the trial court is actually the specific application of the Supreme Court's justice policy. To a larger extent, competitive relationship means that the importance of a competitive relationship is declining to find unfair competition. Moreover, trial courts do not even carry out particular investigations of the competitive relationship between the parties in many cases, which means that the competitive relationship can no longer be an obstacle to define unfair competition. Thanks to the theoretical innovation the justice has broken away with the legal predicament based on the narrow understanding of competitive relationship, and thus has met the characteristics of competition in the online industry.

<sup>14</sup> Xi Xiao-ming, Vice President of Supreme People's Court, in the forum of national IPR trial courts (28 November, 2011).

<sup>15</sup> The Beijing First Intermediate People's Court, the civil judgment of FICF №3283. (2014).

## B. Adjustments of judging the fairness of competitive behavior

Given the new features of competition on Internet such as technicality, neutralization, and complexity of the effect of interests, courts have proposed new alternatives to judge the fairness of competitive behavior and new methodological adjustments.

First, the criteria of business ethics tend to be objective. In the traditional commercial sectors, business operators have formed commonly accepted business ethics. These ethics become dominant in determining the fairness of competition behaviors. "All competitive behaviors, violating conventional honest practices in commercial activities, constitute unfair competition."<sup>16</sup> The justice policy of the Supreme Court points out:

Any action, even if it is not forbidden by a particular provision of the anti-unfair competition law, can be regulated in accordance of the provisions of the applicable principles, if such action can be defined as unfair by harming the legitimate rights and interests of other operators and violating the principle of good faith and commonly accepted business ethics, and the fair competition order cannot be maintained without ceasing such action.<sup>17</sup>

Meanwhile, to prevent generalization and subjectivity of moral judgment, the judicial practice defines the business ethics as "standards of behavior, generally recognized and accepted in specific business areas, its objectivity is embodied in its common acceptance and commonality."<sup>18</sup> The criterion of business

<sup>16</sup> Paris Convention for the Protection of Industrial Property, September 28, 1979, Article 10.bis.

<sup>17</sup> The Supreme People's Court: "Some advices in consideration of full trial function of intellectual property, promotion of development and prosperity of socialist culture, promotion of the coordinated and autonomy development of economic", Article 24.

<sup>18</sup> The Supreme People's Court, the civil judgment of CTF № 1065. (2013).

ethics continues to play an important role in the definition of fairness in the new type of competition in Internet. Nevertheless, the commonly accepted business ethics of Internet business is still at the stage of formation and development due to the innovation and rapidly developing competition in this area. The court has to seek a more objective form of business ethics when applying the business ethics as the standard of the competition fairness evaluation. In the cases of "QQ Guards" and "Robots Protocol," the courts had considered the industry standards and self-regulation in Internet as an important origin of the criteria for discovery and definition of standards of conventional industry behaviors and commonly accepted business ethics.<sup>19</sup> The standard of behavior is the means of administration, whereas self-regulation is the means of self-management of operators in the industry, both means do not exactly accord to commonly accepted business ethics. Therefore, the courts emphasizes that it is necessary "to rely on the judgment of their legality, impartiality and objectivity, (the mentioned) relevant means can be taken as references for defining standards of conventional industry behaviors and commonly accepted business ethics in Internet."<sup>20</sup>

Second, evaluating the effect of competitive behavior has become more important in the judgment of its fairness. The objectivity of business ethics in Internet is getting more difficult because of the technicality and neutralization of competitive behavior. Therefore, courts began to pay attention to the evaluation of the effect of the competitive behavior and seek to justify the fairness of the behavior by assessing the impact of the behavior on the legal interest protected by competition law. In the case of "Cheetah browser shielded video advertising,"

the civil court had investigated and analyzed the harm that Heyi Information Technology (Beijing) Co., Ltd has suffered due to the behavior of "Cheetah browser shielded video advertising" based on the behavior's perspective effects, and assessed the long-term impact on the interest of customers and public interest. Then came to the conclusion that the behavior of "Cheetah browser shielded video advertising" constituted unfair competitive behavior.<sup>21</sup>

More cases demonstrate a new mode of evaluating the fairness of behavior: the judgment is carried out on the basis of comprehensive evaluation of the impact of competitive behavior on the interest of competitors, the interest of customers and the public interest of society. The analysis of the harm that the operator suffers as the result of competitive behavior is set to be the logical starting point. For the operator's interest is the object, directly protected by the anti-unfair competition law. All concerned cases have considered the impact on operators through competitive behavior. The customer is the object of competitive behavior that bears the result of competition and accepts the market products; it is therefore the final aim of justice to enhance consumers' welfare. It should be an integral part of the judgment of fairness of competitive behavior to consider the impact of competitive behavior on the customers' interest with respect of enhancement of consumers' welfare and their fundamental benefit. The customers' interest is itself multilevel and relative due to differentiation of consumer groups and their divergent interests. Trial courts have been paying attention to this issue and assessing the different interests of consumers with different weights. Trial courts have been following more closely the influence of competitive behavior on the right of customers to know and to choose; to harm this type of customers' interest will more likely be confirmed to constitute

19 The Supreme People's Court, the civil judgment of CTF № 5 (2013) and The Beijing First Intermediate People's Court, the civil judgment of FICF № 2668. (2013).

20 The Supreme People's Court, the civil judgment of CTF № 5. (2013).

21 The Beijing First Intermediate People's Court, the civil judgment of FICF № 3283. (2013).

unfair competition. Present judicial precedents demonstrate that the positive customer experience and other kind of customers' interest that can be resolved via the market do not have a significant impact on evaluating the fairness of competitive behavior. On this basis, many judicial precedents have investigated the impact of competitive behavior on the public interest of society and analyzed whether this kind of behavior could harm the healthy mechanism of market competition. The method of comprehensive evaluation of negative and positive results is very close to the principle of rationality for antitrust analysis; it indicates the integration and interoperability of the anti-unfair competition law and the antitrust law.

