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The Centre for Competition Law and Policy
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Online Markets and Offline Welfare Effects

The Internet, Competition, Society and Democracy

Selected contributions from the CCLP conference hosted on 22 May 2017

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Contents

Ariel Ezrachi	<u>Preface</u>	1
Alec Burnside	<u>Bob Dylan and Consumer Welfare</u>	4
Agustin Reyna	<u>“Boiling Frog” – Consumer Welfare and Platforms in Digital Markets</u>	9
Philippe Chappatte and Sarah de Morant	<u>Online Platforms and Efficiency Gains: the Online Hotel Sector Case Study</u>	15
John Naughton	<u>Regulating Digital Giants: an Unsolved – Insoluble? – Problem</u>	22
Lisa Lovdahl Gormsen	<u>Digital Consolidation, Citizen and Community</u>	30
Christian D’Cunha	<u>Straw Men and Iron Man: Antitrust, Freedom and Privacy in the Digital Society</u>	37
Maurits Dolmans, Jacob Turner and Ricardo Zimbron	<u>Pandora’s Box of Online Ills: We Should Turn to Technology and Market Driven Solutions before Imposing Regulation or Using Competition Law</u>	44
Terrell McSweeney	<u>Algorithms and Coordinated Effects</u>	58
Harry First and Spencer Weber Waller	<u>Internet Markets and Algorithmic Competition: the Rest of the Story</u>	63

Preface

Ariel Ezrachi¹

On 22 May 2017, the University of Oxford Centre for Competition Law and Policy ('CCLP') hosted a conference on 'Online Markets and Offline Welfare Effects - The Internet, Competition, Society and Democracy'. The event brought together more than 170 delegates from academia, practice, industry, enforcement agencies and judiciaries, to discuss the changing dynamics of competition. Representatives from the press attended as well, reporting both during the event and in subsequent days.

The stimulating discussions focused on the changing technological landscape and market dynamics, and how these may affect competition and welfare. Themes discussed included the scope of competition enforcement, the role of disruptive innovation, whether privacy forms one of the values protected by competition law, and the impact that increased online concentration may have on the market for ideas, democracy, choice and autonomy.

This collection of papers includes a select number of contributions that formed part of the wider debate during the day, which was divided to five key panels:

The first panel, under the chairmanship of Sir Peter Roth (President of the UK Competition Appeal Tribunal) focused on consumer welfare and digital markets. Panel members included Tommaso Valetti (Chief Economist, European Commission, DG Comp), Munesh Mahtani (Google), Agustin Reyna (BEUC), Philippe Chappatte (Slaughter and May), and Alec Burnside (Dechert). Speakers debated the need for antitrust intervention, and explored the dynamics of online competition, the level of innovation, disruption and the possible effects on consumer welfare.

The second panel was chaired by Barry Lynn (New America), and moved beyond the core competition values. A lively discussion between Maurice Stucke (Tennessee University), Timothy Cowen (Preiskel & Co), John Naughton (Cambridge University), Brian Message (ATC Music Management), and Martin Moore (KCL Centre for the Study of Media), centred on the importance of the digital economy in our everyday lives and the possible inclusion of wider interests – such as fairness, privacy, and democracy – in the competition analysis. Speakers debated the increased use of big data and big analytics, and the impact these have on society, businesses, and sectors in the economy.

The third panel was chaired by Liza Lovdahl Gromsen (BIICL) and focused on digital consolidation, citizen and community. Panel members included Philip Blond (ResPublica), Christian D’Cunha (Office of the European Data Protection Supervisor), Maurits Dolmans (CGSH), and Rebecca Williams (Oxford University). A heated debate developed among the panellists on the adequate level of antitrust intervention.

¹ Slaughter and May Professor of Competition law, The University of Oxford. Director, The University of Oxford Centre for Competition Law and Policy.

Interestingly, the implications of increased market concentration and the rise of a key 'gatekeeper' were disputed, and there were opposing views as to the true level of online competition, market access, and innovation.

The fourth panel, chaired by William Kovacic (UK Competition and Markets Authority (CMA)) included leading enforcers. Lord David Currie (Chairman, UK CMA) discussed recent enforcement actions in the UK and shared his view on emerging technologies and practices. Isabelle de Silva (Head of the French Competition Authority) explored the novelty of the digital economy and implications of large scale data usage. She noted the need for faster procedures and enforcement action, to keep up with the dynamic nature of online markets. Terrell McSweeney (Commissioner, US Federal Trade Commission) emphasised the interface between law and technology and the need for better understanding of the technology at the core of modern markets and strategies. Andreas Mundt (President, German Bundeskartellamt) discussed the competitiveness of digital markets. He noted that 'while the competitor may be a click away', competition isn't. He further emphasised the role privacy protection may play in competition analysis. Mario Monti (The Senate of the Italian Republic), reflected the role of economic considerations in competition enforcement and the possible politicisation of the debate. He noted that while the 'consumer welfare test' may be imperfect, it serves as useful anchor against winds of economic nationalism. Lord Larry Whitty (House of Lords) discussed the House of Lords' Committee report on 'Online Platforms and the Digital Single Market', and explored the competitiveness of online markets and possible competitive threats. Videos of the enforcer's main commentary are available on the CCLP website: www.competition-law.ox.ac.uk.

The fifth and final panel of the day was chaired by Spencer Waller (Chicago Loyola University). Panel members included Adi Ayal (BIU), Pepper D. Culpepper (Oxford University), Josef Drexl (Max Planck Institute, Munich), Harry First (NYU), and Michal Gal (Haifa University). The discussion focused on the future implications of current technology on enforcement, individual autonomy, and society. Themes discussed included the future implications of the digital economy on choice, media, innovation, labour markets, the distribution of power in society, and the democratic ideal.

This collection gathers together nine contributions from speakers at the event - outlining the key points made in their presentations and additional thoughts about the challenges presented by online markets, big data and big analytics, and the role for competition law enforcement. Papers are presented in the order of presentation at the event.

The first contribution, by **Alec Burnside**, titled '**Bob Dylan and Consumer Welfare**' explores the scope of competition analysis. It considers whether competition enforcement, in the digital age, should widen its remit and calls for a wider definition of the notion of consumer welfare and subsequently a more proactive intervention to protect consumers and the competitive dynamic.

The second contribution, by **Agustin Reyna**, is titled "**Boiling Frog**" - **Consumer Welfare and Platforms in Digital Markets**'. It considers the way in which the online environment has gradually changed – as information, choice and price are controlled by key gate keepers -

without consumer or enforcers being fully aware of the change, and the true effects of this on consumers and society.

The third contribution, by **Philippe Chappatte** and **Sarah de Morant**, is titled '**Online Platforms and Efficiency Gains: the Online Hotel Sector Case Study**'. The authors consider the efficiencies generated by most-favoured nation or parity clauses, and their contribution to the online marketplace. They focus on the online hotel cases and the ECN Working Group report released in 2017.

The fourth contribution, by **John Naughton**, is titled '**Regulating Digital Giants: an Unsolved – Insoluble? – Problem**'. It explores the lure of 'free' services, the power of network effects, and possible winner-takes-all outcomes. It reflects on the way network effects result in significant market power, evident at the Civic, Political, Algorithmic and Behavioural levels.

The fifth contribution, by **Liza Lovdahl Gormsen**, is titled '**Digital Consolidation, Citizen and Community**'. It considers the effects that digital consolidation, in particular at the platform level, may have on the variety of the media and subsequently on public interests and the democratic ideal. It further considers ownership of data, privacy, and the role of competition enforcement.

The sixth contribution, by **Christian D'Cunha**, is titled '**Straw Men and Iron Man: Antitrust, Freedom and Privacy in the Digital Society**'. It highlights the ways in which market power may undermine individuals' privacy and freedom. Further, it considers how data protection provisions and authorities safeguard human dignity and individual freedom.

The seventh contribution, by **Maurits Dolmans**, **Jacob Turner** and **Ricardo Zimbron**, is titled '**Pandora's Box of Online Ills: We Should Turn to Technology and Market-Driven Solutions before Imposing Regulation or Using Competition Law**'. It challenges the view that consolidation, network effect or algorithmic pricing have had an adverse effect on the online environment. It suggests that market- and technology-driven solutions, rather than competition enforcement, should be used to deal with specific problems, as they arise.

The eighth contribution, by **Terrell McSweeney**, is titled '**Algorithms and Coordinated Effects**'. While underscoring the importance of algorithms in modern society, it considers their possible use to implement cartel agreements as well as the possibility of utilising them to facilitate coordinated interaction or discriminatory pricing.

The ninth contribution, by **Harry First** and **Spencer Weber Waller**, is titled '**Internet Markets and Algorithmic Competition: the Rest of the Story**'. It notes the mixed record on preventing and defeating dominance and its abuse by competition enforcers. It subsequently points to the role that private competition law enforcement could play in this area, both inside and outside the US and the EU. Consideration is also made as to the role of 'public interest grounds' in this debate.

Bob Dylan and Consumer Welfare

Alec Burnside¹

The challenge put to me in opening today's event is to explain what we mean by "consumer welfare". With the European Commission's Chief Economist sitting by my side, and with all the authority that comes from my O level in economics, that is a challenge I am certainly going to duck. But in framing the issues for a day that sets out to discuss "Competition, Society and Democracy", and from a background as an antitrust practitioner, I've experienced that consumer welfare seems in practice to involve a focus on the price of good and services, and what a particular situation may do to that price. And secondarily, a concern with issues of quality – although with some diffidence, given the difficulty of measuring effect on quality. But quality questions do arise. In an internet context, for example, we may ask whether two service providers compete to offer a superior quality of privacy protection for personal data.² The question seems the more interesting in that the services they offer will often be provided for free. Or at least without a *monetary* price that economists could fasten on with their traditional tools of analysis.

It's no longer seen as fanciful to suggest that we as individuals pay for such supposedly free services by surrendering our personal data.³ But the economists whose insights have so enriched antitrust analysis don't seem to have the tools to measure this dimension. They have hammers, but this problem is not a nail.⁴

This reflection, and today's programme, invite a bigger question, namely whether the focus on consumption is too narrow and whether (for example) privacy ought to be looked at as a goal in its own right and not merely as a quality parameter in a traditional assessment of consumer welfare. Peter Roth, our chairman for this panel, referred in his opening remarks to several definitions of welfare. As befits a conference in Oxford, he cited the definition from the Oxford English Dictionary that "welfare" means:

"The health, happiness, and fortunes of a person or group".

¹ Partner, Dechert LLP, Brussels

² Alec Burnside, "No Such Thing as a Free Search: Antitrust and the Pursuit of Privacy Goals", CPI Antitrust Chronicle, May 2015, <https://www.competitionpolicyinternational.com/no-such-thing-as-a-free-search-antitrust-and-the-pursuit-of-privacy-goals/>.

³ "Google's flagship product is the Google search engine, which provides search results to consumers, who pay for the service with their data.", European Commission Press Release, *Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service*, http://europa.eu/rapid/press-release_IP-17-1784_en.htm. For a particularly insightful analysis see Gal and Rubinfeld, "The hidden cost of free goods", https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2529425.

⁴ The law of the hammer is a cognitive bias that involves an over-reliance on a familiar tool. As Abraham Maslow said in 1966: "I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail". The thought is sometimes attributed to Mark Twain, although it cannot be found in his published writings.

Against that he gave us the definition of “consumer welfare” from the OECD Glossary of Industrial Organisation Economics and competition law:

“Consumer welfare refers to the individual benefits derived from the consumption of goods and services. In theory, individual welfare is defined by an individual’s own assessment of his/her satisfaction, given prices and income...

In practice, applied welfare economics uses the notion of consumer surplus to measure consumer welfare...”⁵

This OECD definition is plainly the orthodox approach to consumer welfare that we have been familiar with in antitrust practice for many years. But Peter also referred to the following passage from the judgement of the Court of Justice in *TeliaSonera Sverige*⁶ where the Court said:

“The function of [the competition] rules is precisely to prevent competition from being distorted to the detriment of the public interest, individual undertakings and consumers, thereby ensuring the well-being [bien-être] of the European Union.”

Plainly the Court here had its eyes on a broader horizon, invoking “the public interest” and *bien-être* of the European Union. Many societal objectives and values could be imagined as relevant to this broad statement. Privacy would be one, but the protection of democracy, diversity of opinion and a free press would certainly be further candidates. So, for example, *Forbes* recently ran a feature explaining “*Why Fake News is an Antitrust Problem*”⁷. Fake news here could be a dispute over alternative facts, such as the size of the crowd at a presidential inauguration, but would particularly concern news stories which are wholly invented and simply designed to drive internet traffic and generate advertising revenues. Consider the Macedonian teenagers who supposedly invented the story that the Pope had endorsed candidate Trump – an invention designed to generate clicks and bring traffic to their website where users’ attention could be monetized into advertising revenue.⁸ User behaviour online and the capturing of revenue-generating internet traffic will sound awfully familiar as issues of interest and relevance in antitrust enforcement.⁹

⁵ OECD Glossary of Industrial Organisation Economics and Competition Law, <https://stats.oecd.org/glossary/detail.asp?ID=3177>.

⁶ Case C-52/09 *Konkurrensverket v TeliaSonera Sverige AB* EU:C:2011:83, para 22.

⁷ Sally Hubbard, <https://www.forbes.com/sites/washingtonbytes/2017/01/10/why-fake-news-is-an-antitrust-problem/#7fa0c7e930f1>.

⁸ Samanth Subramanian, “*Inside the Macedonian Fake-News Complex*” <https://www.wired.com/2017/02/veles-macedonia-fake-news/>.

⁹ “As a result of Google’s illegal practices, traffic to Google’s comparison shopping service increased significantly”, European Commission Press Release, *Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service* http://europa.eu/rapid/press-release_IP-17-1784_en.htm.

Put at its boldest, the question before us today is whether antitrust took a wrong turn with the Chicago school a few decades back and is failing the original vocation of legislation that set out with much broader policy goals, most fundamentally upholding democracy itself. The idea is not new. Robert Pitofsky, writing in 1979, railed against those who would limit the goals pursued by antitrust:

“It is bad history, bad policy and bad law to exclude certain political values in interpreting the antitrust laws.”¹⁰

Before him, Friedrich Hayek, when accepting his Nobel Prize for economics, criticized those who:

“...happily proceed on the fiction that the factors which they can measure are the only ones that are relevant.”

The fuller passage from which this well-known phrase is taken is worth reading in its entirety:

“We know: of course, with regard to the market and similar social structures, a great many facts which we cannot measure and on which indeed we have only some very imprecise and general information. And because the effects of these facts in any particular instance cannot be confirmed by quantitative evidence, they are simply disregarded by those sworn to admit only what they regard as scientific evidence: they thereupon happily proceed on the fiction that the factors which they can measure are the only ones that are relevant.”¹¹

Another Nobel laureate, of more recent vintage, came at the same thought from another direction when he sang:

“You don’t need a weatherman
To know which way the wind blows.”¹²

Appeal courts have cited Dylan “to convey that expert testimony is unnecessary to make a point obvious to any layman.”¹³ No toolkit needed.

The scholarship on the broader original vocation of antitrust goes back further in time. An obvious source is what Senator Sherman said when launching the legislation that bears his

¹⁰ Robert Pitofsky, “*The Political Content of Antitrust*”, 1979, http://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=4867&context=penn_law_review.

¹¹ Friedrich August von Hayek, Speech on accepting the Nobel Prize for Economics, “*The Pretence of Knowledge*”, ¹¹ December 1974, http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/1974/hayek-lecture.html.

¹² Bob Dylan, “*Subterranean Homesick Blues*”, 1965, <https://bobdylan.com/songs/subterranean-homesick-blues/>.

¹³ Los Angeles Times, Carol J. Williams, “*In some courts, Dylan rules*”, 9 May 2011, <http://articles.latimes.com/2011/may/09/local/la-me-bob-dylan-law-20110509#>.

name.¹⁴ That takes us to the nineteenth century. Maurice Stucke takes us back to 1776 and the Declaration of Independence, identifying the Pursuit of Happiness as an objective of the laws. And Maurice has indeed written about the “happiness economics literature” and how it can inform competition policy.¹⁵

My own reflections on this have taken me back still further in time, to a source older than Pembroke College or Oxford University itself. We read in the Old Testament, in Deuteronomy, that:

“Man does not live by bread alone.”¹⁶

Less often cited is the rest of the sentence, explaining that man also needs the Word of God. So it isn’t enough that we have food for our stomachs - we also need soul food.

Bringing this way up to date, we want a smartphone and internet that provide us with good quality news. Real news and not fake news; and a diversity of opinion to stimulate debate. But we do not want our smartphones or its apps to exact an undue price by invading our privacy and harvesting our personal information. It is reported for example, that Uber not only knows our location, but siphons off information about the remaining battery life in our smartphones. And it has identified that people with low battery power are willing to pay more for their transport.¹⁷ A nice example of an invasion of privacy that also leads to a consumer concern in a simple monetary sense.

My call for antitrust to embrace more ambitious goals than the OECD’s notion of consumer welfare is not an assertion that antitrust law is a panacea for all ills. But it has a broader vocation than consumption in the narrow Chicago sense, and should play its part in upholding our values beyond price, indeed beyond consumer notions of the quality of goods and services.

There are big questions of definition, and big questions of institutional structure, to be faced. Antitrust authorities require democratic legitimacy, and will – without exception – require some insulation from political pressures. But it is a counsel of despair to imagine that antitrust can do nothing on these broader fronts, or has no mandate to do so.

¹⁴ In the passage most frequently cited Sherman makes plain the vocation of his proposed legislation to support democracy: *If the concentrated powers of this combination are intrusted to a single man, it is a kingly prerogative, inconsistent with our form of government, and should be subject to the strong resistance of the State and national authorities. If anything is wrong this is wrong. If we will not endure a king as a political power we should not endure a king over the production, transportation, and sale of any of the necessities of life.*”

¹⁵ Maurice Stucke “*Should Competition Policy Promote Happiness?*”, April 2013, 81 Fordham Law Review 2575 (2013), <https://pdfs.semanticscholar.org/ce90/4958bc50795b93e15445adfe140a382fc476.pdf>.

¹⁶ Deuteronomy, Chapter 8, verse 3.