Third, the trend of multi-angle evaluation. Because there is no conflict between criteria of moral evaluation and criteria of evaluation of competition result, the nationality and persuasiveness of the evaluation result will improve if the fairness of competitive behaviors is inspected under various angles, e.g. moral evaluation, efficiency competition, principle of proportionality, assessment of competitive effects etc. The typical cases of application of this method are "QQ guards" and "Cheetah browser shielded video advertising."

### C. Innovation in application of antitrust law

The competition in the Internet industry obviously differs from the competition in traditional areas. The logic of analysis and method, widely applicable for monopoly behaviors in traditional areas, cannot be applied directly in the Internet industry. The justice has carried out targeted adjustments and innovation in accordance with the competitive features on the Internet.

First, innovation in the analysis of abuse of dominant market position cases in the Internet industry. In the traditional antitrust law there are three patterns of analysis of abuse the dominant market position: pattern 1 "relevant market-mar-

ket power- competitive effects (R-M-C)", for which the definition of relevant market is the insurmountable starting point of analysis of the monopoly. Pattern 2 "market power - competitive effects (M-C)", for which the starting point of analysis is the definition of market power that can be tested and verified by virtue of direct or indirect evidence. Under this pattern of analysis the definition of relevant market can be circumvented. Pattern 3 "behavior - competitive effects (C-C)".

For traditional antitrust judicial cases, pattern 1 is currently the leading pattern of analysis in European and American courts, whereas pattern 2 is rarely applied in practice, and pattern 3 has not yet been applied. In Internet, the boundaries of relevant market are obscured even more due to the competition for customers' attention, the platform competition and cross-market competition. Thus, the justice should keep the necessary caution when applying R-M-C pattern and apply the two latter patterns as the preferred tool of analysis. Chinese courts have carried out valuable attempt in this relation. In *Qihoo 360 Technology Co Ltd vs. Tencent computer system Co. Ltd.* of abuse the dominant market position, the trial court, in an in-depth investigation of the relevant market concerned and analyzing the market power of Tencent in this market, had come to the conclusion that Tencent company does not possess the dominant market position. Yet the trial court did not cease the investigation and analysis at this point, but had further evaluated the actual or potential effect of the respondent monopolistic behavior on the market competition and had carried out the final judgment on this basis.<sup>22</sup> For this method of analysis of the relevant market, the market power and the effect of competitive behavior are considered related and referenced factors, but not separate stages of analysis; the rationality of the definition is

<sup>22</sup> The Supreme People's Court, civil judgment of CTF № 4. (2013),



thus improved due to a cross-verification of all mentioned factors. For this method of analysis, these three patterns can be flexibly chosen in accordance with a particular case. The C-C pattern could be chosen when it seems to be difficult to define the relevant market and the market dominant position, thus the relevant market could lie beyond a clear definition. The caution should be kept in finding the indicator effect of market share on the basis of features of online competition even when the relevant market and market share are defined by using the former two patterns. In this case factors such as market entry, market behavior and economic results become the focus of attention.

The competition in circumstance of Internet is highly dynamic, the boundaries of relevant market are thus far less clear than that in traditional areas, the indicator effect of market share in this case should not be overvalued, more attention should be paid to those factors such as market entry, market behaviors of operators and their influence on the competition etc. which can help to determine the facts and evidence of dominant market position.<sup>23</sup>

Meanwhile trial courts have applied more flexible methods to analyze various factors with respect to the particularities of the competition in Internet: when defining relevant market of goods and services of relative platform features, possessing certain but not very close substitution, such products and services could be involved in consideration of the influence on the behavior of hypothetical monopolist, no matter whether they can be included in the scope of relevant market or not. When determining the dominant market position, the analysis of the result of competition should not be abandoned even after certain preliminary conclusions, the consideration of the result of competition and the verification of the accurateness of judg-

ment of the dominant market position should be carried out further.

Second, adjustment of Hypothetical Monopoly test ("HMT"). In Qihoo 360 Technology Co Ltd vs. Tencent computer system Co. Ltd., the trial court had explored the applicability of HMT in the online industry and the method of its specific application. The trial court held that, as a method to analyze relevant market, HMT has universal applicability, yet the particular analysis by means of HMT should be carried out in dependence of the area of market competition, concerned in the specific case, and the relevant data that can be obtained. Competitors in the area of Internet pay more attention to quality, services, innovation etc., but not price. Customers have very high price sensitivity, so to them, it would seem a great change of the features of products and the business model, if free products or services would have turned to paid ones. The HMT in terms of price increment is thus not fully applicable in area of Internet, yet the alternative forms of this method, e.g. HMT on the basis of quality degradation, could still be applied.

Third, innovation in the method of analyzing relevant market and market power, related to multi-sided platform cost-free for users. Economists usually apply the method of conversion analysis for defining relevant market of platform products or services for charge-free users by regarding the charge-free basic services as the investment for platform products with the purpose of converting the market of platform product to common and paid single market.<sup>24</sup> This method, though simple and convenient, might not only exaggerate the influence of platform competition, but also to certain extent neglect the connection and interaction of both ends of the platform; it is hence neither scientific nor

23 Id.

24 Herbert Hovenkamp, *The antitrust enterprise: principle and execution*, trad. Wu XU-liang (University of Finance & Economics Press, 2011), 48.

accurate. In *Qihoo 360 Technology Co Ltd vs. Tencent computer system Co. Ltd.* the trial court did not apply this method of analysis, but, had investigated whether the features of platform competition can affect the definition of relevant market based on “whether the competition between online platforms, competing for customers’ attention and advertisers, totally steps over the boundary determined by the features of products or services and thus imposes sufficiently strong competitive constraint on operators,”. The trial court had chosen the free instant messaging service as the criterion to define the relevant market because of the absence of exact empirical data that could prove that platform competition has imposed sufficiently strong competitive constraint on operators, as well as in case that the competitive behaviors involved in litigation occur mostly at the free users’ end. At the same time, the trial court did not neglect the influence of platform competition by taking it in proper consideration when defining market position and market power. We see that the trial court has flexibly applied the new method of analysis for specific case when economics is not yet able to supply any more persuasive pattern of analysis for relevant judicial cases. The revelation is: for platform-related products or services there is no fixed pattern of analysis, the relevant market and dominant market position should be determined depending on each specific case. What the court has to do is to take into consideration features of platform and the interaction of both ends of the platform, and then accurately identify the actual or potential competitive constraint the operators can face.

Fourth, advocate for an objective and effect-oriented method of analysis. The antitrust action follows closely whether the respondent monopolistic behavior will distort and destruct the healthy, orderly and energetic competition mechanism. Such action “has involved in itself neither moral content nor ethic law, appropri-

ately designed for business.”<sup>25</sup> In the antitrust case the important thing is industry reality and economic rationality, the moral thinking must thus be avoided. One should search the original sin of monopoly merely in competition result and economic reality. In *Qihoo 360 Technology Co Ltd vs. Tencent computer system Co. Ltd.* the trial court did not carry out any moral evaluation of “either-or” and other behaviors of Tencent, but had focused on the effect of the respondent monopoly behaviors. After a comprehensive evaluation of the actual and potential passive and positive results that these behaviors caused, the court came to the conclusion that such behaviors were legal. In this process, the trial court had followed the method of investigation that especially focuses on a specific industry and in a specific behavior. In other words, to investigate a specific behavior of a specific industry with respect to the characteristics of the respondent monopoly behaviors and its impact on the competition, to consider in detail platform effect and network effect on each specific case, and thus to more accurately determine the impact of behavior on the competition.

Fifth, the creative combination of legal judgment and economic analysis. The analysis and judgment of legality of the monopolistic behavior usually relies on the economic analysis, yet the ultimate decision will be carried out by the judge. The economic analysis only makes available different tools for the proper legal judgment; the judge cannot thus transfer the right to rule to economists. Therefore the judge should creatively combine the legal judgment and the economic analysis in the antitrust case by properly applying the conclusion of economic analysis for improving the accuracy of legal judgment of monopoly behavior. In *Qihoo 360*

25 For price-related method of analysis see Peter Davis and Eliana Garcés, *Quantitative Techniques for Competition and Antitrust Analysis*, trad. Zhou De-fa. (China Renmin University Press, 2013), 139.

Technology Co Ltd vs. Tencent computer system Co. Ltd. the trial court, analyzed whether the acquisition costs of mobile terminal equipment constituted an obstacle for including the mobile instant message service in the relevant market. In doing so, it considered that for the customer who possesses both mobile terminal device and a PC, the acquisition costs of mobile terminal equipment had already become sunk costs. This fact cannot be changed due to any current or future decision of the provider, the acquisition costs cannot any way influence on the customer's choice between mobile terminal device and PC as the preferred equipment for instant message. Thus, the court came to the conclusion that acquisition costs of mobile terminal equipments will not constitute any obstacle for including the mobile instant message service in the relevant market in this case. This is a typical example of applying economic commonsense in a specific case.

According to economists, the trial court has carried out even more professional price-related analysis determining whether social network Weibo and instant message can be included in the same relevant market. This is an example of combination of economic analysis and legal judgment. For a correct and reasonable application of economic analysis, the methodological errors should be prevented and the limitation of data and constraint of conditions should be properly considered. A judge should break away from arrogance and prejudice when applying the method of economic analysis and adopting a conclusion. It is important for justice that the judge, besides the necessary economic knowledge, maintains the principle of "effect first." In other word, the judge should follow closely the actual or potential effect of respondent monopoly behaviors on competition, and in doing so, adequately apply the economic analysis and stay away from possible methodological errors, limitation of data and constraint of conditions. The more realistic, more rational and more

accurate conclusion of the legal identification of monopolistic behavior can finally be drawn as long as the essence of the monopolistic behavior that causes actual or potential negative effect on the competition will be grasped. The result of the economic analysis based on direct evidence will be verified pursuing to the "effect first" principle. This could explain the judicial action in Qihoo 360 Technology Co Ltd vs. Tencent computer system Co. Ltd., where the trial court, applying an economic analysis, investigated whether the monopoly's actions will exclude or restrict competition on the basis of almost all testimonies related to the effect of its behaviors.

#### IV. Conclusion

From the point of view of interpretation and application of substantive law, the analysis abovementioned demonstrates that the justice has creatively responded to the competitive behaviors in an online environment. It also clarified legitimacy boundaries of competitive behaviors, and thus effectively regulated competition on Internet. Some responding measures and innovation of applicable judicial methods has had a profound influence on international justice. Yet, needless to say that there are a lot of shortcomings of the responding measures and methods mentioned, e.g., there are many misunderstandings, even mistakes in dealing with the correlation between anti-unfair competition law and antitrust law with respect of applying the substantive law. There exist more or less specious and vague criteria for judging the legitimacy of competition; the economic analysis of monopolistic behavior and the assessment of the competitive effects are not yet well skilled; the lack of timely and effective judicial relief seriously impacts and limits the fully implementation of judicial efficiency. A further improvement is to be planned in the future judicial practice.

# Can Big Data Protect a Firm from Competition?

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## Executive Summary

There is plenty of hype around big data, but does it simply offer operational advantages, or can it provide firms with sustainable competitive advantage? To answer this question, we look at big data using a classic framework called the 'resource-based view of the firm,' which states that, for big data to provide competitive advantage, it has to be inimitable, rare, valuable, and non-substitutable.

Our analysis suggests that big data is not inimitable or rare, that substitutes exist, and that by itself big data is unlikely to be valuable. There are many alternative sources of data available to firms, reflecting the extent to which customers leave multiple digital footprints on the internet. In order to extract value from big data, firms need to have the right managerial toolkit. The history of the digital economy offers many examples, like Airbnb, Uber and Tinder, whereas simple insight into customer needs allowed entry into markets where incumbents already had access to big data.