¹⁷ The Independent, Adam Withnall “*Uber knows when your phone is running out of battery*”, 22 May 2016, <http://www.independent.co.uk/life-style/gadgets-and-tech/news/uber-knows-when-your-phone-is-about-to-run-out-of-battery-a7042416.html>.

So I conclude with some questions for our discussions today. With Hayek and Dylan, I ask how we should measure the things that matter, or rather how far we need to measure them. And taking a lead from the Bible, I ask: what are the values that antitrust can help sustain, feeding not just the body but the soul? And from the divine to the merely judicial, how do we articulate and uphold the public interest and the *bien-être* that the Court of Justice identified as the ultimate goals of the EU competition rules?

Ariel Ezrachi framed today's event in terms of *Online Markets and Offline Welfare Effects*. The positive benefits from online markets are all around us. But I for one don't believe that antitrust is incapable of addressing offline effects that work against our values. It's just that we may need other tools than an economist's hammer, because these problems are not nails. Dylan didn't tell us how he knew which way the wind was blowing. But he knew, and so do we. Was he just streetwise, or was he consulting a moral compass? Or both? Maybe we can add a moral compass to our antitrust toolkit, although we will certainly have to work to calibrate it and to agree how to read it. The times are a-changin'¹⁸ and antitrust needs to change with them. Although it may mean going back to the turning before Chicago and getting back on the original track.

¹⁸ Bob Dylan, "Times they are a-changin'", 1964, <https://bobdylan.com/songs/times-they-are-changin/>.

“Boiling Frog”: Consumer Welfare and Platforms in Digital Markets

Agustin Reyna¹

Introduction

I was astonished to learn as a kid that it was possible to kill a frog without it even realising. How? By putting the poor amphibian into tepid water while gradually increasing the temperature until it boils alive. This is the well-known metaphor of the ‘boiling frog’ which is often used to describe situations where gradual changes perceived as positive may lead to undesired consequences.

Like frogs, consumers are immersed in a virtual reality characterised by the perception of a welfare created by the wide use of popular platforms and intermediaries. Consumers love to ‘like’ and be ‘liked’ on Facebook (while at the same time trying to skip the annoying personalised advertising) to download tonnes of apps from popular mobile stores as well as to fill up their wardrobes with products brought from Amazon with convenient free deliveries.

Choice is everywhere. You just need a smartphone or a laptop, get online and everything you are looking for is just “one click away” - but, is this really the case?

The objective of this note is to provide the consumer perspective on online platforms and intermediaries acting as gatekeepers of information, choice and consumer prices. We will look at how gradual changes introduced by platforms with significant market power distorts the idea of consumer welfare in digital markets and why we need to look at the platform economy from a holistic perspective. Our proposal is to do so in a policy dialogue between competition, privacy and consumer protection authorities.

Gatekeeping in digital markets

It is possible to identify at least three types of controls exercised by platforms or intermediaries that affect or define what consumers see on their screens:

1) Information control

The first type of control relates to the information that consumers’ access via a platform or intermediary. This information can be of different natures: from news and entertainment to information related to specific products and offers.

¹ Digital Team Leader at BEUC, the European Consumer Organisation.

Companies in a gatekeeping position can decide what information will reach consumers through its infrastructure. For example, how many consumers are aware that subscribing to Spotify via Apple's App store is more expensive than subscribing on Spotify's website or using an Android phone? Very few, I would say. This is because Apple applies a 30% charge on all Spotify subscriptions, allegedly to create an anti-competitive advantage to push consumers to the Apple music service.² This is possible because Apple controls the information on its App store. Apple does not allow Spotify to inform consumers about this situation through the information displayed in the App Store. Therefore, Spotify started recommending³ consumers to renew their subscriptions via the website.⁴ These changes - coincidentally or through causality - happened shortly after Apple launched its Apple music service directly competing with Spotify. Thus, to boost its own service Apple is using its gatekeeping power of information on its app store to create an (anti-)competitive advantage over those competing companies.

Social networks and search engines also define what information consumers receive. Motivated by political⁵ or commercial reasons, these gatekeepers can influence by strategically placing information on consumer screens what they might think is best for them. But this placement of information is not necessarily done by an editor as we would expect on a journal or magazine. It is done by algorithms designed to maximise the value of consumer data.

This was put in evidence by a recent article by the *Australian* that revealed that Facebook was able to identify when young people felt vulnerable which was a good time to advertise certain products.⁶ Thus, a teenager who feels insecure could be served while flipping the pictures of his or her Facebook friends with personalised advertising of products tailored to exploit that situation of vulnerability. Facebook is therefore controlling the information - in this case in the form of advertising - displayed on the users account to maximise its revenues from advertisers. Although this might not raise competition concerns, this could lead, at least in Europe, to infringements of both consumer and data protection laws.

² The Verge (2015), "Rival music services say Apple's App Store pricing is anticompetitive", <https://www.theverge.com/2015/5/6/8558647/apple-ftc-spotify-app-store-antitrust> <accessed on 05 July 2017>.

³ Ref: https://support.spotify.com/is/account_payment_help/subscription_information/spotify-through-the-app-store/ <accessed on 05 July 2017>.

⁴ The Verge (2015), "Spotify urges iPhone customers to stop paying through Apple's App Store", <https://www.theverge.com/2015/7/8/8913105/spotify-apple-app-store-email> <accessed on 05 July 2017>.

⁵ Washington Post (2013), "Could Google tilt a close election?", https://www.washingtonpost.com/opinions/could-google-tilt-a-close-election/2013/03/29/c8d7f4e6-9587-11e2-b6f0-a5150a247b6a_story.html?utm_term=.9f1da5c294e7 <accessed on 05 July 2017>.

⁶ The Guardian (2017), "Facebook told advertisers it can identify teens feeling 'insecure' and 'worthless'", <https://www.theguardian.com/technology/2017/may/01/facebook-advertising-data-insecure-teens> <accessed on 05 July 2017>.

2) Choice control

Choice control occurs when the gatekeeper does not allow companies to reach consumers through the platform. Such companies could be direct competitors or also companies whose products disrupt the business model of the gatekeeper. Google has been exercising this type of control through its search engine. For example, companies like Yelp and Foundem had faced huge difficulties to serve consumers in the local search⁷ and shopping markets because Google is down-ranking its competitors in the search engine or by simply excluding them from the results shown to consumers with its algorithms.⁸ As a result, not only companies but also consumers are affected, who lose in choices but without even realising.

In June of this year, the European Commission finally closed its anti-trust investigation and concluded that Google had breached EU competition laws and therefore was liable to pay a €2.4 billion fine.⁹ However, the outstanding question is how Google will correct its behavior as a follow up of the Commission's decision.

To put it differently: what if Google's algorithms would be programmed differently? If I type "dentist in Brussels" into Google, will I get more relevant results? And, who defines what is relevant to me? One reflection that one could make is how to ensure that such results are the outcome of companies competing on the merits to reach customers looking for products on Google.¹⁰

3) Price control

The third type of control relates to pricing. How are the prices that consumers see online set? For example, companies like booking.com and Amazon were able to *always* offer cheaper prices for hotels and eBooks, respectively, through the use of the so-called most-favored nation clauses (or wide parity clauses) on their suppliers.¹¹ Several national and European investigations considered that such clauses could be against Article 101 of the Treaty and therefore either accepted commitments offered by the companies to remove such terms or declared them as anti-competitive by object.

⁷ Forbes (2016), "Why Is Yelp Fighting With Google? CEO Jeremy Stoppelman Explains", <https://www.forbes.com/sites/quora/2016/02/23/why-is-yelp-fighting-with-google-ceo-jeremy-stoppelman-explains/#3e94e2467865> <accessed on 05 July 2017>.

⁸ The Register (2019), "When algorithms attack, does Google hear you scream?", https://www.theregister.co.uk/2009/11/19/google_hand_of_god/ <accessed on 05 July 2017>.

⁹ European Commission Press Release IP/17/1784, http://europa.eu/rapid/press-release_IP-17-1784_en.htm <accessed on 05 July 2017>.

¹⁰ The Verge (2017), "What the EU antitrust google could mean to Google search", <https://www.theverge.com/2017/6/28/15885368/google-eu-antitrust-fine-search-impact> <accessed on 05 July 2017>.

¹¹ BEUC (2017), Commitments offered by Amazon in e-book investigation (AT. 40153), http://www.beuc.eu/publications/beuc-x-2017-016_are_commitments_offered_by_amazon_in_e-book_investigation.pdf <accessed on 05 July 2017>.

This particular anti-trust case was not exceptional in terms of competition law procedure and there is overall agreement that such wide clauses should be removed from the contracts with suppliers. However, platforms engaging in automatised pricing pose challenges to competition law enforcement when such prices are the consequence of a tacit collusion powered by algorithms.¹²

According to the European Commission's final report on the E-commerce sector inquiry an automatised adjustment of prices is a growing tendency among retailers. The report notes that:

"A majority of retailers track the online prices of competitors. Two thirds of them use automatic software programmes that adjust their own prices based on the observed prices of competitors. With pricing software, detecting deviations from 'recommended' retail prices takes a matter of seconds and manufacturers are increasingly able to monitor and influence retailers' price setting. The availability of real-time pricing information may also trigger automatised price coordination."¹³

Although the European Commission is avoiding to draw conclusions on the potential anti-competitive effect of the use of such technologies to adjust retail prices - let's not forget that tacit collusion is not prohibited under EU law - this is a pattern we can expect to grow in the years to come. Therefore, consumers will be immersed in a 'perceived' reality where they may well think they are accessing a competitive price. In fact somebody else is deciding the price according to the data generated by consumers when searching for products.

Further to this, the combination between tracking-price technologies and all the data collected or generated by the consumer while browsing and using digital services, companies can easily establish consumption patterns and therefore offer the exact price that a certain consumer would be willing to pay.

Thus, this trend may lead us to two possible scenarios: first the homogenisation of prices by means of tacit collusion or, secondly, to personalised pricing but happening on a massive scale.

Commissioner Vestager's crusade for fairer online markets for consumers

"Competition is a consumer issue."¹⁴ This is the political mantra of the European Commission under the stewardship of Commissioner Vestager when it comes to competition law enforcement. In the two years of this European Commission's office we have seen significant investigations taking place against major online platforms. They have sought to address

¹² Ezrachi A. and Stucke M.E. (2016), *Virtual Competition. The Promise and Perils of the Algorithm-Driven Economy*, pp. 65-69.

¹³ European Commission (2017), Final Report on the E-commerce Sector Inquiry, paragraph 13, http://ec.europa.eu/competition/antitrust/sector_inquiry_final_report_en.pdf <accessed on 05 July 2017>.

¹⁴ Commissioner Vestager speech at BEUC's General Assembly on 13 May 2016, https://ec.europa.eu/commission/commissioners/2014-2019/vestager/announcements/competition-consumer-issue_en <accessed on 05 July 2017>.

several of the concerns expressed above. Google was fined for abuse of dominance and continue under investigation in two ongoing cases. The European Commission just closed an investigation into Amazon's parity clauses on eBooks after the company offered commitments¹⁵ and Facebook was fined for providing misleading information to the competition department of the European Commission¹⁶ during the clearance of the acquisition of WhatsApp in 2014,¹⁷ which led to a very controversial decision of clearing the merger without conditions.¹⁸

However, even if the actions of the Commission's competition body are well-intended, we start seeing failures in the way competition law is being enforced in digital markets. This was in evidence in the Facebook/WhatsApp case when the European Commission disregarded the role of privacy as a competition parameter and failed to anticipate negative post-merger effects.¹⁹ But, if we know that consumers are sensitive about the use of their personal data by companies,²⁰ why would that not be regarded as a quality element of services that are part of a corporate restructuring?

Another important factor is timing: it took almost 8 years for the European Commission to issue a decision on the Google search case in which competitors were pushed out of the market and resulted in consumers having less choice. Competition law enforcement can be too lengthy if we compare it to enforcement in other sectors like consumer protection and privacy. However, the infringement of competition, consumer protection and data protection laws can be closely related. Let's think about the case of automated pricing based on algorithms. Despite raising competition concerns, it also relates to data protection when the prices are based on online consumption patterns and to consumer protection when consumers are not even aware of this situation due to a lack of transparency or disclosure, which could lead to an unfair commercial practice.

We need an enforcement dialogue

Competition law enforcement has its limits. There is a need to look at online gatekeepers and to gatekeeping from a holistic perspective and explore the interaction between consumer, data protection and competition law. This does not imply making competition authorities enforce privacy rules but to look at how they can complement each-other.²¹

¹⁵ European Commission Press Release IP/17/1223, http://europa.eu/rapid/press-release_IP-17-1223_en.htm <accessed on 05 July 2017>.

¹⁶ European Commission Press Release IP/17/1369, http://europa.eu/rapid/press-release_IP-17-1369_en.htm <accessed on 05 July 2017>.

¹⁷ European Commission Press Release IP/14/1088, http://europa.eu/rapid/press-release_IP-14-1088_en.htm <accessed on 05 July 2017>.

¹⁸ See critic of this decision in Grunes A. and Stucke M. (2016), *Big Data and Competition Policy*, p. 80.

¹⁹ Paragraph 164 of the European Commission's decision.

²⁰ Several surveys confirm this. For example, a recent European Commission Flash Eurobarometer (N°446) showed that 60% of respondents have changed their privacy settings to avoid being tracked or monitored.

²¹ On this issue see the suggestion of the European Data Protection Supervisor to create a Clearing House to start an enforcement dialogue between different enforcers active in the field of Big Data,

While competition law seeks to ensure there is choice for consumers and addresses business behaviours seeking to undermine that choice, consumer protection guarantees that consumers can make informed decisions and that such decisions are not unfairly influenced by business practices manipulating consumers' free will using technologies that misuse their personal data. Thus, it is on this point where privacy laws kick-in to define the conditions for the collection and processing of such data. Gatekeeping is challenging each of these areas of laws and their enforcement.

Therefore, our suggestion is that authorities should come together and break down the enforcement silos.²² If we take the example of the Facebook/WhatsApp merger, why isn't it possible to make respecting privacy standards a condition to authorise the acquisition? I bet data protection bodies would have liked to have a say on this after they came out publicly expressing concerns about the sharing of data between WhatsApp and Facebook.²³

We must reduce the heat

Competition law is one instrument that could help to re-establish consumer welfare in digital markets. But competition authorities cannot do it on their own. Both consumer and data protection agencies can contribute to this debate by providing fairness benchmarks for the collection and processing of consumers' data. Benchmarks that can inform the consumer welfare test under competition law. If we want to save the frog before it is too late, we need to turn down the heat by starting to work on holistic solutions for the benefit of competition, consumer choice and protection.

https://edps.europa.eu/data-protection/our-work/subjects/big-data-digital-clearinghouse_en <accessed on 05 July 2017>.

²² See BEUC's blog entry, "Big Data, Smart Enforcement", <http://www.beuc.eu/blog/big-data-smart-enforcement/> <accessed on 05 July 2017>.

²³ See letter by the Chair of the Article 29 Working Party on the updated Terms of Service and Privacy Policy of WhatsApp in August 2016, https://www.cnil.fr/sites/default/files/atoms/files/20161027_letter_of_the_chair_of_the_art_29_wp_whatsa_pp.pdf <accessed on 05 July 2017>.

Online Platforms and Efficiency Gains: the Online Hotel Sector Case Study

Philippe Chappatte and Sarah de Morant¹

“Online platforms facilitate efficiency gains, and act as a magnet for data-driven innovation. They increase consumer choice, thereby contributing to improved competitiveness of industry and enhancing consumer welfare” (Commission Communication on Online Platforms and the Digital Single Market)²

Most-favoured nation (MFN), or parity, clauses have been the subject of much scrutiny by competition authorities. Between 2014 and 2015, several European competition authorities investigated the use of MFN clauses in agreements between online travel agents (OTAs) and hotels. Despite a rigorous coordination procedure, the investigations resulted in different outcomes across Europe. One of the reasons for this divergence is the approach taken by national competition authorities (NCAs) towards efficiency gains.

Quantifying efficiencies and establishing that relevant restrictions of competition are indispensable to achieve the relevant efficiencies constitutes in many instances a difficult task. The European investigations into the use of MFNs in the online hotel sector provided a good opportunity to engage with these issues.

1. Background on the online hotel cases

The first serious instance of divergent application of EU competition law by NCAs arose over the assessment of ‘narrow’ MFN clauses used in the online hotel sector. Narrow MFNs require hotels to give OTAs the same or better rates and conditions as those published on hotels’ own websites (as opposed to ‘wide’ MFNs, which require hotels to give OTAs the same or better rates, conditions and availability as on all other channels, including competitor OTAs).

In April 2015, the French, Italian and Swedish NCAs accepted commitments which required Booking.com to replace its wide MFN with a narrow MFN and remove availability parity (a requirement that hotels offer Booking.com the same number of rooms as made available on other distribution channels).

These commitments – which Booking.com unilaterally decided to implement throughout Europe – received the tacit support of both the European Commission and 25 other NCAs in

¹ Philippe Chappatte, Partner, Slaughter and May; Sarah de Morant, Associate, Slaughter and May; Slaughter and May represented Booking.com in the hotel online cases. Views expressed in this article are those of the authors.

² [Commission Communication on Online Platforms and the Digital Single Market](#) (COM(2016) 288), 25 May 2016.

the EEA.³ Nonetheless, the German NCA (the Bundeskartellamt (BKA)) took an opposing line and prohibited narrow MFNs in December 2015, much to the consternation of the other authorities.

The picture was complicated further by the emergence of legislation prohibiting the narrow MFN in France (the Loi Macron) in July 2015 and in Austria in November 2015, lobbied for by powerful hotel associations who were dissatisfied with the decisions by most NCAs to accept narrow MFNs. The Italian Competition Bill, due to be given final approval by the Chamber of Deputies in the coming weeks, contains similar prohibitions.

Having previously decided not to take jurisdiction over the investigations, the Commission sought to mitigate the negative effects of this divergence by establishing a European Competition Network (ECN) Working Group in December 2015, tasked with reviewing the effects of the different outcomes on the market.⁴ The Working Group's final report, published in April 2017, found no evidence that narrow MFN clauses were anti-competitive. The ECN concluded that no further action was necessary at this stage, and "*agreed to keep the online hotel booking sector under review and to re-assess the competitive situation in due course*", so as to give the sector more time to adjust.⁵

2. Efficiency gains and consumer benefits

Online platforms generate substantial benefits to consumers on the 'free' side of the market – which can often be overlooked by traditional antitrust analyses. During the investigations into parity clauses, Booking.com was able to provide robust evidence quantifying the efficiencies which are dependent on the narrow MFN, such as:

(A) Narrow MFNs reduce search costs

OTAs allow consumers to compare prices and quality across a large number of accommodations quickly and easily. Without narrow MFNs, consumers cannot trust that the prices on OTAs are at least as good as those on accommodation websites, and, as a consequence, have to search individual accommodation websites to check for the best prices. This takes time and effort and undermines the search efficiencies of online price comparison websites and their pro-competitive effects.

This efficiency can be quantified by measuring the time it takes consumers to replicate a search on Booking.com by going directly on the websites of individual accommodations instead, and attributing value to the time saved by reference to the relevant national minimum wage. These savings are substantial: Booking.com generates search cost savings for

³ Expedia followed Booking.com's example and agreed to waive its rate, conditions and availability parity clauses in August 2015. Expedia Press Release, [Expedia Amends Rate, Conditions and Availability Parity Clauses](#), 1 July 2015.

⁴ The Working Group comprised the Commission as well as 10 participating authorities (the Belgian, Czech, French, German, Hungarian, Irish, Italian, Dutch, Swedish and UK NCAs).

⁵ [Outcome of the Meeting of ECN DGs](#) on 17 February 2017.

consumers in the ECN Working Group countries of more than €1 billion every year. Across all OTAs the estimated figure is nearly €2.5 billion per annum.⁶

(B) Narrow MFNs allow consumers to compare the rates of many more accommodations

OTAs increase the number of accommodations compared by consumers when shopping for travel. The vast majority of consumers will only ever visit a handful of accommodation websites in practice. This trend was confirmed in a survey of more than 12,000 consumers booking accommodation in European countries on Booking.com. On average, consumers said that they would check room rates on 3 or 4 accommodation websites in total, even if they knew that room rates might be cheaper than on Booking.com.⁷ To put this into perspective, these consumers were, on average, able to compare more than 20 accommodations on the first page of their search results on the Booking.com site. Without narrow MFNs, consumers would therefore reliably compare prices of far fewer accommodations.

(C) Narrow MFNs increase the range of accommodations that consumers can compare

Narrow MFNs make it possible for consumers to compare room rates of a wider range of accommodations than would otherwise be possible. A study carried out on Booking.com's behalf into the online presence of more than 5,000 of its accommodation partners revealed that around 15% do not have a website.⁸ Without OTAs, these accommodations would be invisible online. Even if they have a website, many accommodations do not have a booking functionality and/or do not translate their websites into other languages. Without narrow MFNs, the breadth of accommodations that consumers could accurately compare prices for (particularly when planning trips abroad) would therefore be much more limited.

(D) OTAs lower accommodation room rates

OTAs incentivise accommodations to lower their prices because, if they do not, they risk being undercut by cheaper rivals of similar quality displayed in the same search results. The economic consultancy firm Oxford Economics has estimated that accommodation prices across the EU are significantly cheaper than they would be absent OTAs.⁹ Without narrow MFNs, consumers would not be able to rely on OTA prices and would have no choice but to visit individual accommodation websites to get an accurate overview of prices. Price transparency would therefore fall and prices are likely to rise as a result.

(E) Narrow MFNs are necessary to prevent free-riding

Finally, narrow MFNs are necessary to enable OTAs to continue to provide their services to consumers for free. If accommodations are allowed to post cheaper rates on their own websites, they will do so and free-ride by encouraging consumers to book directly (and not on OTAs) – accommodations clearly have an incentive to divert consumers away from OTAs at the

⁶ Booking.com analysis of consumer search cost savings (September 2016).

⁷ Booking.com analysis of consumer search cost savings (September 2016).

⁸ Booking.com analysis of websites of accommodation partners (September 2016).

⁹ Oxford Economics, *The economic impact of OTAs in the EU* (2016).

point of booking. Allowing free-riding would therefore fundamentally impact the business model of OTAs such as Booking.com, to the detriment of consumers.

3. Assessment of efficiencies in the online hotel cases

The different conclusions reached by European NCAs on the question of MFNs in the online hotel sector are in part due to the different approaches taken towards these efficiencies. In particular, the 'lead' NCAs (the Swedish, French and Italian authorities) and the BKA came to opposing conclusions when assessing the benefits of OTAs' search functionality and the importance of preventing free-riding.

3.1 Search functionality and associated costs savings

(A) Lead NCAs

The Swedish, French and Italian NCAs, which led the way in agreeing the narrow MFN commitments, each acknowledged the consumer benefits associated with the search services provided by OTAs. In a joint statement, the three NCAs presented the narrow MFN solution as: *"strik[ing] the right balance for consumers in France, Italy and Sweden, restoring competition while at the same time preserving user-friendly free search and comparison services and encouraging the burgeoning digital economy"*.¹⁰

The Swedish Competition Authority emphasised that its assessment of parity clauses took into account *"extensive analyses from Booking.com the aim of which have been to substantiate that efficiencies result from the application of price parity clauses between Booking.com and hotels"*. These efficiencies both included the easy search, compare and booking functionalities offered by OTAs and their contribution to *"price transparency on the market"*.¹¹

While the French Competition Authority focused primarily on the hotel side of the market, it nevertheless acknowledged submissions by Booking.com that MFNs seek to reduce consumers' search costs and contribute to rate transparency. The French authority also noted that OTAs increase the range of accommodations consumers compare rates for.¹²

The Italian Competition Authority also identified search costs and price transparency as relevant efficiencies in its decision.¹³

(B) BKA

The BKA, on the other hand, dismissed the very idea of reduced search costs being an efficiency in its decision prohibiting Booking.com's parity clauses:

¹⁰ [Joint statement of Bruno Lasserre, Giovanni Pitruzzella, and Dan Sjöblom, respectively of the French, Italian and Swedish NCAs](#), 21 April 2015.

¹¹ [Decision of the Swedish Competition Authority](#) (convenience translation), 15 April 2015, para 27.

¹² [Decision of the French Competition Authority](#) (convenience translation), 21 April 2015, para 315.

¹³ [Decision of the Italian Competition Authority](#) (convenience translation), 21 April 2015, para 37.

*“efficiency advantages within the meaning of section 2 GWB or Article 101 (3) TFEU cannot result from the fact that it is especially convenient for hotel customers looking to book [...] not to have to laboriously search for the cheapest room price given the room prices adjusted due to the narrow best price clauses. If one were to push this argument to the extreme, then the most wide-ranging price agreements would also offer efficiency advantages [...]. In contrast to what Booking suggests, many end customers want terms and price differences and do not feel that they are disadvantaged or overwhelmed by the possibilities and preferences of comparing competitive prices and terms and discovering the booking options most favourable to them”.*¹⁴ (emphasis added)

This approach is also in stark contrast to statements made since by the Commission in the context of the Digital Single Market agenda. When assessing welfare gains in a working document on online platforms published last year, the Commission found that online search engines bring an estimated €140 billion in time saved for European consumers.¹⁵

Search costs savings have also since been taken into account as a relevant efficiency by the UK’s Competition and Markets Authority (CMA) in its market study into digital comparison tools (DCTs). As set out in its update paper published in March, the CMA found that DCTs offer consumers “substantial benefits in reducing hassle for people and in increasing competition”.¹⁶ Once again, the CMA demonstrated that search costs savings can be quantified, noting that: “data from larger DCTs show that consumers are presented with 41 to 48 home insurance quotations and compare two to three offers on average when using DCTs”.¹⁷

3.2 Free riding

(A) Lead NCAs

In distinguishing between the wide and narrow MFNs, the Swedish, French and Italian competition authorities acknowledged that OTAs’ business model and associated consumer benefits would be significantly undermined should hotels be allowed to free-ride on OTAs’ investments.

Having reviewed evidence presented by Booking.com (including accommodation and consumer surveys),¹⁸ the Swedish NCA commented in its assessment:

“the vertical [or ‘narrow’] price parity substantially reduces the risk that hotels free-ride on investments made by Booking.com. This in turn allows Booking.com to receive

¹⁴ [Decision of the BKA](#) (convenience translation), 22 December 2015, para 280-281.

¹⁵ [Commission Staff Working Document on Online Platforms](#), 25 May 2016, p. 12.

¹⁶ CMA, [Digital comparison tools market study: Update paper](#), 28 March 2017, p.3.

¹⁷ CMA, [Digital comparison tools market study: Update paper](#), p.31.

¹⁸ [Decision of the Swedish Competition Authority](#), para 29.

*remuneration for its search and compare services so that the services can continue to be offered on the market to the benefit of consumers.*¹⁹ (emphasis added)

The Italian Competition Authority set out a similar finding in its decision:

“Booking has reaffirmed that the measures submitted by it constitute the best possible remedy, since the total removal of MFN would not be feasible without serious consequences for the functioning of the market in question. In fact, the application of a narrow MFN clause would be essential for the proper functioning of the business model underlying the OTAs, since it is the least restrictive option and is capable, moreover, of protecting the efficiency gains that the OTA guarantees to their consumers.” (emphasis added)²⁰

The French NCA also considered submissions from Booking.com that there is a real risk that, in the absence of all parity clauses, “[t]he investments realised by OTAs would be made at a loss and could lead them to exit the market”.²¹ The importance of preventing free-riding is also implicit in the French authority’s conclusion that the narrow MFN commitments “constitute a satisfactory balance, improving competition [...] while maintaining the efficiency gains allowed under the economic model of the OTAs”.²²

(B) BKA

Despite the acknowledgment by the three lead NCAs that the prohibition of narrow MFNs would expose OTAs to significant free-riding risks, the BKA dismissed those risks. The BKA found that evidence presented by Booking.com demonstrating that roughly half of surveyed German customers would book direct if the price were 5% lower on a hotel’s channel was “not persuasive”, and argued that customers would be unlikely to switch on the basis that:

“[m]any customers typically using hotel portals, however, do not have any knowledge of any cheaper online offers on the hotel’s own websites or similar online distribution channels or they have no time to filter out such offers from the Internet”.²³

3.3 The way forward: new analysis for the digital age?

The BKA’s prohibition of the narrow MFN is the subject of appeal to the Higher Regional Court of Düsseldorf. The appeal court recently asked the BKA to reopen its investigation and answer 33 questions of fact that are pertinent to the BKA decision and do not appear to have been properly investigated. In particular, the Düsseldorf court asks a number of questions related to free-riding. While the BKA continues to defend its position by stating that the “specific

¹⁹ [Decision of the Swedish Competition Authority](#), para 27 and 30.

²⁰ [Decision of the Italian Competition Authority](#), para 37.

²¹ [Decision of the French Competition Authority](#), para 64.

²² [Decision of the French Competition Authority](#), para 321.

²³ [Decision of the BKA](#), para 271-272.

circumstances of the national markets” must be taken into account, it has yet to explain how Germany is different.²⁴

Although the ECN Working Group report of 6 April 2017 provided a thorough assessment of the effects of the narrow MFN, it missed the opportunity to engage with the efficiencies associated with MFNs. Consumer benefits were left out of the scope of the Working Group’s review. As for free-riding dynamics, the Working Group failed to investigate whether accommodations have a strong incentive to circumvent commission payments to OTAs.²⁵

Ultimately, the purpose of competition law is to promote well-functioning markets for the benefit of consumers. Should competition authorities fail to take into account tangible consumer benefits in their analysis, intervention may well cause more harm than good.

²⁴ BKA, [European Commission publishes report on the online hotel booking sector](#), 6 April 2017.

²⁵ ECN, [Report on the monitoring exercise carried out in the online hotel booking sector](#), 6 April 2017, para 39.

Regulating Digital Giants: An Unsolved – Insoluble? – Problem

John Naughton¹

1. Introduction

In *The Master Switch: The Rise and Fall of Information Empires*,² Tim Wu, a legal scholar who has written extensively on intellectual property, telecommunications policy, Internet governance and the doctrine of ‘Net Neutrality’, chronicles the history of the great communications technologies of the 20th Century — telephone, movies, broadcast radio and TV.

What history shows, Wu, argues, is that there is a pattern in the development of these technologies. His chronicle reveals

“a typical progression of information technologies: from somebody’s hobby to somebody’s industry; from jury-rigged contraption to slick production marvel; from a freely accessible channel to one strictly controlled by a single corporation or cartel – from open to closed system. It is a progression so common as to seem inevitable, though it would hardly have seemed so at the dawn of any of the past century’s transformative technologies, whether telephony, radio, television, or film.”

This pattern, this transition of information industries from open to closed, is so pervasive that Wu assigns it a name – the Cycle. And towards the end of the book, he asks the key question: will this cycle apply to the Net?

This was perhaps an ‘academic’ question when Wu first posed it, but its salience has increased dramatically in the last decade. The network is now central to the functioning of all developed societies: we really do live in an ‘information society’. And whereas our past — as Wu puts it

—

“is one of far less reliance on information than we experience today, and that reliance was served by several information industries at once. Our future, however, is almost certain to be an intensification of our present reality: greater and greater information dependence in every matter of life and work, and all that needed information increasing traveling a single network we call the Internet. If the Internet, whose present openness has become a way of life, should prove as much subject to the Cycle as every other information network before it, the practical consequences will be

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² Atlantic Books, 2012.

staggering. And already there are signs that the good old days of a completely open network are ending.”

What's particularly striking about Wu's history is the discovery that the early years of most of the new communications technologies were accompanied by Utopian dreams. Each in its turn brought with it hopes that it would ameliorate the ills of society. But in the long view of history a pattern can be discerned. New inventions lead to a period of openness, excitement and a feeling that nothing will ever be the same again. But the openness doesn't last. Closure is triggered by the arrival of one or more charismatic entrepreneurs at the point when the novelty of the new technology is beginning to wane and consumers have developed a taste for quality, stability and higher production values than are being delivered by the nascent industry. The newcomers offer a better proposition: in telephony, for example, Bell offered a single network (as opposed to the variety of non-intersecting phone systems then in existence) together with the promise that customers would get a dial tone when they picked up their handsets; in radio NBC offered better programming, with professional actors, better scriptwriting, and so on; in movies, the emerging moguls, faced with the creative chaos of the silent movie business, built vertically-integrated businesses which owned studios as well as cinemas, employed stars, and delivered sound (and, later, colour) - in other words a more attractive, uniform product. And consumers respond to these propositions, which leads to a positive feedback loop: the new entrepreneurs become more and more successful, their competitors fall away and eventually the industry is effectively captured either by a monopolist (telephony), or a cartel (Hollywood).

And the most interesting aspect of this is that the process of capture (or closure) doesn't involve any kind of authoritarian takeover. It comes, Wu says,

“not as a bitter pill but as a sweet pill, as a tabloid, easy to swallow, beloved. And in fact most of the monopolists in history, or the cartels, which take over information industries, deliver a golden age – deliver a process of unprecedented creativity of a certain kind, less diverse but innovative – frankly just a great product. That is the key, and that is what leads the markets towards closure.”

It is this last insight – that it is consumers' enjoyment of products and services that leads to their enslavement³ – that brings today's online world to mind.

³ Which of course was the insight implicit in Aldous Huxley's *Brave New World*: that it is easier to control people by keeping them happy rather than (as George Orwell hypothesised) by tyrannizing them.

2. From enchantment to capture: the lure of ‘free’ services and the power of network effects

The networked world of 2017 is dominated by five global corporations — Amazon, Apple, Facebook, Alphabet (owner of Google) and Microsoft. The most remarkable things about these firms -- sometimes dubbed the “Frightful Five”⁴ —is their relative youth and the speed with which they have become the world’s most valuable companies. Just 11 years ago, Microsoft was the only tech company in the top five; now it has been joined at the top by the other four digital giants (Figure 1).

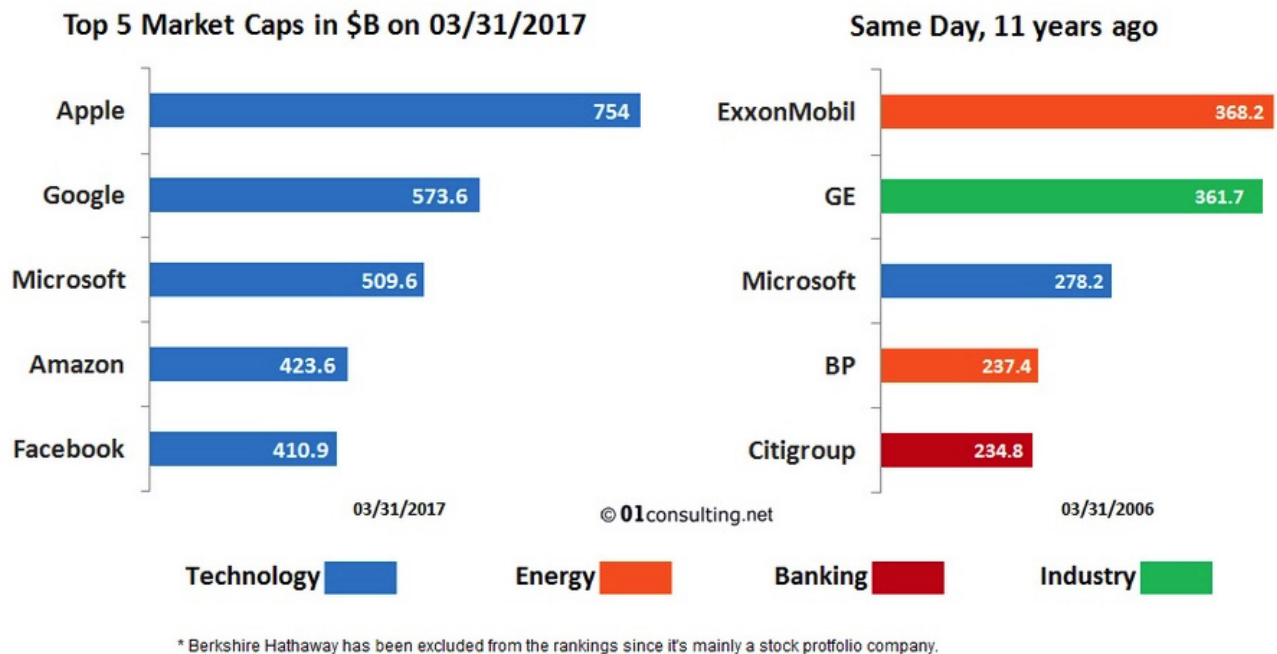


Figure 1: Top five companies by market capitalisation, 2006 and 2017⁵

Of course market cap is just one measure of corporate dominance. But in their respective fields of specialization, each of these companies wields overwhelming market power; and the speed with which this power has been acquired is one reason why regulatory authorities have been left floundering in their wake.