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Therefore, to build sustainable competitive advantage in the new data-rich environment, rather than simply amassing big data, firms need to focus on developing both the tools and organizational competence to allow them to use big data to provide value to consumers in previously impossible ways.

## I. Introduction

The digitization of the offline and online economy alike means that firms are naturally collecting 'big data', distinguished by its volume<sup>1</sup>, variety of formats spanning text, image and video, and velocity, meaning that data is recorded in real time.<sup>2</sup>

There is plenty of hype around big data. Firms are constantly exhorted to set strategies in place to collect and analyze big data (Bughin et al., 2010; Biesdorf et al., 2013), and warned about the potential negative consequences of not doing so. For example, the Wall Street Journal recently suggested that companies sit on a treasure trove of customer data but for the most part do not know how to use it.<sup>3</sup> Recent articles such as McGuire et al. (2012) and McAfee et al. (2012) have made cases for why big data offers a short-term operational advantage, both in terms of cost and performance, for firms who find ways of using it successfully.

1 Companies such as Amazon and Walmart already work with petabytes of data in a single data set (McAfee et al., 2012).

2 This functional definition of big data does not specify the depth of consumer insight it can provide. Big data spans anonymized user data, personally identifiable information, search query data, web browsing data or data on consumer sentiments or purchase intentions. Depending on the specific type of data under consideration, how valuable it is to the firm may differ.

3 [http://www.wsj.com/articles/the-untapped-value-of-customer-data-1444734633?mod=djem\\_jiewr\\_MK\\_domainid4https://hbr.org/2015/01/why-nordstroms-digital-strategy-works-and-yours-probably-doesnt](http://www.wsj.com/articles/the-untapped-value-of-customer-data-1444734633?mod=djem_jiewr_MK_domainid4https://hbr.org/2015/01/why-nordstroms-digital-strategy-works-and-yours-probably-doesnt). This article highlights that because digital technologies are visible and accessible to competitors, it is hard to generate a competitive advantage.

However, big data's long-term strategic, rather than operational, implications for firms are less clear. Academic opinion differs on whether it will lead to a new type of competitive advantage (McGuire et al., 2012) or not.<sup>4</sup> The question of whether big data can indeed confer sustainable competitive advantage is critical for firms but has, to our knowledge, received surprisingly little systematic attention.

To evaluate the strategic role of big data as a source of sustainable competitive advantage or as a barrier to entry, we use a classic framework in strategic management sometimes referred to as the 'resource-based view of the firm' (Wernerfelt, 1984; Barney, 1991; Peteraf, 1993; Barney, 2001). This literature is useful because it sharply distinguishes factors that enhance an entire industry from a 'sustainable competitive advantage' that fits a single firm. For there to be a sustainable competitive advantage, the firm's rivals must be unable realistically to duplicate the benefits of this strategy or input.

Specifically, Barney (1991) suggests that for a firm resource to be a source of competitive advantage, the resource has to be inimitable, rare, valuable, and non-substitutable. In a similar spirit to Markman et al. (2004)'s analysis of patents, we examine along each of these dimensions whether big data is a source of sustainable competitive advantage to firms.

## II. Is Big Data Inimitable?

For big data to be inimitable, no other firm should easily be able to replicate the advantage. There are two underlying economic reasons for why big data in many instances is unlikely to be inimitable. First, big data is non-rivalrous,

meaning consumption of the good does not decrease its availability to others. Second, big data has near-zero marginal cost of production and distribution even over long distances (Shapiro and Varian, 1999). These two basic characteristics, combined with the fact that customers constantly leave footprints on the internet, have lead to a thriving industry where consumer big data is resold.

This type of commercially available big data allows new entrants to gain insights similar to those available to firms that own big data on a large number of customers. There are many examples of large commercially available data sets. Acxiom has 'multi-sourced insight into approximately 700 million consumers worldwide' with over 1,600 pieces of separate data on each consumer; Datalogix asserts that its data 'includes almost every U.S. household.'<sup>5</sup> Comcast is planning to license TV viewing data collected through set-top boxes and apps.<sup>6</sup> Other companies, such as the Oracle- owned Bluekai, sell cookie-based user information online to allow for targeting advertising based on a user's past activities or demographics. Bluekai states that it has data on '750 million unique users per month with an average of 10-15 attributes per user.'<sup>7</sup> To protect both their customers and themselves, such companies undertake to ensure that their data collection complies fully with data protection rules.

Given the different possible types of big data, an obvious question is whether this analysis extends to cases where the big data has what appears to be unique or individual insights. For

4 <https://hbr.org/2015/01/why-nordstroms-digital-strategy-works-and-yours-probably-doesnt>. This article highlights that because digital technologies are visible and accessible to competitors, it is hard to generate a competitive advantage.

5 See Acxiom Corp., 2013 10K Annual Report for the Period Ending March 31, 2013 and Staff of S. Comm. on Commerce, Sci., and Transp., Office of Oversight & Investigation, A Review of the Data Broker Industry: Collection, Use and Sale of Consumer Data for Marketing Purposes.

6 <http://www.wsj.com/articles/comcast-seeks-to-harness-trove-of-tv-data-1445333401>

7 [https://docs.oracle.com/cloud/latest/daasmarketing\\_gs/D](https://docs.oracle.com/cloud/latest/daasmarketing_gs/D)



example, recently the retail store Target hit the headlines because of its alleged ability to use its retail shopping data to predict a pregnancy even before close relatives knew about it.<sup>8</sup> However, even such highly specific and timely data-driven insights are easy to imitate for firms that do not own a national database of retail sales. For example, a marketing unit of the credit-scoring agency Experian sells frequently updated data on expecting parents, along with income and first-birth information.<sup>9</sup>

In addition, data that is available due to individual consumer-level tracking is complemented by the explosion of user-generated content where consumers themselves create a footprint of their behavior, likes, opinions and interests across the internet. Recent research in computer science has emphasized that by combining a myriad of external online profiles, external firms can gain huge insights into any one customer (Narayanan and Shmatikov, 2008; Calandrino et al., 2011). Firms can also use such content as a direct substitute for customer data. For example, Edelman (2015) discusses that Zillow.com was able to build a successful home-buying digital platform by relying on existing town assessment data.<sup>10</sup>

In short, where a market for data exists, it is unlikely that big data is inimitable.