The Five divide into two groups: the first consists of three firms (Amazon, Apple and Microsoft) which sell goods and services to paying customers; the second consists of two firms (Alphabet/Google and Facebook), which are ‘pure digital’ operations providing services to users which are free at the point of delivery or consumption. The two groups pose different kinds of regulatory challenges. However, the companies in both groups share one common

⁴ By Farhad Manjoo in the *New York Times*.

⁵ Lou Kerner, “The Profound Implications of Five Increasingly Dominant Tech Companies”, <https://medium.com/startup-grind/facebook-apple-microsoft-google-amazon-aka-famga-is-eating-the-world-d3ba0c62df8b>.

characteristic, namely mastery of digital technology. This is significant because the technology has some remarkable affordances which marks out those companies for which exploitation of them is a core competency.

3. Affordances of digital technology

What are these affordances? Anderson's taxonomy⁶ notes four:

1. Zero (or near-zero) marginal costs
2. Powerful network effects
3. Dominant Power-Law distributions
4. Technological lock-in

To these we can add two other affordances:

5. A capacity for total surveillance through comprehensive logging of user interaction and the associated accumulation of vast quantities of data and personal information
6. Pervasive use of machine-learning algorithms

Taken together, these affordances have some interesting implications. For example:

- Affordances 1-4 increase the likelihood of winner-takes-all outcomes in particular markets. In many cases, these outcomes have already become apparent — for example, in Google's domination of search, the Android mobile operating system and online video (YouTube); Amazon's dominance of online retailing and cloud computing; Microsoft's continuing dominance of the market for Office software and organisational IT; and Facebook's capture of the market for social networking services.
- Affordances 1-4 also imply that once dominance has been achieved, the successful incumbent is hard to dislodge or disrupt. This means that the dominant narrative favoured by leaders of the digital giants — that markets are frictionless, competition is always just a click away and that there are always potential disrupters in a garage just around the corner — look increasingly implausible. The volume of user data that incumbents have been able to accumulate in their years of dominance, and the huge investments they have made in building vast global communication, data-storage and computational infrastructure mean that the costs of entry for potential disrupters are now formidable. The idea that, say, there are "two grad students in a garage" ready to do to Google what Google's student co-founders once did to AltaVista and Yahoo is, to put it mildly, implausible. Or, as somebody remarked at the conference, "it would have to be a very big garage".
- For several of the companies, exploitation of network effects has been the path to dominance. For Facebook and Google, the provision of 'free' services enabled them to grow very quickly; but it also implied an advertising-driven business model ('surveillance

⁶ Ross Anderson, "Privacy versus government surveillance: where network effects meet public choice", 2014. Available online at <http://weis2014.econinfosec.org/papers/Anderson-WEIS2014.pdf>.

capitalism⁷) which operates via high-speed automated auctions that are opaque and unregulated. Microsoft's dominance stemmed from technological lock-in on PC operating systems and continues courtesy of organisational investment in legacy IT systems and continuing reliance on Office software. Amazon's dominance in online retail is a product of a strategy aimed as 'getting big fast' by deferring profits in order to invest in infrastructure, corporate acquisition and price-cutting. The company's dominance in cloud computing via its Amazon Web Services arm is partly due to technological lock-in and to the company's ability to leverage its investment in its own computing and data-storage infrastructure.

- Affordances 5 and 6 imply that mastery of digital technology confers on the digital giants extraordinary — and in some cases unprecedented — kinds of power. No other corporations in history have accumulated so much intimate knowledge of their users' behaviour, tastes, preferences and activities.
- This is further complicated by the fact that two of the corporations under review — Alphabet/Google and Facebook — have shareholding and governance structures that enable their founders to exercise effective control of corporate strategy regardless of the views of ordinary shareholders.

4. Dimensions of digital power

Power is a notoriously slippery concept at the best of times, and even more so when we consider the companies that now dominate the digital sphere.

In that context, four specific 'dimensions' of power stand out:

- Civic
- Political
- Algorithmic
- Behavioural

Civic power

'Civic power' is defined by Moore⁸ as the ability of companies to influence "citizens' ability to play a full and free role in the societies in which they live". Aspects of this power include the capacity to command attention, communicate news, influence voting, enabling collective action and hold power to account. Empirical evidence has been accumulating that some of the digital giants — especially Alphabet/Google and Facebook — have been exercising power along several of these axes. Facebook, for example, has become a major conduit for the dissemination of news (both real and 'fake') and opinion; Google's YouTube was used by alt-

⁷ Shoshana Zuboff, "The Secrets of Surveillance Capitalism", *Frankfurter Allgemeine*, 5 March 2016. <http://m.faz.net/aktuell/feuilleton/debatten/the-digital-debate/shoshana-zuboff-secrets-of-surveillance-capitalism-14103616-p2.html?printPageArticle=true>.

⁸ Martin Moore, *Tech Giants and Civic Power*, Centre for the Study of Media, Communication and Power, Kings College London, April 2016.

right groups in the US as a platform for the dissemination of anti-Clinton propaganda in the 2016 US Presidential election; and so on.

Conventional political power

In the first Internet boom (1995-2000) Internet companies seemed disdainful of conventional politics. This may have been because of naiveté, or perhaps was the afterglow of techno-libertarianism that infected the early online pioneers. But as the companies expanded, they rapidly came to understand the potential of federal agencies (the FTC, FCC) and government departments (State, border control) to constrain their freedoms or impede their ability to attract foreign workers. Accordingly, they made a rapid transition from lofty disdain to active lobbying. In the second quarter of 2015, for example, Google spent \$4.62 million on lobbying efforts in Washington D.C. which made the company the third largest corporate lobbyist in the US. Facebook increased its spend from \$2.44 million to \$2.69 million in the second quarter, while Amazon's lobbying budget grew from \$1.91 million to \$2.15 million.⁹ Similar trends have been observed in Brussels, where Google and Microsoft have been subject to regulatory oversight -- and in some cases sanctions -- by the European Commission.

At the same time, we have seen the growth of "revolving door" recruitment¹⁰ by tech companies of senior civil servants and regulators. So senior staff in Alphabet/Google and Facebook turn out to have held senior roles in Data Protection and other regulatory bodies which ostensibly have oversight of the companies' activities. In turn, the companies often employ former government officials in senior roles. And senior tech executives are regularly invited -- and sometimes feted by -- British prime ministers, US presidents and other political leaders.

What is remarkable about the growing intimacy between tech giants and government is not that it is happening, but that it goes largely unremarked in news reporting. Ironically, the reason for that may simply be that it is so *unremarkable*: they are acting just like any large transnational corporation: lobbying government, legislators and regulators to further their commercial interests. In other words they are wielding political influence and power.

Relations between governments and the companies are also growing more intimate. Denmark has even gone to the lengths of appointing an 'Ambassador' to deal with them.¹¹ Interactions between the companies and national security agencies have intensified in recent years. And in some countries policymakers are beginning to speculate about the possibilities of outsourcing the delivery of some public services to private platforms.

⁹ Issie Lapowsky, "What Tech Giants are Spending Millions Lobbying for", *Wired*, 23 July 2015. <http://www.wired.com/2015/07/google-facebook-amazon-lobbying/>.

¹⁰ <http://googletransparencyproject.org/articles/googles-european-revolving-door>.

¹¹ <https://www.washingtonpost.com/news/worldviews/wp/2017/02/04/denmark-is-naming-an-ambassador-who-will-just-deal-with-increasingly-powerful-tech-companies/>.

Algorithmic power

All of the digital giants are leading developers, and deployers, of machine learning (ML), i.e. a technology that gives "computers the ability to learn without being explicitly programmed".¹² ML involves the creation of algorithms that can learn from datasets and make predictions on the basis of patterns that have been discerned in the data. Because the digital giants have been amassing huge datasets of user behaviour for many years, they are currently probably the most effective deployers of ML technology in areas like 'recommendation engines', shaping user perceptions and automated price-setting. The economic and political implications of these application areas are profound.¹³

'Behavioural' power

The digital giants can -- and do -- influence the behaviour of their users in a variety of ways. They impose Terms and Conditions that are skewed in favour of companies in ways that would not be acceptable in the offline world. In some cases, these EULAs (End User License Agreements) give the companies the right to practise 'surveillance capitalism'¹⁴ by mining and exploiting the online activities and behavioural data of their users in hidden and unaccountable ways. And because the advertising-driven business model of social media depends on a constantly increasing supply of 'user-engagement' data, the companies develop digital products and services which are deliberately addictive in order to ensure that the supply of user-generated data continues to increase.¹⁵

5. Conclusions

The emergence of the five digital giants poses a challenge for societies that seek to keep industrial power accountable and under democratic control. The challenge is complex because these companies in some respects resemble conventional firms that dominate other industries but in other respects are quite unlike anything that has gone before.

In some aspects of their behaviour, traditional concepts in competition law may be relevant — for example in cases of alleged or suspected abuse of market dominance (Microsoft in browsers, Google in search) or corporate acquisitions (Amazon and Whole Foods) — although in some cases (for example, companies that provide services for free in return for the ability to exploit user data) arguments about the appropriateness of anti-trust measures will continue and perhaps intensify.

But the nature of digital technology and the companies' mastery of it pose some regulatory problems of an entirely different order. In part this is because the power conferred by the technology is unprecedented and so there is no regulatory experience to fall back on. In part

¹² https://en.wikipedia.org/wiki/Machine_learning.

¹³ See, for example: Ariel Ezrachi and Maurice E. Stucke, *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy*, Harvard, 2016; and Frank Pasquale, *The Black Box Society: the Secret Algorithms that Control Money and Information*, Harvard, 2015.

¹⁴ Zuboff, *op.cit.*

¹⁵ See for example Nir Eyal, *Hooked: How to Build Habit-Forming Products*, Penguin, 2014.

it is because these are transnational corporations exploiting a global network in a world that is still largely Westphalian in terms of legal jurisdictions. But perhaps most significantly it is also because there seems to be no natural limit to the markets that these firms aspire to dominate.¹⁶ And this should come as no surprise: after all, handling information is their core competency; and information plays a central role in almost every industry too.

¹⁶ See, for example, John Naughton, “Tech giants face no contest when it comes to competition law”, *Observer* 25 June, 2017. <https://www.theguardian.com/commentisfree/2017/jun/25/tech-giants-no-contest-on-competition-law-amazon-whole-foods>.

Digital Consolidation, Citizen and Community

Liza Lovdahl Gormsen¹

(i) Digital consolidation

The Economist has emphasised how ‘the most striking business trend today is not competition but consolidation’, with technology high on the list of the industries that are concentrating.² Starting with Google/DoubleClick³ ten years ago, the number of mergers and acquisitions have rapidly increased, with transactions such as Google/Waze,⁴ Microsoft/LinkedIn,⁵ Facebook/Instagram,⁶ Facebook/WhatsApp.⁷ Twitter may even be next to be acquired⁸ and suggestions of a takeover of Netflix.⁹ Deals between Amazon and e-Bay have also been predicted.¹⁰ Apple has also been said to be interested in the music streaming service Tidal, but again Deezer and Spotify have been suggested as potential acquisitions.¹¹ Generally, digital consolidation is expected to continue in 2017.¹²

¹ British Institute of International and Comparative Law.

²The Economist, ‘Management Theory is Becoming a Compendium for Dead Ideas’ (17th December 2016) <http://www.economist.com/news/business/21711909-what-martin-luther-did-catholic-church-needs-be-done-business-gurus-management>.

³ Comp/M.4731 Google / Double Click.

⁴ 17 December 2013. Office of Fair Trading. Completed acquisition by Motorola Mobility Holding (Google, Inc.) of Waze Mobile Limited. ME/6167/13.

⁵ Comp/M.8124 *Microsoft/LinkedIn*. European Commission Press release. *Commission approves acquisition of LinkedIn by Microsoft, subject to conditions* (6 December 2016) http://europa.eu/rapid/press-release_IP-16-4284_en.htm.

⁶ FTC File No. 121-0121. ‘Facebook to Acquire Instagram’, Facebook Newsroom (9 April 2012) <https://newsroom.fb.com/news/2012/04/facebook-to-acquire-instagram/>.

⁷ ‘Facebook to acquire WhatsApp’ Facebook (19 February 2014) <https://newsroom.fb.com/news/2014/02/facebook-to-acquire-whatsapp/>; European Commission Case No COMP/M.7217 - *Facebook/ WhatsApp*, (3 October 2014).

⁸ The Telegraph, ‘Twitter eyeing sale to Google or Salesforce’ (23 September 2016) <http://www.telegraph.co.uk/technology/2016/09/23/twitter-eyeing-sale-to-google-or-salesforce-reports-say/>.

⁹ The Telegraph, ‘A wave of tech consolidation will drive the next leg of the bull market’ (6 October 2016) <http://www.telegraph.co.uk/business/2016/10/06/a-wave-of-tech-consolidation-will-drive-the-next-leg-of-the-bull/>.

¹⁰ Tech Radar, ‘What would happen if Amazon bought eBay?’ (17th September 2016) <http://www.techradar.com/news/world-of-tech/what-would-happen-if-amazon-bought-ebay--1328748>.

¹¹ The Telegraph, ‘Twitter eyeing sale to Google or Salesforce’ (23 September 2016) <http://www.telegraph.co.uk/technology/2016/09/23/twitter-eyeing-sale-to-google-or-salesforce-reports-say/>.

¹² Investor’s Business Daily ‘Bold Tech M&A Predictions For 2017: Netflix, Twitter, GoPro In Play’ (12 January 2017) <http://www.investors.com/news/technology/click/bold-tech-ma-predictions-for-2017-netflix-twitter-gopro-in-play/>; Nic Newman, ‘Journalism, Media, and Technology Trends and Predictions 2017: Digital News Project 2017’ Reuters Institute for the Study of Journalism: <http://reutersinstitute.politics.ox.ac.uk/sites/default/files/Journalism%2C%20Media%20and%20Technology%20Trends%20and%20Predictions%202017.pdf>, p 11.

It has been suggested that this is happening because some companies simply are unable to generate revenues through their current business model or may be unable to keep up with the investment required. Moreover, the disruption of Chinese digital giants, such as Tencent and Alibaba, may also be forcing these consolidations.

In the context of data protection and competition law, it has been suggested that a driver of this may actually be to obtain information. The Google/DoubleClick merger allowed Google to gather information and technology to lead to the capacity to obtain profitability from the most personalised or targeted ads. With Google and Waze, Google obtained real time traffic information, allowing it to supplement its maps. The Facebook/WhatsApp merger is another one which seems to be explained by the interest in obtaining information generated through WhatsApp in order to improve its ability to better target its ads. This is also linked to the machine learning phenomenon, in which machines learn based on each interaction with them. An operator that reaches a substantial level of interactions can provide a higher level of quality than another, even though the former has a somewhat less precise algorithm. This data can generate a huge advantage and for this reason more and more mergers are explained on the basis of obtaining information.¹³

(ii) Implications for the citizen and community

The democratic implications have come to mind regarding the impact of such digital consolidation. One interesting aspect raised by the *Autoritat Catalana de la Competencia* is that of democratic implications of such digital consolidation, particularly in the context of preserving the variety of the media.¹⁴ It claims that an objective of competition law is to guarantee the variety for consumers (or citizens) that comes from competition. In the context of the media, such quality may actually be synonymous with the quality of the news service viewed as a whole.¹⁵

The paper cites the former Chairman of the FTC, Robert Pitofsky, who has expressed that antitrust is more than just economics and particularly thorough investigations of consolidations in the media industries are needed due the implications on society that a lack of competition in these sectors may have.¹⁶ The European Data Protection Supervisor, Giovanni Buttarelli, has expressed similar concerns:¹⁷

¹³ Autoritat Catalana de la Competencia, 'The Data-Driven Economy. Challenges for Competition' (November 2016) p 42.

¹⁴ Ibid.

¹⁵ Autoritat Catalana de la Competencia, 'The Data-Driven Economy. Challenges for Competition' (November 2016) pp 13-14.

¹⁶ Mr Pitofsky's statements were recorded initially in the Washington Post. Alec Klein, "A Hard Look at Media Mergers", Wash. Post, 29 November 2000 (quoting Robert Pitofsky). <https://www.washingtonpost.com/archive/business/2000/11/29/a-hard-look-at-media-mergers/d8380c2d-92ee-4b1b-8ffdf43893ab0055/>.

¹⁷ Big data: individual rights and smart enforcement, speech at EDPS-BEUC, Joint Conference European Commission, Berlaymont, Brussels, 29 September 2016.

‘What if Twitter were acquired by a digital giant? This should be of interest to consumer enforcers and antitrust, as well as the privacy community. It would have real implications for freedom of expression online. Merger control provides for the protection of media plurality - this is a concern from an analogue world. We need to update this for the digital reality, as more and more of lives and objects go online.’

Again, as part of the merger between AT&T and Time Warner concerns arose as regards what impact such a transaction would have on the variety of the media.¹⁸ Clearly, such digital consolidation can impact upon the public interest, specifically the interests of freedom of speech and freedom of the press, and generally the democratic principle of accountability. It might be interesting to investigate the impact of such digital consolidation on the citizen and the community in this context.

Barry Lynn sees online platforms as ‘the modern railroads’: Google, Apple and Amazon are serving a fundamental role of connecting people, and more importantly, connecting the producer and the buyer. However, there are differences as now we have data which can be bought and licences to price discriminate. Lynn says that this is ‘an autocracy like we have never seen’, with market players having the ability to pick and choose winners, tailor solutions and prices. They are the ‘single autocratic master of the political economy’. He points specifically to Amazon emerging as a monopoly: rather than having hundreds of publishers and thousands of retailers, today we have a single platform. Amazon is able to control 60-100% of the different book markets.¹⁹

This feeds into the role of social media platforms and the question of how to preserve media plurality on these platforms where they are not subject to the same checks and balances as traditional editorial organisations. Mark Thompson has pointed out that ‘our digital ecosystems have evolved into a near perfect environment for distorted and false news to thrive.’²⁰ The Reuters Institute has shown that in almost all countries more people now rely on social media as their main source of news rather than printed newspapers.²¹ Evidently, this unharnessed editorial power of online platforms threatens to ‘undermine democracy all around the world’.²²

Commissioner Vestager has too recognised that machine learning and AI through algorithms in the context of social media have the ability to create ‘an alternative reality, by showing

https://secure.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/EDPS/Publications/Speeches/2016/16-09-29_Speech_EDPS_BEUC_BigData_EN.pdf.

¹⁸ Letter from Senator Bernard Sanders dated 26 October 2016

<http://www.sanders.senate.gov/download/atandt-time-warnerletter?inline=file>.

¹⁹ ‘Masters of mind? Ideas and politics in the age of platform monopoly’ *CPDP*, Brussels 26 January 2017.

²⁰ Thompson, *Enough Said: What’s Gone Wrong with the Language of Politics?*, Bodley Head, 2016.

²¹ 28% of 18-24s use social media as main source, 24% for TV news (average of 26 countries) Newman et al., *Digital News Report*, RISJ, June 2016.

²² Nic Newman, ‘Journalism, Media, and Technology Trends and Predictions 2017: Digital News Project 2017’ Reuters Institute for the Study of Journalism:

<http://reutersinstitute.politics.ox.ac.uk/sites/default/files/Journalism%2C%20Media%20and%20Technology%20Trends%20and%20Predictions%202017.pdf>, p 8.

people one story after another that just isn't true', with serious implications for democracy.²³ Importantly, competition law may have a role in combating the undemocratic effects of such algorithms. Freedom of expression and editorial independence and impartiality, values enshrined in liberal democracies, are under threat from digital consolidation in this way.

While tech platforms may be part of the problem, they can also be part of the solution. The digital revolution has led us to a hyper-connected world and a sharing society. The Smart City concept is at the confluence of these two mega-trends. The city is already beginning to be seen as a potential platform for digital transformation of the economy and society. Smart Cities are thought of as providing the digital infrastructure or a platform for digital services, in the areas of transport, energy, health etc. The Smart City concept is based on the idea of an open platform and open data, with the city as a 'living lab' for the Internet of Things and a tech hub. Telefonica has created a Policy Report on applying this concept to the cities of Europe.²⁴

The idea of the Smart City combines both digital consolidation with the citizen and community, especially the latter. For example, Buenos Aires is planned to be recreated into a smart city, to raise the quality of life in slums, improve security, reorganise transport, conquer its traffic problem and clean up the environment.²⁵

(iii) The question of ownership of data

The link between digital consolidation and the citizen might be made with the concept of the ownership of data. As the *Autoritat Catalana de la Competencia* states, if data are always owned by online users, any operator could offer quality services to those who voluntarily grant it access to their own data.²⁶ This, of course, links in with the right to data portability which is to be introduced with the General

Data Protection Regulation²⁷ in 2018, where individuals are given the right to switch electronically processed data from one firm to its rival through a 'commonly used' electronic format. Telefonica has announced that it is working on a platform that will allow users themselves to manage their own data, whereby operators who want to make use of it will

²³ Commissioner Vestager, 'Algorithms and Competition', (16 March 2017) Bundeskartellamt 18th Conference on Competition, Berlin: https://ec.europa.eu/commission/commissioners/2014-2019/vestager/announcements/bundeskartellamt-18th-conference-competition-berlin-16-march-2017_en.

²⁴ Telefonica, 'One City. Hundreds of Possibilities', Policy Paper 2016: https://www.telefonica.com/documents/341171/45062944/POLICY+PAPER_Smart+Cities_The+City+as+a+platform+for+Digital+Transformation+April+2016.pdf/10f6ad6b-0350-4c98-b11d-0433adf5d0fc.

²⁵ *Special Report Buenos Aires: Creating the Future*, The Financial Times (April 2017) <https://www.ft.com/reports/buenos-aires-creating-future>.

²⁶ Autoritat Catalana de la Competencia, 'The Data-Driven Economy. Challenges for Competition' (November 2016).

²⁷ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) <http://data.europa.eu/eli/reg/2016/679/oj>.

pay for it.²⁸ Giovanni Butarelli has also given credit to the concept of ‘personal data stores’ as a concept to ensure control over personal data and has praised the work done by the Japanese government to promote the decentralisation in the storage of information.²⁹ Nick Grossman has further raised the possibility to oblige whoever collects information to offer an API (application programming interface) so that users can always access this information and offer it to competitors (increased compatibility).³⁰ Moreover, a property-rights approach to privacy seems particularly appealing when big data leads to concerns about fairness in the application of risk-based pricing strategies, and information intermediaries may have insufficient incentives to ensure the accuracy of personal information.³¹

(iv) The question of privacy as a consideration in competition/antitrust analysis

Privacy, once again, can draw the link between digital consolidation and the citizen. The debate as to the role of competition law in the regulation of online platforms has been centred on the concept of privacy.

Protecting privacy in the face of digital consolidation can be a limitation on the use, and therefore the economic profit, that operators are able to obtain from the data they have collected. Especially as regards many of these services have network effects, giving up the use of this data is then even more significant. The incentive for operators is then to achieve a low level of privacy in order to obtain greater profitability with virtually no cost in terms of loss of users or buyers.³² The link with competition here is that privacy may be equated to the quality of the service or product. When an operator holds a dominant position, it feels less competitive pressure and may mean there is a greater temptation to abuse its dominance in the market and degrade the quality of the service offered vis-a-vis privacy protection.

As the *Autoritat Catalana de la Competencia* notes, the business model of WhatsApp has altered since the merger with Facebook: (i) it has stopped experimenting with charging €1 for the application and (ii) its privacy policy has been amended to specifically allow the transfer of information to Facebook. Essentially, the merger has entailed a loss of options by the user. It is now a free service, but privacy has taken a hit. It may be possible to frame this in that the

²⁸ Telefonica, ‘Telefonica presents Aura, a pioneering way in the industry to interact with customers based on cognitive intelligence’ (26 February 2017) a pioneering way in the industry to interact with customers based on cognitive intelligence; Bloomberg, ‘Telefonica Plans to give customers more control over their data’ (26 February 2017) <https://www.bloomberg.com/news/articles/2017-02-26/telefonica-plans-to-give-customers-more-control-over-their-data>.

²⁹ “Personal data stores will be one way of the individual reasserting her control over personal data, and we were impressed to learn of the work the Japanese administration is doing to promote such decentralisation of data storage.” BIG DATA RIGHTS: LET’S GET TOGETHER. 06 October 2016. Giovanni Buttarelli.

³⁰ The Capital Forum. 21 September 2016. Based on the conference call of 15 September 2016. <http://createsend.com/t/j-D5D60E8ACC6E3E1C>.

³¹ BIG DATA AND DIFFERENTIAL PRICING. February 2015. Executive Office of the President of United States of America. https://www.whitehouse.gov/sites/default/files/docs/Big_Data_Report_Nonembargo_v2.pdf, p 18.

³² Autoritat Catalana de la Competencia, ‘The Data-Driven Economy. Challenges for Competition’ (November 2016) p 21.

consumer welfare, in the form of privacy, has been harmed. Privacy may also be seen as contributing to the quality of the service, and that a diminution in privacy standards is reflected in the quality of the product. However, it is notable that the Commission did not analyse the impact on privacy resulting from an increase in the concentration of data produced as a result of the acquisition.

The *German competition authority* have begun investigations into Facebook for allegedly infringing aspects of data protection. Andreas Mundt, head of the German Bundeskartellamt, weighed in on the privacy and data as a commodity debate, saying that he is “deeply convinced privacy is a competition issue”.³³ Moreover, in October 2016, the Italian competition authority opened a double investigation in connection with (i) the possibility that WhatsApp may have forced the acceptance of new terms and conditions (which allowed that company to share information with Facebook) by warning its users that if they do not accept then they could not continue to use the service and (ii) the possibility that the inclusion of certain clauses in the aforementioned conditions were oppressive (abuses).³⁴

(v) Debate as to whether competition law is the solution

The main debate here is whether competition law/antitrust should have a role in safeguarding privacy in the face of such consolidation at all. Some argue that there is no a place for competition law here, arguing that big data has brought pro-competitive effects and there is no need to intervene unless identified as such. Tucker and Wellford (2014) have stated:³⁵

³³ Online Markets and Offline Welfare Effects – The Internet, Competition, Society and Democracy 22 May 2017 panel 4: Policy and enforcement choices.

³⁴

http://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02_03_2016_Facebook.html;jsessionid=61. Bundeskartellamt's decision has not been without criticism: <http://chillingcompetition.com/2016/03/02/facebook-privacy-and-article-102-a-first-comment-on-the-bundeskartellamtsinvestigation/>. In this interesting article it is noted that the decision by the German competition authority would rely on a previous decision of the Bundesgerichtshof (KZR 58/11 -VBL-Gegenwert) of 6 November 2013. Robert McLeod. Novel But a Long Time Coming: The Bundeskartellamt Takes on Facebook. <http://jeclap.oxfordjournals.org/content/7/6/367.full.pdf+html> Journal of European Competition Law & Practice, 2016, Vol. 7, No. 6. The Commissioner of the FTC Terrell McSweeney said that in the United States this practice would be seen from the perspective of the protection of consumers and users. “In the United States, we would view the violation of data protection provisions on its own as a consumer protection issue. Another difference is the European view that dominant firms have ‘special obligations’. The potential competition law violations identified in the recently issued EDPS opinion are primarily ‘exploitative abuses’, which do not have an analogue under the American antitrust laws. In the U.S. context, extracting more data from customers than would be possible in a competitive market could be viewed as akin to charging monopoly prices. U.S. law is clear that monopoly pricing by itself does not violate the antitrust laws”. https://www.ftc.gov/system/files/documents/public_statements/987103/mcsweeney_euro_data_protection_conf_9-29-16.pdf BIG DATA: INDIVIDUAL RIGHTS AND SMART ENFORCEMENT European Data Protection Supervisor-BEUC Joint Conference Brussels, Belgium, 29 September 2016 Remarks of Commissioner Terrell McSweeney. Press release of the Autorità Garante della Concorrenza e del Mercato. 28 October 2016. <http://www.agcm.it/en/newsroom/press-releases/2358-exchange-of-personal-data-with-facebook-and-oppressive-clauses>.

³⁵ Darren S. Tucker and Hill B. Wellford, ‘Big Mistakes Regarding Big Data’ (December 2014) The Antitrust Source:.

‘Big data analysis has helped increase economic output, reduce crime, improve public health and safety, increase voter turnout, boost energy efficiency, improve weather forecasts, and enhance agricultural yields.’

Moreover, big data has brought an improvement in the quality of services and leads to subsidised or even free services for users, as well as funding innovation and growth. The nature of big data as an explanation for the absence of competition concerns: diminishing returns means it is unlikely to have anticompetitive effects in acting as a barrier to entry, the prolific entry of market players has not manifested in a tipping point, and the value of data being in its analysis, rather than in its volume. Thus, there may not be a need to treat big data and the users of it differently and competition tools already developed can deal adequately with any issues that arise. Moreover, data protection regulation is the relevant institutional choice to deal with such consolidation, not competition law. Finally, the fact that competition agencies, in assessing the mergers of these players, have rejected the presence of competition law issues. For example, in the Google/DoubleClick merger, the merger of big data tools or datasets would not give the merged entity an insurmountable advantage. In the Facebook/WhatsApp merger, it was found that even if Facebook uses WhatsApp as a new source of data, sufficient alternative providers of online advertising services remain with access to user data for advertising purposes. In the Publicis/Omnicom merger,³⁶ a sufficient number of alternative providers of big data analytics were identified with no serious doubts are arising from the transaction in relation to big data.

Sokol and Comerfeld share similar sentiments in their recent article on Antitrust and Regulating Big Data. They claim that antitrust and consumer protection essentially serve different goals, protect consumers from different harms and operate via different spheres of the same agency.³⁷ This question goes to the heart of what the purpose of competition law is. Moreover, the European Commission even declared, when clearing the Facebook/WhatsApp merger, that this was not the domain for competition law, but rather data protection. Sokol and Comerfeld also raise questions as to whether antitrust remedies would actually be appropriate remedies in this context, and at times may even undermine privacy in these markets further.³⁸

The other side of the debate begins with Commissioner Harbour’s dissent to the Google/DoubleClick merger, warning of the potential dilution for privacy where data has become a commodity amongst tech giants. Giovanni Butarelli, after outlining the two sides on the debate, also suggests that competition needs to adapt to the new digital economy, where data and privacy need to be taken into account as regards competition analysis due to their subsumption in the concept of the quality of the service or product.

http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/dec14_tucker_12_16f.authcheckdam.pdf.

³⁶ http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=2_M_7023.

³⁷ D. Daniel Sokol and Roisin Comerford, ‘Antitrust and Regulating Big Data’ *George Mason Law Review*, Vol. 23, Issue 5 (Fall 2016), pp. 1129-1162.

³⁸ *Ibid*, pp 1130-1132.

Straw Men and Iron Man: Antitrust, Freedom and Privacy in the Digital Society

Christian D’Cunha¹

Curbing excessive market and informational power

The consolidation of market and informational power in the digital space challenges the Delphic notion of consumer welfare that pervades contemporary competition law. However these developments also have ramifications for personal freedom and democracy. Privacy is one prerequisite for this freedom of expression and choice in the marketplace for goods, services and ideas.

Against this background the relevance of competition rules for digital society and the economy is being hotly debated. In the EU, discussions turn on the extent to which rules should be aligned with fundamental rights and values. In the United States, there are growing calls for antitrust to return to its original mandate of combating monopoly power, a tradition which incidentally carries echoes of the Ordoliberal roots of German competition law. In Japan meanwhile, the Fair Trade Commission has recently announced that the way personal information is treated has relevance for antitrust and merger control.²

There is no doubt that antitrust is a powerful arm of the state in the western hemisphere. Perhaps it is *the* most powerful arm aside from policing and criminal justice; indeed antitrust enforcement might be plausibly regarded as quasi-criminal given the potential scale of sanctions that can be levied - witness most recently the Commission’s decision against Google for its comparison shopping service strategy under Article 102 TFEU.

It is instructive to compare the size of the sticks that until now have been wielded to combat misbehaviour by market players. The highest fines applied in the EU for violations appear to be:

- €2.9bn under Article 101 (cartel behaviour) against a truck cartel in 2016;³

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² Japan Fair Trade Commission Competition Policy Research Center, Report of Study Group on Data and Competition Policy, 6 June 2017; <http://www.jftc.go.jp/en/pressreleases/yearly-2017/June/170606.files/170606-3.pdf>.

³ Summary of Commission Decision of 19 July 2016 relating to a proceeding under Article 101 of the Treaty on the Functioning of the European Union and Article 53 of the EEA Agreement (Case AT.39824 — Trucks) (notified under document C(2016) 4673) (2017/C 108/05); <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017XC0406%2801%29&from=EN>.

- £3m imposed by the Financial Services Authority (which has had stronger sanctioning powers than the data protection authority) for a data breach committed by HSBC in 2009;⁴
- €5.9 million imposed on Sigue Global Service Limited by the Italian data protection authority for unlawful processing of personal information;⁵
- €3 million imposed by the Italian competition authority on WhatsApp for violation of the national consumer code.⁶

The scale of fines is not the only important factor, though the application of tough sanctions can be very effective in dissuading harmful behaviour by all market players. Furthermore, regulation is changing in the EU: the General Data Protection Regulation will allow authorities to impose administrative fines for violations of up to 4% of total worldwide annual turnover,⁷ while the European Commission announced in May 2017 its intention ‘to strengthen and better harmonise’ sanctions for breaches of consumer law.⁸ However, it is legitimate to query whether this disparity in sanctions for misbehaviour points to difficulties in translating people’s rights to ever more pervasive and unavoidable non-online environment.

Post-price economics

With people living their lives almost always online, concentration of ownership of the infrastructure and the means of provision of essential services is increasingly on the radar of all regulators and policy-makers. From a purely antitrust perspective, concentrations tend to lead to higher prices. Most people – including poor, less educated or elderly - do not have the time or the information constantly to seek better deals and they are vulnerable to exploitation. For example, the UK Competition and Markets Authority concluded in 2016 that 70% of customers of the Big Six energy had failed to switch from the highest standard variable tariff and had faced 11% higher electricity tariffs.⁹ Where there are low or zero prices for web-based services and content, it may be logical to assume an equivalent effect on the actual value being extracted from customers whose ability to know or understand the nature of the transaction is low.

⁴ HSBC firms fined over £3m for information security failings;
<http://www.fsa.gov.uk/library/communication/pr/2009/099.shtml>.

⁵ ‘Money transfer: Garante privacy, 11 mln di multa a cinque società per uso illecito di dati’;
<http://www.garanteprivacy.it/web/guest/home/docweb/-/docweb-display/docweb/6072330>.

⁶ ‘WhatsApp fined for 3 million euro for having forced its users to share their personal data with Facebook’;
<http://www.agcm.it/en/newsroom/press-releases/2380-whatsapp-fined-for-3-million-euro-for-having-forced-its-users-to-share-their-personal-data-with-facebook.html>.

⁷ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation); Official Journal of the European Union, L 119, Vol. 59, 4 May 2016, Article 83.

⁸ http://europa.eu/rapid/press-release_IP-17-1448_en.htm.

⁹ Energy market investigation: Summary of final report, 24 June 2017.

While the term ‘post-truth politics’ entered the mainstream lexicon last year, one might begin to talk about ‘post-price economics’. Regulators are now grappling with markets characterised by the efforts of the great disrupters of the web-based economy to drive everything to ‘free’. Nothing in life is truly free, of course. So what might be the actual cost to consumers of zero-price online services? It might consist in nudging or coercing people to additional personal data disclosure beyond what is necessary to provide the service. It may be limitations on freedom of expression or choice to consume content. It may be limitations on freedom to download and port content that people have uploaded to platforms elsewhere. Analytical frameworks may need to adapt to capture this new transactional reality, otherwise the regulators could be impotent in addressing potential harm to individuals as well as threats to the smooth functioning of markets.

Missing the point?