### III. Is Big Data Rare?

For Big Data to be a 'rare' resource would

mean that few other firms possess it. However, there are two reasons why this is unlikely to hold. First, large shifts in supply infrastructure have rendered the tools for gathering 'big data' commonplace (Greenstein et al., 2013). Cloud-based resources such as Amazon, Microsoft, and Rackspace make these tools not dependent on scale<sup>11</sup> and storage costs for data continue to fall, so that some speculate they may eventually approach zero<sup>12</sup>. This allows ever smaller firms to have access to powerful and inexpensive computing resources. Free open source technologies such as Hadoop that allow users to analyze large datasets are widely available and accessible.

Second, as consumers' lives increasingly shift to the web, consumers leave traces of their needs and preferences everywhere. Firms who embrace these low-cost digital technologies have many opportunities to gather customer data. Telecom companies can collect data on calling behavior and browsing on their phones; Amazon, Macy's and Walmart collect detailed consumer-level purchase data, while platforms such as Bluekai collect a large range of detailed consumer browsing and purchasing information across multiple website.<sup>13</sup>

Indeed, such 'multi-homing', that is the use of multiple different digital services by consumers, means that similar pieces of information are often available to many different companies.

8 [http://www.nytimes.com/2012/02/19/magazine/shopping-habits.html?\\_r=0](http://www.nytimes.com/2012/02/19/magazine/shopping-habits.html?_r=0) There are some doubts over the origin of this story and whether Target actually did this - see for example <http://www.kdnuggets.com/2014/05/target-predict-teen-pregnancy-inside-story.html>

9 <http://www.experian.com/small-business/prenatal-lists.jsp>

10 He highlights the interaction between publicly available information and user generated content, saying, 'Zillow's initial information was good enough to attract consumer interest, at which point property owners happily contributed corrections, photos, and other information. Indeed, real estate agents were soon willing to pay to show their advertisements in and around Zillow's property listings.'

11 <http://betanews.com/2014/06/27/comparing-the-top-three-cloud-storage-providers/>

12 <http://www.enterprisestorageforum.com/storage-management/can-cloud-storage-costs-fall-to-zero-1.html>

13 The European Commission spoke similarly in 2014 when concluding its investigation into Facebook's acquisition of WhatsApp. It concluded that 'there are currently a significant number of market participants that collect user data alongside Facebook, including Google, Apple, Amazon, eBay, Microsoft, AOL, Yahoo, Twitter, IAC, LinkedIn, Adobe and Yelp and that, in addition, 'there will continue to be a large amount of Internet user data that are valuable for advertising purposes and that are not within Facebook's exclusive control'. See (Tucker and Wellford, 2014) as well as "Case No COMP/M.7217 - FACEBOOK/WHATSAPP", [http://ec.europa.eu/competition/mergers/cases/decisions/m7217\\_20141003\\_20310\\_3962132\\_EN.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf)

Take, as an example, consumers who use multiple online social media such as Facebook, Twitter, LinkedIn or Instagram and share broadly similar information through each of them. Or, consider access to information in the app ecosystem: Many apps, and not only those related to location or weather, regularly ping location data - as many as hundreds of times a week - meaning that a user's location is always available to a wide range of firms (Almuhimedi et al., 2015). Of course, as we later discuss, these firms still have to invest in ensuring that they have the technical skills to transform this data into valuable insights.

Seeing that big data is not inimitable or rare, we turn to the question of whether and when big data is valuable for firms.

#### IV. Is Big Data Valuable?

Much of the current managerial literature is focused on whether or not 'big data' is indeed valuable for firms in that it enhances a firm's ability to have profitable relationships with customers (Chen et al., 2012). Cuzzocrea et al. (2011) point to three open problems currently challenging analysts and researchers faced with ensuring that big data is valuable to organizations. We discuss these challenges in turn and conclude that by itself big data is not sufficient to create profit-enhancing opportunities. The first challenge limiting the value of big data to firms is compatibility and integration. One of the key characteristics of big data is that it comes from a 'variety' of sources. However, if this data is not naturally congruent or easy to integrate, the variety of sources can make it difficult for firms to indeed save cost or create value for customers. Such hindrances may prove particularly burdensome in industries such as healthcare, where prior research has shown that firms have strategic incentives to ensure that data is siloed and hard to integrate (Miller and Tucker, 2014).

The second challenge to making big data

valuable is its unstructured nature. As discussed by Feldman and Sanger (2007), specialized advances are being made in mining text-based data, where context and technique can lead to insights similar to that of structured data, but other forms of data such as video data are still not easily analyzed. One example is that, despite state-of-the-art facial recognition software, authorities were unable to identify the two bombing suspects for the Boston Marathon from a multitude of video data, as the software struggled to cope with the full-frontal nature of the photo of their faces.<sup>14</sup> Given the challenges of unstructured data, firms tend to find big data most valuable when it augments the speed and accuracy of existing data analysis practices. In oil and gas exploration, big data is used to enhance existing operations and data analysis surrounding seismic drilling. However, as emphasized by Feblowitz et al. (2013), 'Geologists, geophysicists, and reservoir engineers have been using massively parallel processing capabilities of high-performance computing (HPC) to perform analysis on petabytes (PB) of data to inform exploration since the late 1990s.' In other words, though big data may be a new label for such practices, and the volume of data may have increased, big data is valuable in oil and gas as an extension of existing practices and infrastructure. Most firms' ability to analyze the 'variety' of types of big data does not yet match their ability to record its volume and velocity.