Unfortunately, this burgeoning debate on the digital society and the role of competition law has at times been shoehorned – even trivialised – into a question about how to make data sets available to all competitors. This might be reflected in the Economist’s recent analysis¹⁰ which, while succinctly diagnosing the problem, appeared to favour a solution of opening up data markets with individuals allowed to trade their own data. EU law does not, in fact, permit the monetisation and exchange of personal information.¹¹ A similar straw man may be the debate over targeted behavioural advertising, irritating or unsettling to many people although obviously still very hit-and-miss, when the real consumer and human rights issue is covert tracking. The problems for individuals and society of prevailing digital business models may be far more profound and serious.

One problem is the prevalence of take-it-or-leave-it terms and conditions, or misleading data use policies that tell you how to prevent others accessing your personal information but without any option for preventing access by the service provider and their undisclosed third party partners. In effect, it is very difficult and costly to opt out of being tracked online. This may amount to ‘attention taxation without representation’, as Kara Swisher recently reflected.¹² To this the objections might be raised that privacy cannot be a genuine aspect of quality in competition analysis because its value to different individuals appears to vary so much. On the other hand, the impact on freedom and privacy of the society’s digital turn may be compared to human threats to the environment and climate change, tending to remain abstract and less important to many people until they are themselves directly affected, through severe air pollution, erosion of coastal habitats and so on. People tend, whenever they are connected to the internet and as a condition for using web-based services, to be unaware of the constant tracking that they undergo until something goes wrong, in the form for example of a data breach or with more topical concerns about ‘fake news’ and ‘filter bubbles’.

¹⁰ The Economist, ‘Fuel of the future: Data is giving rise to a new economy. How is it shaping up?’, 6 May 2017.

¹¹ See for example EDPS Opinion Digital Content Directive.

¹² <https://www.recode.net/2017/2/7/14542504/recode-decode-transcript-time-well-spent-founder-tristan-harris>.

In any case, empirical evidence – for example Pew Research in the United States, and Eurobarometer in the EU - consistently record generalised anxieties about what is happening to personal information in cyberspace and individuals' lack of control.¹³ As for 'digital natives', research indicates that if anything young people are actually more likely to have taken action to protect their privacy than older people.¹⁴ Privacy online is a strong social norm, even if sufficient protections have arguably yet to evolve, as evidenced by the vigorous current debate over the reform of the EU's rules on confidentiality of electronic communications (or 'e-Privacy').

This points to a second problem related to privacy and freedom in these markets, dramatically described as 'people-farming'. A number of writers have spoken about how digital devices and apps represent 'addiction by design', how people online might be subject to treatment akin to Skinner's rats, being urged always to grab the 'food' potentially available on their screens, whether through video autoplay or the fostering of outrage at opposing viewpoints within individual filter bubbles.¹⁵ Many algorithms only really seem to care about maximising clicks and comments, with one CEO of a major content platform nominating sleep as one of this three biggest competitor. Meanwhile the world's most popular mobile game, 'free' to download yet generating an estimated 11% of the revenue of the fourth biggest internet company in the world, has drawn criticism over its impact on 'addicted' child gamers.¹⁶

The dividend from these transactions is not evenly shared. Recent scholarship and economic modelling indicates that, in the advertising environment at least, platform intermediaries may gain disproportionately at the expense of individual consumers and firms.¹⁷ In an environment where social interaction and even intimate thought has become commoditised, regulators are right in asking which values underpin these services.

¹³ Special Eurobarometer 431 on Data Protection, June 2015 and Pew Research Panel Survey January 2014 on Public Perceptions of Privacy and Security in the Post-Snowden Era.

¹⁴ Blank, Grant and Bolsover, Gillian and Dubois, Elizabeth, A New Privacy Paradox: Young People and Privacy on Social Network Sites.

¹⁵ Following the term coined by Schüll, Natasha Dow in *Addiction by Design: Machine Gambling in Las Vegas*, 2012; Pearson, C. and Hussain, Z. (2015) 'Smartphone Use, Addiction, Narcissism, and Personality: A Mixed Methods Investigation, International Journal of Cyber Behaviour, Psychology and Learning, 5 (1):17; Aral Balkan, 'Wir sind alle Cyborgs', Der Zeit 7 March 2016; one of Google's founders declared in 2010, "Look at Android. Look at Gmail. Look at Google Maps. Look at Google Search. That's what we do. We build products you can't live without." <http://uk.businessinsider.com/larry-page-the-untold-story-2014-4?r=US&IR=T>.

¹⁶ 'Honor of Kings: China's most vilified online game', BBC, 7 July 2017. On addiction in online environment, see for example Tristan Harris, How Technology Hijacks People's Minds, <http://www.tristanharris.com/2016/05/how-technology-hijacks-peoples-minds%e2%80%8a-%e2%80%8afrom-a-magician-and-googles-design-ethicist/>; Eyal Nir, *Hooked: How to Build Habit-Forming Products*, 2013; forthcoming book by Robey Lustig to be entitled 'The Hacking of the American Mind', <https://www.ft.com/content/19de6f72-60aa-11e7-91a7-502f7ee26895?mhq5j=e3>.

¹⁷ See preliminary draft article by Veronica Marotta, Kaifu Zhang, and Alessandro Acquisti, 'Who Benefits from Targeted Advertising?' presented to FTC PrivacyCon 2017.

Beyond tracking

The tracking model which has been the norm for only a couple of decades is considered by many to be inevitable and indispensable to the digital economy. On the other hand, slavery, a keystone of the economy for millennia was long considered to be ok, and for most of history advocates of democracy have considered it better for women not to have the vote. Many or most people who laboured under these denials of basic rights rarely objected.

Big is not in itself bad but obligations are scalable. The most powerful companies undoubtedly have a pivotal role in changing the rules. This is now entrenched in data protection law.¹⁸ The riskier and more extensive the handling of personal information, the more is needed to do to comply and demonstrate compliance. Therefore companies which thanks to massive scale personal data processing have profited and indeed ‘changed the world’ are now being challenged to take full responsibility within the regulatory framework. For instance, the CJEU in *Costeja* ruled that a global search engine with its headquarters outside the EU was nevertheless subject to EU data protection laws – a point fiercely contested during the case.¹⁹ So now there are calls for not only compliance with stronger rules on security and transparency, there is also a growing expectation that companies perform a more sincere analysis of the impact of their actions on the individual and the diversity of her interest.

Market concentration, regulatory concentration?

The European Data Protection Supervisor and a growing number of regulators responsible for the digital sector are looking at the long term strategic challenges for freedom, choice and privacy online. Concentration of power is one such challenge.

The OECD have for several years been reporting on ‘economies of scope’ and concentration in ‘big data’ related markets culminating in ‘winner-takes-all’ situations and near monopolies that enjoy increasing returns to scale due to the absolute ‘permanence’ of their digital assets.²⁰ These companies appear to have been dominant for over a decade. These are no longer transitory, dynamic markets. It might be argued that data may indeed be the new oil if only in the respect that dominant big data companies have attained the power of the older oil giants - compare the biggest companies in terms of market capitalisation 10 years ago versus today and leading tech companies seemed to have eclipsed all but one of the oil

¹⁸ GDPR Recital 74: ‘The responsibility and liability of the controller for any processing of personal data carried out by the controller or on the controller’s behalf should be established. In particular, the controller should be obliged to implement appropriate and effective measures and be able to demonstrate the compliance of processing activities with this Regulation, including the effectiveness of the measures. Those measures should take into account the nature, scope, context and purposes of the processing and the risk to the rights and freedoms of natural persons.’ These scalable responsibilities are reflected in obligations like data security measures (Article 32), reporting of data breaches (Article 33-34) and data protection impact assessments (Article 35).

¹⁹ Case C-131/12 – *Google Spain v. Agencia Española de Protección de Datos and Mario Costeja González*, 13 May 2014, paragraphs 45-60.

²⁰ OECD Business and Finance Outlook 2017, p.150.

companies. Competition is affected not only by the companies exercising great market power themselves, but also by the entities that own those companies, where perhaps an even more remarkable degree of concentration has also occurred: in those digital sectors where concentration is starkest, even the few competitors that exist have common owners.²¹ This trend is moreover embracing competition among companies seeking to exploit Artificial Intelligence and machine learning technologies, with mergers and acquisitions growing sevenfold between 2011 and 2015.²²

Abuse of dominance claims, consumer protection ‘sweeps’, and future binding decisions of the European Data Protection Board and fines are measures to take after the horse has bolted. Merger control, however, is the only genuine *ex ante* insurance available to regulators against future threats to choice and liberty, and has therefore taken on renewed importance - this year marks ten years ago since the Federal Trade Commission cleared the Google-DoubleClick acquisition along with a dissenting opinion from then Commissioner Jones Harbour.

On questions of responsible behaviour by powerful companies and market concentration, regulators now urgently must cooperate and learn from each other. Otherwise the calls will only get louder for an alternative model for cross-sectoral regulation, such as from the campaign manifesto of the new French president which proposed an EU agency to promote the digital single market, including antitrust and consumer issues, and from the European Commission’s Joint Research Council advocating a digital advisory body to promote coherent enforcement.²³

Our response has been to set up a digital clearinghouse – which met for the first time at the end of May - for regulators to exchange information and look for opportunities for cooperation. Enforcers are starting to take a longer-term perspective. Data protection authorities are beginning to weigh the potential impact of current market trends on human dignity and individual freedom; competition enforcers are assessing the impact on aggregate consumer welfare of collusion, abuse of dominance and mergers in the big data space.

Conclusion

The most interesting and pressing question is not whether companies are competing vigorously over specific data sets, nor indeed whether advertising has become creepy. Digital

²¹ José Azar, Martin Schmalz and Isabel Tecu, 'Anti-competitive effects of common ownership' (July 2016) Ross School of Business Paper No 1235.

²² See: www.cbinsights.com/blog/top-acquirers-ai-startups-ma-timeline , and <https://techcrunch.com/2016/08/24/why-ai-consolidation-will-create-the-worst-monopoly-in-us-history>.

²³ <https://en-marche.fr/emmanuel-macron/le-programme/numerique> ; A working party from the Commission’s Joint Research Centre argued for a specialist agency to provide technical support to supervisory bodies investigating cases in the digital market and monitor the compliance of online platforms to facilitate ‘coherence between regulators in their respective domains; JRC Technical Reports, Institute For Prospective Technological Studies Digital Economy Working Paper 2016/05, An Economic Policy Perspective On Online Platform, pp.42-43; <https://ec.europa.eu/jrc/sites/jrcsh/files/JRC101501.pdf>.

products have been designed to maximum attention and information and regulators, and the ongoing battle for attention touches the right to privacy, and privacy concerns the freedom of an individual to be free from interferences in their most intimate space. By working together, authorities can expect to better understand the wider implications of behaviour in these markets for the rights of individuals and for society now and in the future.

Pandora's Box of Online Ills: We Should Turn to Technology and Market-Driven Solutions before Imposing Regulation or Using Competition Law¹

Maurits Dolmans, Jacob Turner, Ricardo Zimbron²

Digital consolidation?

We are told that the online environment is dominated by a handful of IT giants.³ Digital consolidation—the growth of a few global IT businesses that compete with a multitude of local brick-and-mortar firms—is supposedly causing markets to crystalize into separate online islands, each dominated by one individual firm.⁴ In the same breath, it is said that antitrust authorities should break up these “monopolies” because they stifle competition and harm consumers.⁵

Given the benefits of the IT revolution over the last few decades—free online searches, free social media, free mapping services, free smartphone software, the rise of mini-multinationals (SMEs who suddenly have online access to world markets), and constant innovation—we should question this narrative. We do not think that this captures the reality of the competitive dynamics at play in the IT industry because it assumes that consolidation means lack of competition. It infers a causal relationship between industry structure, market power, and profit, a paradigm that reigned within industrial organization between the 1930s and the 1960s, but which has since been discredited.⁶

¹ Summary of a presentation at a conference on Digital Consolidation, Citizen and Community, Pembroke College, Oxford University, May 22, 2017.

² Cleary Gottlieb Steen & Hamilton LLP, London. The authors have worked with large and small clients in the IT sector, including Google, but this article is not on behalf of or paid for by any client. Comments and positions are personal to the authors, do not bind the firm or its clients, and are work in progress as we learn every day.

³ See Farhad Manjoo, “Tech’s ‘Frightful 5’ Will Dominate Digital Life For Foreseeable Future”, *The New York Times*, January 20, 2016 (available at https://www.nytimes.com/2016/01/21/technology/techs-frightful-5-will-dominate-digital-life-for-foreseeable-future.html?_r=0).

⁴ *Ibid.*

⁵ See Jonathan Taplin, “Is It Time to Break Up Google?”, *The New York Times*, April 22, 2017 (available at https://www.nytimes.com/2017/04/22/opinion/sunday/is-it-time-to-break-up-google.html?_r=0); “The World’s Most Valuable Resource Is No Longer Oil, But Data”, *The Economist*, May 6, 2017 (available at <http://www.economist.com/news/leaders/21721656-data-economy-demands-new-approach-antitrust-rules-worlds-most-valuable-resource>); Richard Waters, “Tech Giants Need to Rein in Powers Before EU Does”, *The Financial Times*, May 11, 2017 (available at <https://www.ft.com/content/567a1c90-3663-11e7-bce4-9023f8c0fd2e>).

⁶ See Maureen K. Ohlhausen, “Does the U.S. Economy Lack Competition, And If So What To Do About It?”, Federal Trade Commission, June 1, 2016 (available at https://www.ftc.gov/system/files/documents/public_statements/952273/160601doesuseconomylackcomp.pdf). Note also that the generalised integration of computer algorithms in modern business models create risks of hardcore cartels through tacit collusion in virtually any market structure, making the inference of a causal relationship between consolidation and lack of competition particularly ill-suited to the modern economy. See Directorate for Financial and Enterprise Affairs Competition Committee, “Algorithms and Collusion –

IT developments have resulted in cost reductions, an expansion in output, and an explosion of new services. The effect has been an *acceleration* rather than a reduction of competition: Online platforms started competing directly with offline suppliers, disrupting traditional business models and forcing lower prices. Online platforms offering similar services (e.g., Google, Yahoo, Bing, social search, specialized search providers, apps, etc) innovate constantly to attract fickle customers. Platforms offering differentiated services⁷ (e.g. Facebook, Amazon, Twitter) vie with each other for the same users' "eyeballs" by providing free new products on one side of their platform ("attention rivalry"), to draw and charge advertisers and suppliers to the other side.⁸ They engage in a race to develop new AI technology ("innovation competition").⁹ And the unprecedented financial rewards for relatively young tech start-ups creates a rush to the market, with founders willing to take risks in the expectation that successful new products will either grow (e.g. Snapchat) or be bought out by private investors or larger tech companies (e.g. Instagram).¹⁰

So, in this apparently competitive environment, are we really starting to see a few tech firms dominate the market? Some argue that this is an inevitable consequence of the network effects—whereby a product becomes more desirable as the number of people using the product increases—that appear to be prevalent in the online world. In theory, these network effects give first movers an advantage, particularly since the marginal costs of expanding a platform are relatively low, allowing established firms to grow quickly and capture a larger share of the market.¹¹

Although network effects are present in some of these platforms, their impact is often overblown. They are not present in all cases – for example, it is irrelevant for a user of a search engine how many others use it. And, for the algorithm, the learning effects of having many

Background Note by the Secretariat", OECD, June 21, 2017 (available at [https://one.oecd.org/document/DAF/COMP\(2017\)4/en/pdf](https://one.oecd.org/document/DAF/COMP(2017)4/en/pdf)).

⁷ Nichols (1998) defines differentiated as services providing 'a framework and building blocks to enable deployment of scalable service discrimination in the Internet' (sic.) (<https://tools.ietf.org/html/rfc2474#page-7>).

⁸ See David Evans, "Attention Rivalry Among Online Platforms", University of Chicago Institute for Law & Economics, Olin Research Paper No. 627, April 12, 2013 (available at <https://ssrn.com/abstract=2195340>).

⁹ This drives, for instance, the fierce competition between Alibaba, Amazon, Apple, Baidu, Facebook, Google, IBM, Microsoft, Uber and more than 1,650 SMEs to create viable AI systems.

¹⁰ Julie Bort, "Instagram's Kevin Systrom: People Keep Asking If My \$1 Billion Was Too Small", *Business Insider*, July 19, 2014 (available at <http://www.businessinsider.com/did-systrom-sell-instagram-too-soon-2014-7?IR=T>).

¹¹ Dalia Marin, "Restoring Competition in the Digital Economy", Bruegel, May 17, 2017. Marin complains that online firms have "*excessive power to raise prices without losing many customers*", which is odd in light of the fact that many online services are free "*platforms with a large market share would lose most of their users if they introduced even a modest user fee.*" "Dynamic Competition in Online Platforms", Department for Business, Energy and Industrial Strategy, March 2017 (available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/602816/Digital_Platforms_report_new_BEIS.pdf). Marin also worries that "*firms that are already established can keep growing with far fewer workers than they would have needed in the past*", which is an equally odd complaint since this lowers rather than raising barriers to entry.

users carrying out searches (which some argue are indirect network effects) are subject to diminishing returns. Moreover, specialized search engines like Amazon have been able to learn faster and grow organically by concentrating on one, smaller, sector before moving on to tackle a neighbouring one. The UK's Department for Business, Energy, and Industrial Strategy in fact concluded that "*network effects, which might otherwise act as a barrier to entry, encourage dynamic competition*".¹² It found that, in most markets studied, there was frequent entry by new platforms (e.g. Spotify in the music sector, TripAdvisor and Airbnb in the hospitality sector, etc), and that entry was not any less likely in more concentrated digital markets. Even if concentration increases over time within each sector, competition from other sectors often intensifies (e.g. search engines became more concentrated but then faced competition from specialized search, social networks, and apps).

These findings reflect commercial reality. Social networks are often said to be prime beneficiaries of strong network effects. Yet, they also provide some of the best examples of new entrants (like Facebook) displacing an incumbent (MySpace). Even today, Facebook must continuously innovate to stay abreast of a range of rivals, such as LinkedIn and Snapchat.¹³ Nor are data a real barrier to entry. Although firms compete in collecting and analyzing usage data or user data, these data are non-rivalrous, i.e., non-exhaustive and capable of being obtained and used by more than one provider, thereby enabling smaller and new providers to gain market share too.¹⁴

Examples abound. In mobile platforms, the three largest products (Apple, Android, and Microsoft) now compete with a range of new operating systems.¹⁵ In online search, the UK's Competition and Markets Authority ("CMA") found that consumers use different types of searches, including general searches, specialized searches, social searches, sites like Wikipedia, and apps to look for products and services online.