The third challenge, and in our opinion the most important factor that limits how valuable big data is to firms, is the difficulty of establishing causal relationships within large pools of overlapping observational data. Very large data sets usually contain a number of very similar or virtually identical observations that can lead to spurious correlations and as a result mislead managers in their decision making. The Economist recently pointed out that 'in a world

14  
gation/

<http://www.wired.com/2013/05/boston-marathon-investi->

of big data the correlations surface almost by themselves' (Economist, 2010) and a Sloan Management Review blog post emphasized that while many firms have access to big data, such data is not 'objective',<sup>15</sup> since the difficulty lies in distilling 'true' actionable insights from the data. Similarly, typical machine learning algorithms used to analyze big data identify correlations that may not necessarily offer causal and therefore actionable managerial insights. Domingos (2012) suggests that machine learning algorithms should be used as a 'guide to further investigation' in order that we might be able to 'predict the effect of our actions.' In other words, the skill in making big data valuable is being able to move from mere observational correlations to correctly identifying, potentially outside of big data, what correlations should form the basis for strategic action.

One well-known example of big data is Google Trends, which uses Google's records of aggregate search queries. However, it is also an example of a case where the fact that the data is merely correlational limits its usefulness. Butler (2008) argued that this data could be used to project the spread of flu. However, later researchers found that because the data was backward-looking rather than forward-looking, using search data only marginally improved performance relative to a 'simple autoregressive model' (Goel et al., 2010).<sup>16</sup>

To take a more specific example, imagine a shoe retailer that advertises to consumers who have previously visited their website on other websites. Raw data analysis would suggest that customers exposed to these ads are more likely to purchase shoes. However, these consumers, who have previously visited the website have already demonstrated their interest in

the specific retailer even prior to viewing the ad, and so are more likely than the average consumer to purchase (Lambrecht and Tucker, 2013). Was the ad effective? It is hard to say.<sup>17</sup> Indeed, big data here does not allow any causal inference about marketing communication effectiveness. To understand whether such ads are effective, the retailer needs to run a randomized experiment, where one subset of consumers is randomly not exposed to the ad.<sup>18</sup> By comparing the purchase probabilities across consumers who were exposed to the ad and those who were not, the company can then determine whether exposing consumers to an ad made them more likely to buy. Value is delivered in such instances not primarily by the access to data, but by the ability to design and implement meaningful experiments. Therefore, experiments are the main way firms can understand whether a data relationship is merely correlational or might be predictive (because it is causal). Implementing field experiments, drawing the right conclusion and taking appropriate action is not necessarily easy (Lambrecht and Tucker, 2015)<sup>19</sup>. However, successful companies have developed the ability to design, implement, evaluate and then act upon meaningful field experiments. It is this 'test and learn' environment, coupled with the skill to take action on the insights, that can make big data valuable.<sup>20</sup>

Thanks to diminishing returns to increasingly

<sup>15</sup> <http://sloanreview.mit.edu/article/for-better-decision-making-look-at-facts-not-data/>

<sup>16</sup> There were also other critiques of the usefulness of the initial predictive model: (Cook et al., 2011; Lazer et al., 2014)

<sup>17</sup> This is emphasized by work such as Lewis et al. (2011) who show that this kind of activity bias, that is the mere fact of being present on a website signalling something about the consumer, makes the use of non-experimental data in assessing advertising effectiveness almost impossible.

<sup>18</sup> Across many industries, field experiments have widely been used to evaluate advertising effectiveness (Lambrecht and Tucker, 2013; Draganska et al., 2014; Lambrecht et al., 2015; Lewis and Rao, 2015; Blake et al., 2015; ?)

<sup>19</sup> [https://hbr.org/2015/11/run-field-experiments-to-make-sense-of-your-big-data?utm\\_campaign=HBR&utm\\_source=facebook&utm\\_medium=social](https://hbr.org/2015/11/run-field-experiments-to-make-sense-of-your-big-data?utm_campaign=HBR&utm_source=facebook&utm_medium=social)

<sup>20</sup> Note that even when using insights from experiments, managers need to carefully consider the scope of any findings and how replicable they will be in different contexts (Ioannidis, 2005).

large data samples, such experimentation does not necessarily require big data. For example, Google reports that it typically uses random samples of 0.1% of available data to perform analyses (Varian, 2014). Indeed, a recent article suggested that the size of big data can actually be detrimental as 'the bigger the database, the easier it is to get support for any hypothesis you put forward'.<sup>21</sup> In other words, because big data often offers overlapping insights, a firm can get similar insight from one-thousandth of the full dataset as from the entire dataset.

Experimentation is not the only method companies can use to infer valuable insights from big data. Another potential skill firms can develop is the ability to build better algorithms to deal with big data. One example for such algorithms is recommender systems. Recommender systems rely on algorithms trained on correlational data to recommend the most relevant products to a customer. Yet, again, it is not the size of the underlying data, but the ability to identify the critical pieces of information that best predict a customer's preferences. For example, it has been shown that to predict preferences for movies, ten movie ratings alone are more helpful than extensive metadata (Pilászy and Tikk, 2009). Indeed, often not the size of the data but the machine learning algorithm used determines the quality of the results.<sup>22</sup> While predictive power may increase with the size of the data available, in many instances the improvements in predictions show diminishing returns to scale (Junqué de Fortuny et al., 2013).

Our analysis demonstrates that, by itself, big data is unlikely to be valuable. It is only when combined with managerial, engineering, and

analytic skill in determining the experiment or algorithm to apply to such data that it proves valuable to firms.<sup>23</sup> This suggests that for firms, the primary challenges lie in determining a big data strategy,<sup>24</sup> implementing the systems and tools to analyze the data<sup>25</sup> and adapting organizational capabilities (McAfee et al., 2012; Bughin et al., 2010).