Increased consolidation, therefore, does not necessarily mean decreased competition – to the contrary. Olympic 100m finalists, for example, are not under any less competitive pressure because there are only eight of them. The hallmark of market dominance is a firm that can sit back and enjoy the quiet life, insulated from competitive forces. The global IT industry is marked by the exact opposite – new entry, disruption, intense pressure to innovate, unprecedented consumer benefits, and an evolving host of new challenges and opportunities.¹⁶

¹² Dalia Marin, "Dynamic Competition in Online Platforms", *supra*.

¹³ Competing social media platforms include Twitter (2006), Pinterest (2010), WhatsApp (2010), Instagram (2010), GooglePlus (2011), SnapChat (2011) and Line (2011).

¹⁴ "Online Search Behaviour", Competition and Markets Authority, April 2017.

¹⁵ Competing mobile platforms include webOS (2009), Bada (2010), Aliyun (2011), Flyme (2012), Baidu (2012), Firefox (2013), CyanogenMod (2013), Sailfish (2013), Nokia X (2014), Fire (2014), PrivatOS (2014), Tizen (2015) and Ubuntu (2015).

¹⁶ Reports of the decline of entrepreneurship as a result of consolidation (John Dearie, *Where the Jobs Are: Entrepreneurship and the Soul of the American Economy* (Wiley, 2013)) appear to be premature. Other sources suggest that entrepreneurship has actually been on the rise since 2011. According to the Global Entrepreneurship Monitor (GEM), which surveys individual and national experts rather than government data, the rate of nascent entrepreneurship has risen since 2010 from 4.8 to 9.7 percent. See Leigh Buchanan,

Pandora's Box of Online Ills

Aside from its effects on competitive dynamics, digital consolidation (and the Internet more generally) raises a host of other concerns that, some argue, should be tackled by competition law or other regulatory measures. We concentrate on three examples: (i) the low quality of public discourse, and the emergence of “fake news”; (ii) concerns about loss of privacy; and (iii) exploitation by discriminatory pricing.¹⁷ These are serious concerns but, on closer inspection, the link between these issues and digital consolidation may not be very strong, and technology is beginning to provide market-based solutions, reducing the need for top-down regulation.

One of the main difficulties with regulating emergent technologies, including the Internet, is the “Collingridge Dilemma”: if we seek to regulate technology when it is in an emergent state, we stifle development. On the other hand, if we wait until technology has become more established, regulation or control may be more difficult to implement.¹⁸ Market-based solutions may temper or even resolve that problem.

Fake News

The internet may be the latest outlet for fake news, but we should be wary of falling into the trap of thinking that fake news are a recent phenomenon. Nor are they caused by digital consolidation, given that they emanate from mainstream news conglomerates, as well as from individuals on digital platforms.

The phrase “fake news” may seem recent, but the concept is as old as news itself. In 2016, the term was popularised by the alt-right movement in the US to describe news reports that, ironically, were not “fake” in terms of being untrue, but were merely unfavourable to their preferred candidate in the electoral race.¹⁹ The practice of spreading fake news, however, goes back long before 2016. Robert Darnton notes that Procopius, the Byzantine historian of the sixth century AD, collected dubious stories, known as *Anecdota*, “*which he kept secret until his death, in order to smear the reputation of the Emperor Justinian after lionizing the emperor in his official histories.*”²⁰ In 1939, a headline in the Daily Mail read: “*M.P. Brings Charge of ‘Fake’ News.*”²¹

“American Entrepreneurship is Actually Vanishing. Here’s Why”, *Inc.*, May 2015 (available at <https://www.inc.com/magazine/201505/leigh-buchanan/the-vanishing-startups-in-decline.html>).

¹⁷ For some of these criticisms, see Dr Liza Lovdahl Gormsen, “Digital Consolidation, Citizen and Community”, paper presented in Oxford on May 22, 2017.

¹⁸ David Collingridge, *The Social Control of Technology* (New York: St. Martin's Press; London: Pinter, 1980).

¹⁹ James Carson, “What Is Fake News? Its Origins and How It Grew in 2016”, *The Telegraph*, March 16, 2017 (available at <http://www.telegraph.co.uk/technology/0/fake-news-origins-grew-2016/>).

²⁰ Robert Darnton, “The True History of Fake News”, *The New York Review of Books*, February 13, 2017 (available at <http://www.nybooks.com/daily/2017/02/13/the-true-history-of-fake-news/>).

²¹ Government Communications Service, “Celebrating 100 Years of Government Communications”, *Medium*, March 2, 2017 (available at <https://medium.com/@History100/celebrating-100-years-of-government-communications-f860181cb5cc#qe2dcndxu>).

Fake news were not created by digital platforms. For many years, the U.K. tabloid press has specialized in publication of articles that are seriously inflammatory, misleading, and designed to influence the political process with scant regard for truth. On 30 April 2016, for example, the Daily Star's headline screamed "*Brexit... or die and be raped*".²² Likewise, politicians often make misleading statements and unrealistic promises that, even when accurately reported by the mainstream media, can be more damaging than fake news posted online, as the Brexit process showed.²³ Indeed, the concern of fake news by tabloids is arguably more justified given that their publication is a conscious choice by editors. Internet and digital companies, by contrast, generally provide platforms for free speech, which individuals can use to post their stories.

In any event, it remains an open question to what extent fake news has actually made a difference in electoral decisions. A recent paper questions the impact of fake news on social media in the 2016 US Presidential election, noting that their impact on the results may have been overstated.²⁴ Ofcom reports that most consumers do rely on more than one news provider, with an average of 3.5 sources used in the UK.²⁵ That said, other studies suggest that hyperpartisan pages and news items may reach a greater audience than neutral ones, so the picture remains a mixed one, and likely will continue to change and adapt as internet users' habits shift.²⁶

The question thus arises: what to do? Use competition law to break up news conglomerates or platforms? That would not cure the problem in the absence of any proven connection between consolidation and the creation or spreading of fake news. Require platforms to censor news stories that lack objectively verifiable factual basis? Apart from exceptional categories such as hate speech and abuse of children, that could violate fundamental rights.²⁷ Fortunately, there are a number of public and private initiatives designed to improve the veracity of materials posted on the Internet. One example is Fullfact, a crowd-funded

²² See "Brexit and the Newspapers – Where was IPSO?", *Hacked Off*, July 5, 2016 (available at: <http://hackinginquiry.org/latest-news/brexit-and-the-newspapers-where-was-ips0-2/>); see also Will Dalhgreen, "British Press 'Most Right-Wing' in Europe", *YouGov UK*, February 7, 2016 (available at <https://yougov.co.uk/news/2016/02/07/british-press-most-right-wing-europe/>).

²³ See Steven Barnett, "Brexit and the Tragic Downfall of the British Media", *Foreign Policy*, July 8, 2016 (available at <http://foreignpolicy.com/2016/07/08/the-tragic-downfall-of-british-media-tabloids-brexit/>).

²⁴ Hunt Allcott and Matthew Gentzkow, "Social Media and Fake News in the 2016 Election", *Journal of Economic Perspectives*, Vol. 31 No. 2, Spring 2017, pp. 211–236 (available at https://www.aeaweb.org/full_issue.php?doi=10.1257/jep.31.2#page=213) ("if one fake news article were about as persuasive as one TV campaign ad, the fake news in our database would have changed vote shares by an amount on the order of hundredths of a percentage point. This is much smaller than Trump's margin of victory in the pivotal states on which the outcome depended.")

²⁵ "News Consumption in the UK", OFCOM, March 24, 2015 (available at <https://www.ofcom.org.uk/research-and-data/tv-radio-and-on-demand/tv-research/news-consumption-2015>).

²⁶ Craig Silverman et al., "Hyperpartisan Facebook Pages Are Publishing False and Misleading Information at an Alarming Rate", *Buzzfeed*, October 20, 2016 (available at https://www.buzzfeed.com/craigsilverman/partisan-fb-pages-analysis?utm_term=.jwV38wZl3).

²⁷ In the US this is the result of the First Amendment to the Constitution. The European Convention on Human Rights similarly protects the Freedom of Speech under Article 10.

independent fact-checking charity.²⁸ Digital platforms such as Facebook and Google work with these fact checkers, and are beginning to adjust the process and rules for posting news to improve the quality of content (and Twitter should ban bots, if it wants to continue to attract users).²⁹ Firms are even working to develop AI-based tools, although human intervention still appears indispensable.³⁰ The Digital News Initiative, a collaboration between Google and European news publishers is supporting high-quality journalism through technology and innovation.³¹

These market-based solution should be encouraged and, combined with enforcement of media plurality rules,³² properly enforced media ethics,³³ and the teaching of Internet literacy in schools,³⁴ are a better approach than use of competition law, which cannot resolve the problem of fake news, or the imposition of platform liability³⁵ or Government censorship, both of which would kill off the Internet's very promise of media diversity.³⁶

Privacy

Various commentators have accused major online companies of invasions of privacy through the collection of large amounts of data on users.³⁷ It is true that many platforms offer services

²⁸ See Full Fact website (available at <https://fullfact.org/about/>); see also Poynter website (available at <http://www.poynter.org/fact-checkers-code-of-principles/>).

²⁹ See Justin Kosslyn and Cong Yu, "Fact Check Now Available in Google Search and News Around the World", *Google Keyword Blog*, April 7, 2017 (available at <https://blog.google/products/search/fact-check-now-available-google-search-and-news-around-world/>). See also Arik Jenkins, "Facebook Has Introduced a Fact-Checking Alert to Fight 'Disputed Content'", *Fortune*, March 22, 2017 (available at <http://fortune.com/2017/03/22/facebook-fact-checking-tool/>).

³⁰ Tom Simonite, "Humans Can't Expect AI to Just Fight Fake News for Them", *Wired*, June 15, 2017 (available at <https://www.wired.com/story/fake-news-challenge-artificial-intelligence/>).

³¹ Google Submission to the Culture Media and Sport Select Committee on "Fake News".

³² Steven Barnett, Martin Moore and Damian Tambini, "Media Plurality, the Fox-Sky Bid, and the Case for Referral to Ofcom", *LSE Media Policy Brief 18*, March 2017 (available at <http://blogs.lse.ac.uk/mediapolicyproject/files/2013/09/LSE-MPP-Policy-Brief-18-Media-Plurality.pdf>).

³³ See "Leveson Inquiry - Report into the Culture, Practices and Ethics of the Press", Department of Culture, Media & Sport, November 29, 2012; see also "The Failure of IPSO", *Hacked Off*, September 2015 (available at <https://hackinginquiry.org/wp-content/uploads/2015/09/FailureOfIPSO.pdf>). "European Commission and IT Companies Announce Code of Conduct on Illegal Online Hate Speech", Commission Press Release IP/16/1937, May 31, 2016 (available at http://europa.eu/rapid/press-release_IP-16-1937_en.htm).

³⁴ Parliamentary Questions, European Parliament, February 7, 2017 (available at <http://www.europarl.europa.eu/sides/getAllAnswers.do?reference=E-2016-008632&language=EN>).

³⁵ "Germany Warns Social Media Firms Over Illegal Content", *BBC*, March 14, 2017 (available at <http://www.bbc.co.uk/news/technology-39269535>).

³⁶ Sean A. Munson, Daniel Xiaodan Zhou and Paul Resnick, "Sidelines: An Algorithm for Increasing Diversity in News and Opinion Aggregators", Third International AAAI Conference on Weblogs and Social Media, March 2009.

³⁷ Bruce Schneier, "How We Sold Our Souls – and More – to the Internet Giants", *The Guardian*, May 17, 2017 (available at <https://www.theguardian.com/technology/2015/may/17/sold-our-souls-and-more-to-internet-giants-privacy-surveillance-bruce-schneier>); Jack Marshall, "With Washington's Blessing, Telecom Giants Can Mine Your Web History", *The Wall Street Journal*, March 30, 2017 (available at <https://www.wsj.com/articles/with-washingtons-blessing-telecom-giants-can-mine-your-web-history-149086980m>). See also Claire Porter, "Little Privacy in the Age of Big Data", *The Guardian*, June 20, 2014

that are free, and funded by the sale of ad space (although this does not necessarily involve the taking and sale of personal data). It has been suggested that competition law be used to remedy privacy concerns, based on the idea that competition law is about “*more than just economics*”,³⁸ and in the hope that compliance with privacy rules would improve with the convenient threat of high fines under competition law.

Indeed, in March 2016 the German competition law regulator, the *Bundeskartellamt*, opened an investigation into whether Facebook abuses dominance in a market for social networks if its terms of service on the use of user data violate German privacy law.³⁹ A case might be considered if dominance is used to impose unfair privacy terms, and the use of these terms in turn reinforces the alleged dominance, but we should be careful of assuming that the only, or best, way of addressing pure privacy concerns is through competition law. Competition law and personal data law⁴⁰ pursue different (if complementary) goals, and if competition authorities venture on the slippery slope of pursuing extraneous policy objectives, where will they stop? Other policy goals will follow, and predictability and legal certainty will suffer. The European Court has found that “*issues relating to the sensitivity of personal data are not, as such, a matter for competition law, they may be resolved on the basis of the relevant provisions governing data protection.*”⁴¹ Indeed, it could be argued that using competition law purely for privacy goals (instead of competition in providing privacy solutions) is a misuse of powers.

Nor is it necessary to rely on regulation. Online companies increasingly offer extensive and easy-to-use privacy settings, which can be adjusted by users so as to control what data is

(available at <https://www.theguardian.com/technology/2014/jun/20/little-privacy-in-the-age-of-big-data>); John Weathington, “Big Data Privacy Is a Bigger Issue than You Think”, *TechRepublic*, February 17, 2017 (available at <http://www.techrepublic.com/article/big-data-privacy-is-a-bigger-issue-than-you-think>); Natalia Drozdiak and Jack Nicas, “Google Privacy-Policy Change Faces New Scrutiny in EU”, *The Wall Street Journal*, January 24, 2017 (available at <https://www.wsj.com/articles/oracle-expresses-concern-to-eu-over-google-privacy-policy-1485263548>); “Big Data: Individual Rights and Smart Enforcement”, EDPS-BEUC Joint Conference, European Commission, September 29, 2016 (available at https://secure.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/EDPS/Publications/Speeches/2016/16-09-29_Speech_EDPS_BEUC_BigData_EN.pdf).

³⁸ Alec Klein, “A Hard Look at Media Mergers”, *Washington Post*, November 29, 2000 (available at <https://www.washingtonpost.com/archive/business/2000/11/29/a-hard-look-at-media-mergers/d8380c2d-92ee-4b1b-8ffdf43893ab0055/>).

³⁹ Guy Chazan and Duncan Robinson, “Facebook Hit by German Competition Probe”, *The Financial Times*, March 2, 2016 (available at <https://www.ft.com/content/1f4afa34-e05e-11e5-96b7-9f778349aba2>). Margrethe Vestager, “Making Data Work for Us”, Data Ethics Event on Data as Power, September 9, 2016 (available at https://ec.europa.eu/commission/commissioners/2014-2019/vestager/announcements/making-data-work-us_en). The BKartA relies on precedent from the German Federal Court of Justice, *VBL-Gegenwert* (2013).

⁴⁰ For example the General Data Protection Regulation (2016/679).

⁴¹ *Asnef-Equifax v Ausbanc* (Case C-238/05) EU:C:2006:734, ¶163; see also *Facebook/Whatsapp* (Case COMP/M.7217), European Commission decision of October 3, 2014, ¶164 (available at http://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf).

collected on them.⁴² People are starting to use these.⁴³ Indeed, online companies now compete with each other in providing these options and to make them easily usable, considering that consumers are more likely to use platforms from which they can easily dissociate themselves.⁴⁴ Data portability allow users to move their data to rival platforms if they are dissatisfied with their current platform's privacy rules.⁴⁵ Google, for instance, allows users to move emails, search history and other data to rivals. Users can disable search history collection and various other features. Like Google, Microsoft and Facebook offer easy-to-use privacy dashboards.⁴⁶ These are examples of platforms reacting to market forces and consumer preferences.

In sum, the market is capable of providing solutions with regards to privacy and personal data. In the words of the CMA, *"The presence of competition over privacy is a useful indicator, not only of firms' willingness to adapt to consumers' desires, but also consumers' understanding of the use of their data in that market, and the effectiveness of competition in the market in question."*⁴⁷ Privacy rivalry is what competition authorities should encourage.

Personalised discriminatory pricing

There is a concern that online firms are able to use sophisticated algorithms to process consumers' data and accurately estimate the maximum price that each individual consumer is willing to pay.⁴⁸ This could go beyond traditional forms of price discrimination, segmenting markets according to broad customer groups or geographic locations. With personalised pricing, firms would be able to estimate individual demand curves based on big data analysis, including a customer's precise location, purchasing history, browsing history, and likely preferences at a particular point in time. Indeed, empirical studies have shown that the technological capability for personalised pricing is now greater than ever,⁴⁹ and some argue

⁴² See, for example, Google's Data Policy (available at <https://privacy.google.com/intl/en-GB/your-data.html>); and Facebook's Data Policy (available at <https://www.facebook.com/policy.php>).

⁴³ See Jamie Campbell, "Young people going to increasing lengths to protect online privacy", *The Independent*, March 15, 2015 (available at <http://www.independent.co.uk/news/world/young-people-going-to-increasing-lengths-to-protect-online-privacy-10108955.html>)

⁴⁴ WhatsApp offers encrypted chats; Whisper anonymous communication; SnapChat photos that are automatically deleted in 24hours; DuckDuckGo anonymous search; Google allows users to sign out to prevent any personal data retention, etc.

⁴⁵ Brian Fitzpatrick, "Data Portability and Google Apps", *Google Cloud Official Blog*, September 14, 2009 (available at <https://cloud.googleblog.com/2009/09/data-portability-and-google-apps.html>).

⁴⁶ Terry Myerson, "Our Continuing Commitment to your Privacy with Windows 10", *Microsoft Blog*, January 10, 2017 (available at <https://blogs.windows.com/windowsexperience/2017/01/10/continuing-commitment-privacy-windows-10/#qIGQyt8btEluE2Vm.97>).