Given that our previous analyses suggest that big data is neither rare nor inimitable, we conclude that the search for competitive advantage in the new digital economy should focus on attracting the kind of skilled workers who are able to transform big data into valuable tools.

## V. Is Big Data Non-Substitutable?

For a resource such as big data to provide a sustainable competitive advantage, there has to be no other means of achieving success in the specific industry. Yet, in the digital world, perhaps more so than offline, there are many examples of firms that came from nowhere and, without any embedded data advantage, were still able to disrupt an industry and attract more customers because of a superior value proposition. In this section, we discuss five settings where alternative firm capabilities have proved to be compelling substitutes to big data and consequently where big data has not been a sufficiently sustainable source of competitive advantage.

First, it is natural to focus on an industry where

21 <https://www.london.edu/faculty-and-research/lbsr/diie-nov-drowning-in-numbers#.Vk-OZvmrRNO>

22 <http://www.slideshare.net/xamat/10-lessons-learned-from-building-machine-learning-systems>, <http://stackoverflow.com/questions/25665017/does-the-dataset-size-influence-a-machine-learning-algorithm>

23 One potential way of evaluating whether this insights holds in a specific context is to examine the pricing of data relative to firm processing skills. Data being very cheap relative to processing skills suggests that processing skills are more important than data in creating value for a firm.

24 <http://www.cio.com/article/2395010/data-management/the-big-data-challenge--how-to-develop-a-winning-strategy.html>

25 <http://sloanreview.mit.edu/article/overcoming-legacy-processes-to-achieve-big-data-success/>

data has, even before the internet, offered operational advantages. The communications industry has long used large data sets to both improve operations (e.g. data network flow) and offer better value to customers (e.g. through pricing plans that meet customer needs, see for example Lambrecht and Skiera (2006); Ascarza et al. (2012)). Many traditional communications firms such as AT&T and Verizon as well as newer online firms such as Skype and Facebook have large data sets covering messaging services. Despite this, the messaging app WhatsApp became a serious competitor to established messaging and social network services by offering a product that satisfied social media users' latent needs - an easy-to-use interface and an extremely low-cost messaging solution. Even when acquired by Facebook for \$22 billion, WhatsApp had only 55 employees, suggesting its success was not due to large-scale data analytics capacity.<sup>26</sup> A similar example is Snapchat, which succeeded in competing in this space without access to big data because of its insight that people wanted to share personal information more privately.

Another industry where big data could provide insights into consumer preferences and therefore give advantages to large digital firms when launching new products, is online gaming. Yet, King Digital Entertainment was not among the dominant digital gaming companies, nor supported by firms with access to big data such as Google and Facebook, when it launched the smartphone hit Candy Crush Saga. By 2014, 93 million people played Candy Crush Saga more than 1 billion times a day.<sup>27</sup> The fact that Candy Crush is playable in short sessions and does not

require extensive time investment explains its appeal to the non-gaming population of time-strapped parents, or commuters, 'from office juniors through to CEOs'.<sup>28</sup> This example illustrates that a superior value proposition to a new group of consumers can be more important than access to data, even in a sector where companies routinely have access to big data.

Second, it is natural to ask whether there is a substitute for insights from big data in sectors where there has historically been little use of data. It is possible that in such contexts, firms in adjacent sectors who do have big data have an executional advantage in terms of modernizing these sectors. However, the rise of the new 'sharing economy' provides evidence that to build up entirely new digital industries in traditional sectors does not require access to big data. Uber and Lyft had no superior access to data compared to established taxi services, but they were better at putting together a product that met consumer needs for a convenient and reliable taxi service. AirBnB entered a highly competitive industry where large travel companies have access to large swathes of data and regularly run experiments to interpret their data in a meaningful way to constantly improve business practices. Yet, despite the lack of data, AirBnB quickly became a dominant player because of its superior value proposition. Google's purchase of ITA along with its flight data and data-processing capabilities did not give Google a significant presence in the flight search market. This contrasts with the growth of Kayak - a travel search engine - which grew from 2004 from a small start up with no user data to being acquired in 2012 by Priceline for \$1.8 billion.<sup>29</sup> Indeed, recent spectators have argued that for the sharing economy the secret sauce is not data by itself, but instead the systems that such platforms build around ensuring there is 'trust

26 <http://www.forbes.com/sites/parmyolson/2014/10/06/facebook-closes-19-billion-whatsapp-deal/>, <http://www.businessinsider.com/why-facebook-buying-whatsapp-2014-2?IR=T>, <http://www.bloomberg.com/news/articles/2014-10-28/facebook-s-22-billion-whatsapp-deal-buys-10-million-in-sales>

27 <http://www.theguardian.com/technology/2014/mar/26/candy-crush-saga-king-why-popular>, <https://thinkgaming.com/app-sales-data/2/candy-crush-saga/> While Candy Crush Saga is free to download and play, it makes its money from in-app purchases of extra moves, lives and power-ups, with estimated daily revenues of over \$700,000, as of November 23, 2015

28 <http://www.theguardian.com/technology/2014/mar/26/candy-crush-saga-king-why-popular>

29 <http://thenextweb.com/insider/2012/11/08/priceline-com-acquiring-travel-company-kayak-for-1-8b-in-cash-and-stocks/>



and reputation' among users of the platform.<sup>30</sup>

Third, industries where data is important for delivering a personalized experience, and where this personalized system of recommendations is particularly important for customer experience, may be another natural setting where big data might have few substitutes. One obvious example of such an industry is online dating, where the difficulty of predicting human relationships likely puts a premium on the availability of large data sets. However, Tinder entered the online dating market in September 2012 with no access to existing data and quickly became a dominant player with 1.6 billion Tinder profiles, making more than 26 million matches per day (as of April 2015). More than 8 billion matches have been made since Tinder launched.<sup>31</sup> Tinder succeeded not because of big data but because it offers a better solution for its market. Critically, this included a simple user interface that does not require long surveys and allowed users to express interest using a simple game-like 'swipe right' and a 'double opt-in' for matches, where both users must agree before they can message each other. To build up its user base, Tinder did not advertise or use mass emails based on big data bases, but instead hosted 'exclusive' parties on college campuses with admittance based on having downloaded the app.<sup>32</sup>

Fourth, another natural place to look for non-substitutability is industries with switching costs and network effects. Switching costs are the costs (both perceived and real) incurred by customers when they switch brands or suppliers. Network effects occur when the usefulness of a product, service or platform increases as more people use it. Historically, switching costs and network effects have been highlighted by

economists as potential sources of incumbent competitive advantage, especially in digital environments (Farrell and Klemperer, 2007). Therefore it is natural to ask whether big data, in combination with switching costs and network effects, might lead to a setting where potential rivals struggle to compete or find sufficient substitutes to compete with. Social network sites exhibit both potential network effects, because consumers value being able to communicate with their friends, and switching costs, as customers invest time and money in curating their online profiles.

However, the history of social networking sites suggests that big data has not protected larger firms in this industry (Tucker and Marthews, 2011). Rather, this industry has experienced a succession of large firms, even though at each point in time the incumbent had access to big data whereas the new entrant was, in terms of data availability, at a disadvantage. For example, MySpace replaced Friendster and was then replaced by Facebook as the leading social network site. What ultimately made Facebook successful was the ability to build a product that was more focused on customer needs. This included giving customers more control over their social media interactions. For example, Facebook allowed users more control over what content observers could see about a user, relative to the public nature of MySpace. MySpace was seen by many as too cluttered, and Facebook offered a much cleaner design.<sup>33</sup>

Fifth, one potential way that big data could be non-substitutable is if it is necessary for attracting capital investment. However, it is notable that venture capital does not view big data as 'non-substitutable', in that it continues to fund startups to compete in spaces where other firms

30 [http://sloanreview.mit.edu/article/data-at-the-heart-of-the-sharing-economy/?utm\\_source=facebook&utm\\_medium=social&utm\\_campaign=sm-direct](http://sloanreview.mit.edu/article/data-at-the-heart-of-the-sharing-economy/?utm_source=facebook&utm_medium=social&utm_campaign=sm-direct)

31 [https://en.wikipedia.org/wiki/Tinder\\_\(app\)](https://en.wikipedia.org/wiki/Tinder_(app))

32 <https://www.quora.com/How-did-Tinder-grow-so-quickly>

33 Decisions on the size, quality and placement of ads on MySpace were less influenced by needs of the users and more by the imperative to monetize the site, leading to an even more ad-cluttered site. For a comprehensive account of what happened to MySpace, see [http://www.bloomberg.com/bw/magazine/content/11\\_27/b4235053917570.htm#p3](http://www.bloomberg.com/bw/magazine/content/11_27/b4235053917570.htm#p3)

are demonstrably in possession of 'big data'. For example, despite 'Amazon Fresh' and 'Google Express' having access through their parent companies to big data about potential customers, there is vibrant funding of new startups that are trying to compete in the local delivery space who do not have this data advantage. For example, Instacart has received \$275M in funding<sup>34</sup>, Jet has received \$220M in funding,<sup>35</sup> and Postmates has received \$138M in venture capital funding.<sup>36</sup>

Overall, big data is not a non-substitutable requirement for offering online services, though ownership of big data is often the natural consequence of being successful in offering such online services. Instead, in a similar manner to the offline world, what determines success online is a superior ability to understand and meet customer needs. The unstable history of digital business offers little evidence that the mere possession of big data is sufficient protection for an incumbent against a superior product offering.

## VI. Implications

Can big data confer a sustainable competitive advantage for firms, which can help them persistently deflect current and future competition? To analyze whether big data can act as a barrier of entry in this manner, we use the classic resource-based view of strategic management, which emphasizes that to qualify as a sustainable competitive advantage a resource needs to meet four criteria. It has to be inimitable, rare, valuable and non-substitutable. For a wide range of examples from the digital economy we demonstrate that when firms have access to big data, at least one, and often more, of the

four criteria which are required for a resource to constitute a sustainable competitive advantage are not met.

Our aim is not to suggest that firms cannot derive benefits from owning and evaluating big data. Instead, we highlight that the simple act of amassing big data by itself does not confer a long-term competitive advantage. We conclude that to build up a competitive advantage related to big data firms need to develop two new competencies.

First, firms need to attract employees who have the ability to develop and train algorithms or to design and/or to set up and run meaningful experiments, since it is insights from such efforts that may be able to turn big data into a meaningful competitive advantage. This builds on earlier work such as Porter and Millar (1985) who argued that information technology can confer a competitive advantage but that the simple presence of data is not sufficient for competitive success. Instead firms need to develop complementary organizational skills.

Second, firms need to use big data to look forward and understand evolving customer needs rather than simply use past historic big data to make incremental improvements to their current product offering or service. The unstable history of digital business offers little evidence that the mere possession of big data is a sufficient protection for an incumbent against a superior product offering. To build a sustainable competitive advantage, the focus of a digital strategy should therefore be on how to use digital technologies to provide value to customers in ways that were previously impossible.

In addition to our managerial implications this paper also contributes to a policy literature. This literature is concerned with the question whether big data can constitute a barrier of en-

34 <https://www.crunchbase.com/organization/instacart/#/entity>

35 <https://www.crunchbase.com/organization/jet/#/entity>

36 <https://www.crunchbase.com/organization/postmates/#/entity>

try which is in a sense the flipside of the question we focus on whether big data constitutes a competitive advantage. In contrast to this largely legal literature, which grapples with how to frame big data in the context of traditional antitrust analysis (Stucke et al., 2015; Grunes and Stucke, 2015; Tucker and Wellford, 2014), we use a long-established strategic framework to evaluate whether big data indeed merits consideration as a source of sustainable competitive advantage.

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