⁴⁷ "Commercial Use of Consumer Data", Competition and Markets Authority, June 17, 2015, section 3.21.

⁴⁸ Ariel Ezrachi and Maurice Stucke, "The E-Scraper and E-Monopsony", *Oxford Business Law Blog*, April 10, 2017 (available at <https://www.law.ox.ac.uk/business-law-blog/blog/2017/04/e-scraper-and-e-monopsony>).

⁴⁹ Benjamin Reed Shiller, "First-Degree Price Discrimination Using Big Data", Brandeis University, January 30, 2014 (available at http://benjaminshiller.com/images/First_Degree_PD_Using_Big_Data_Jan_27,_2014.pdf).

that online methods of price discrimination could soon spill over to the offline environment, where 85% of sales still take place.⁵⁰

Should competition law be used to curb this? Price discrimination is not necessarily harmful and, in fact, can help to maximise output. When providers tailor their prices, they can serve a greater range of customers, including ones with a lower willingness or lower ability to pay, who the supplier would not have reached with uniform pricing.⁵¹ For example, a platform that is able to show a price of £100 per widget to high-income customers and £50 per widget to a low-income customers can serve a greater number of customers than a platform with a single price of £70. Individualised pricing therefore minimizes deadweight loss by more accurately matching prices to customers' willingness to pay. Effectively, the rich and the keen cross-subsidize the poor and indifferent. On the producer side, being able to predict consumer demand more accurately can also help to eliminate waste.

The concern with individualised pricing is not, therefore, that it diminishes society's overall welfare but, rather, that it supposedly transfers a disproportionate slice of wealth away from both consumers and content providers and towards producers and tech platforms.⁵² At the consumer level, the ability to impose individualised prices could, in theory, allow suppliers to capture consumer surplus, *i.e.*, the amount that consumers are willing to pay over and above the amount they actually pay. At the content-provider level, if platforms such as Amazon or Apple were to become essential gateways to the market, they could squeeze sellers—e.g., photographers, photojournalists, writers, publishers, journalists and musicians—by imposing increasingly onerous terms.⁵³ This would also have implications for consumer privacy, as firms would have less incentive to protect consumer data when it is so profitable to commercialise it.⁵⁴

While there are indications of emerging problems at the content-provider level, query whether this is more theory than fact at the consumer level. In practice, there appear to be few examples of personalised consumer pricing: *"The mystery about online price discrimination is why so little of it seems to be happening"*.⁵⁵ The UK's Office of Fair Trading concluded that *"our evidence indicates that businesses are not using information about individuals to set higher prices to them."*⁵⁶ There is some evidence that online platforms use "search discrimination" or "steering", which is effectively targeted advertising of high-end

⁵⁰ See Jeremy Ponder, "For What It's Worth – The Future of Personalised Pricing", *The Guardian*, November 6, 2015 (available at <https://www.theguardian.com/media-network/2015/nov/06/personalised-pricing-future-online-offline-retail>).

⁵¹ R. Langlois, Written Evidence to House of Lords Select Committee on EU, 2015

⁵² Ariel Ezrachi and Maurice Stucke, "The E-Scraper and E-Monopsony", *supra*.

⁵³ *Ibid.*

⁵⁴ "EDPS Opinion on Coherent Enforcement of Fundamental Rights in the Age of Big Data", EDPS Opinion No. 8/2016, September 23, 2016.

⁵⁵ Arvind Narayanan, "Online Price Discrimination: Conspicuous by its Absence", *33 Bits of Entropy*, January 8, 2013 (available at <https://33bits.org/2013/01/08/online-price-discrimination-conspicuous-by-its-absence/>), ("Narayanan").

⁵⁶ "Personalised Pricing – Increasing Transparency to Improve Trust", Office of Fair Trading, November 2012.

products to high-income individuals (and vice versa).⁵⁷ In another form of price discrimination, retailers have been known to vary prices based on consumer's geographic location and their willingness to drive, which is an indicator of willingness to pay.⁵⁸ However, none of these examples cross the line from behavioural advertising into personalised pricing, and there is no evidence of websites charging different prices based on browsing history or personal data.⁵⁹

It may be that personalised pricing is coming and simply hasn't arrived yet. More likely, however, is that businesses have come to realise that the media and consumers, even at some cost to themselves, are willing to punish suppliers who discriminate because they consider discrimination unfair.⁶⁰ As the Competition & Markets authority has said: "*Businesses need to be clear if they are using personalised pricing. If they are using it and it's not clear, that could erode trust.*"⁶¹ By way of example, customers' iniquity aversion led Amazon to abandon an attempt at personalized pricing.⁶² Indeed, consumers already widely use price comparison tools to obtain the best available price,⁶³ and there is every reason to expect that if suppliers were to use AI to engage in personalized pricing, consumers would start to use their own AI tools to counter that effort. It appears, therefore, that in combination with existing rules against discrimination of protected categories,⁶⁴ the market would act as the ultimate arbiter on the level of price discrimination that seems tolerable and fair. There appears to be no need to turn to competition law.

⁵⁷ *Ibid.* See also Narayan.

⁵⁸ Narayan; Jennifer Valentino-DeVries, Jeremy Singer-Vine and Ashkan Soltani, "Websites Vary Prices, Deals Based on Users' Information", *The Wall Street Journal*, December 24, 2012 (available at <https://www.wsj.com/articles/SB1000142412788732377204578189391813881534>).

⁵⁹ Narayanan.

⁶⁰ Daniel Kahneman, Jack L. Knetsch and Richard H. Thaler, "Fairness as a Constraint on Profit Seeking: Entitlements in the Market", *The American Economic Review* 76(4), September 1986, p. 728 (available at https://www.princeton.edu/~kahneman/docs/Publications/Fairness_DK_JLK_RHT_1986.pdf).

⁶¹ See Jeremy Pounder, "For What It's Worth – The Future of Personalised Pricing", *supra*; see also "Online Platforms [Should] Be Required to Inform Consumers if they Engage in Personalised Pricing", House of Lords Select Committee on EU, 2016. Note that Article 22 GDPR provides that "The data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly significantly affects him or her". Recital 71 GDPR indicates that such processing includes "profiling" needed for personalized pricing: "any form of automated processing of personal data evaluating the personal aspects relating to a natural person, in particular to analyse or predict aspects concerning the data subject's ... economic situation, health, personal preferences or interests, ... behaviour, location or movements". Suitable safeguards should include specific information to the data subject about the use of data gathered, and sellers must inform data subjects about personalising prices.

⁶² Narayanan.

⁶³ According to the CMA Market Study on Digital Comparison Tools, CMA Final Report on Private Motor Insurance, 2014, remedies "giving consumers more transparent information" about no claims bonuses, including on comparison websites "increase competition ... and lead to a reduction in prices". "Private Motor Insurance Market Investigation, Final Report", Competition and Markets Authority, 2014, at 11.57 (available at https://assets.publishing.service.gov.uk/media/5421c2ade5274a1314000001/Final_report.pdf).

⁶⁴ "The Equality Act (2010) makes it unlawful for a firm to discriminate against a person using or seeking to use its services because of a protected characteristic"; "Customer Vulnerability", Financial Conduct Authority, Occasional Paper No. 8, February 2015. Categories include age; disability; gender reassignment; marriage and civil partnership; pregnancy and maternity; race; religion or belief; sex; sexual orientation.

The Brave New World of Artificial Intelligence

Another solution to the perceived ills of digital consolidation is to harness the increasing power of AI. For instance, in the field of fake news, technology companies are now developing technological solutions to the fake news issue, by using artificial intelligence to locate, flag and even remove certain content which does not meet editorial standards.⁶⁵ Similar technologies are also being used to flag and remove extremist, violent, and racist content.⁶⁶

The speed and increasing complexity of AI processing allows it to undertake certain tasks far more effectively than humans can in a similar time frame. However, with such power comes the potential for both benefits and dangers, which has been recognised by both digital companies and regulators. In February 2017, Mark Zuckerberg wrote an open letter on “Building Global Community”: “*one of our greatest opportunities to keep people safe is building artificial intelligence to understand more quickly and accurately what is happening across our community*”.⁶⁷

In the sphere of competition policy, Profs Ezrachi and Stucke have warned that AI analysis of big data could lead to oligopolistic pricing even in non-oligopolistic markets.⁶⁸ This remains to be seen. AI’s ability to process large volumes of data may indeed soften conditions that normally prevent tacit coordination, and self-learning systems may learn to coordinate. But that is not the only likely strategy: AI systems may learn to cheat (using encrypted communication to avoid detection),⁶⁹ invite or arrange new entry, and even behave aggressively to exclude rivals, particularly if they have access to the necessary market share, asset, capital reserve, employee count, and cost information necessary to assess the success of predation. As some have noted, when testing “*more and more complex forms of DeepMind ... sabotage, greed, and aggression set in.*”⁷⁰ It is, finally, important to see this concern in the context of other market developments that can be expected to dampen tacit collusion risks:

⁶⁵ Various such initiatives are summarised in Bernard Marr, “Fake News: How Big Data and AI Can Help”, *Forbes*, March 1, 2017 (available at <https://www.forbes.com/forbes/welcome/?toURL=https://www.forbes.com/sites/bernardmarr/2017/03/01/fake-news-how-big-data-and-ai-can-help/2/&refURL=&referrer=#1573cca42039>).

⁶⁶ See, for example, Mark Bergen, “Biggest Test for Google’s Artificial Intelligence: Hunting Down Hate in YouTube Videos”, *Seattle Times*, April 2, 2017 (available at <http://www.seattletimes.com/business/biggest-test-for-googles-artificial-intelligence-hunting-down-hate-in-youtube-videos/>).

⁶⁷ Mark Zuckerberg, “Building Global Community”, Facebook, February 16, 2017 (available at <https://www.facebook.com/notes/mark-zuckerberg/building-global-community/10154544292806634/>).

⁶⁸ Maurice E. Stucke and Ariel Ezrachi, *Virtual Competition* (Harvard University Press, 2016); Maurice E. Stucke and Ariel Ezrachi, “Artificial Intelligence & Collusion: When Computers Inhibit Competition”, University of Tennessee College of Law, Research Paper No. 267, May 2015; Salil Mehra, “Antitrust and the Robo-Seller: Competition in the Time of Algorithms”, *Minnesota Law Review*, Vol. 10, 2015. See also, Directorate for Financial and Enterprise Affairs Competition Committee, “Algorithms and Collusion – Background Note by the Secretariat”, OECD, June 21, 2017 (available at [https://one.oecd.org/document/DAF/COMP\(2017\)4/en/pdf](https://one.oecd.org/document/DAF/COMP(2017)4/en/pdf)).

⁶⁹ See, for example, John Biggs, “Google’s AI creates its own inhuman encryption”, *TechCrunch*, October 28, 2016 (available at <https://techcrunch.com/2016/10/28/googles-ai-creates-its-own-inhuman-encryption/>).

⁷⁰ See, for example, Matt Burgess, “DeepMind’s AI Has Learnt to Become ‘Highly Aggressive’ When it Feels like it’s Going to Lose”, *Wired*, February 9, 2017 (available at <http://www.wired.co.uk/article/artificial-intelligence-social-impact-deepmind>).

products are becoming increasingly differentiated, with increasing speed of innovation, and are being replaced by “products as a service” in a sharing economy. Instead of collusion in commoditized markets, we expect more innovation, customized and differentiated products, and customer-specific pricing that make it hard even for AIs to compare “like for like” prices and achieve collusive equilibria. In commoditized stable markets, we expect that buyers (or buy-side AIs) will use AI to counteract oligopolistic pricing by selling AIs.

Nonetheless, the issues Ezrahi and Stucke raise are fascinating. Do AIs replace the “invisible hand” with an “invisible hive mind,” and what can we do when they break the law or act against consumer welfare?⁷¹ We think the solution is a “digital conscience” and “compliance by design”. Here, too, private and public initiatives are providing possible solutions. The 2017 Asilomar principles comprise a series of directives for AI developers including “Research Issues”, such as the need to ensure a culture of cooperation, trust, and transparency, “Ethics and Values” such as liberty and privacy, and finally “Longer-Term Issues”, such as the need to consider the common good, and a suggestion that AI systems designed to recursively self-improve or self-replicate in a manner that could lead to rapidly increasing quality or quantity must be subject to strict safety and control measures.⁷² The Institute of Electrical and Electronics Engineers (IEEE), a standards organization, has started an initiative on ethics in design of AI systems. To this end, the IEEE published in December 2016 a paper entitled “Ethically Aligned Design”, a paper whose purpose is to “advance a public discussion of how these intelligent and autonomous technologies can be aligned to moral values and ethical principles that prioritize human wellbeing”.⁷³ Other initiatives include the Global Initiative on Ethical Autonomous Systems;⁷⁴ the GOODAI Virtual School for programmer,⁷⁵ the Berkman Klein Center for Internet⁷⁶ and Society at Harvard University and the Knight Foundation (with the MIT Media Lab),⁷⁷ and the Partnership on AI.⁷⁸ Importantly, work is being done to develop

⁷¹ We do not see a gap if an AI is used to break the law, since any collusive AI acts on behalf of (or is a tool used by) a firm that owns it. That firm is liable for an AI on the same basis as it is liable for conduct of a rogue employee or an animal it owns.

⁷² “Asilomar AI Principles, Future of Life Institute”, 2017 (available at <https://futureoflife.org/ai-principles/>).

⁷³ See “Ethically Aligned Design: A Vision for Prioritizing Human Wellbeing with Artificial Intelligence and Autonomous Systems”, Institute of Electrical and Electronics Engineers, December 13, 2016 (available at http://standards.ieee.org/develop/indconn/ec/ead_v1.pdf). See also Resolution on Civil Law Rules on Robotics, February 16, 2017 (including Annex on ethical design) and *A Roadmap for US Robotics*, UC San Diego, November 7, 2016, Chapter 10 (available at <http://jacobsschool.ucsd.edu/contextualrobotics/docs/rm3-final-rs.pdf>).

⁷⁴ Website of the IEEE (available at https://standards.ieee.org/develop/indconn/ec/autonomous_systems.html).

⁷⁵ Website of the GoodAI initiative (available at <https://www.goodai.com/ai-programmers>).

⁷⁶ Drew C. Pendergrass, “Get Smart: The Berkman Klein Center Takes On Artificial Intelligence”, *Harvard Crimson*, February 23, 2017 (available at <https://www.thecrimson.com/article/2017/2/23/artificial-intelligence-berkman-klein/>).

⁷⁷ Website of the Knight Foundation (available at <https://www.knightfoundation.org/aifund-faq/>); “Knight Foundation, Omidyar Network and LinkedIn Founder Reid Hoffman Create \$27 Million Fund to Research Artificial Intelligence for the Public Interest”, Knight Foundation, Press Release, January 10, 2017 (available at <https://knightfoundation.org/press/releases/knight-foundation-omidyar-network-and-linkedin-founder-reid-hoffman-create-27-million-fund-to-research-artificial-intelligence-for-the-public-interest>).

⁷⁸ Website of the Partnership on AI (available at <https://www.partnershiponai.org/>).

tools to ensure that self-learning AIs cannot learn to override or circumvent their in-built conscience (“safe interruptibility”).⁷⁹

Summary and Conclusion

The Internet is blamed for all manner of social and economic ills. There is a tendency in the press (especially traditional print press who have an axe to grind) to blame consolidation and global online firms for these problems, and to suggest that competition law should be used to break up these global businesses. But consolidation is not the same as monopolization. It may have the effect of disrupting offline businesses, but it is leading to intense “innovation competition” and “attention rivalry” at a global level. It led to the development of multi-sided markets, which have made a host of new services available for free to consumers who could not afford them otherwise. Since digital disruption intensifies competition rather than reducing it, there is no justification for intervention based on competition law.

A cynic would say that consolidation and abuse of power are blamed for some of these problems because people fear disruption and want to use competition law to slow down change, protect incumbents, and force platforms to allow them to free-ride, instead of themselves running the innovation race and providing quality.

Neither is competition law a panacea to deal with other negative side-effects of the globalization and digitalization. We think that reduction of competition is neither the cause nor the effect of these problems, and that the solution does not involve breaking up global companies. Structural intervention will not change the root causes, and digitalization, globalization and disruption will not go away. Using competition law as a Luddite sledgehammer will just slow down innovation, create inefficiencies, and reduce consumer welfare.

Instead, we should focus on market- and technology-driven solutions to deal with specific problems. We already see the emergence of such solutions, such as fact-checkers to address fake news, privacy dashboards to give individuals control over their privacy, price comparison engines to avoid price discrimination and manipulation, better platform management to curb hate speech, and standards for “ethical AI”. It also includes “civics” education to teach people Internet hygiene, critical thinking, and responsible conduct. We should encourage these initiatives, and allow experimentation, before turning to competition law and (if that does not work) rigid regulation as a measure of last resort. In the longer run, the remedy for painful side effects of disruption (like the replacement of labor-intensive activities by capital intensive ones, affecting employment opportunities) may also involve universal income or other ways

⁷⁹ Laurent Orseau and Stuart Armstrong, “Safely Interruptible Agents”, Google DeepMind and the Future of Humanity Institute, University of Oxford, July 2016. (“AIs are unlikely to behave optimally all the time ... Now and then it may be necessary for a human operator to press the big red button to prevent the agent from continuing a harmful sequence of action. ... Safe interruptibility can be useful to take control of a robot that is misbehaving and may lead to irreversible consequences, or to take it out of a delicate situation”).

to redesign social support in society,⁸⁰ offering education so as to allow people to adapt and re-train if their job is taken by a robot or an AI system, and turning to science and IT to create new jobs – to win the “race against the machine”. Technologies such as AI also open new possibilities for designing programs and entities that are self-regulating.

Because regulation tends to stifle or slow down innovation, we should impose regulatory measures only if they meet a proportionality test. Thus, regulatory measures should meet three conditions: First, they should serve legitimate goals, excluding protectionism, because countries that favour regulation and protectionism over innovation and education will inevitably lag behind fast-growing economies and deprive their consumers of the fruits of this growth. Second, they should be effective and adequate to achieve those goals. Third, they should be “necessary”, in that there should be no less restrictive alternative. Top-down regulation by the State does not meet this “necessity” test in circumstances where there are reasonable technology-based or market-based alternatives. Finally, if regulation and Government intervention are needed, they should be based on evidence, not ideology or fear, or a desire to protect offline incumbents. We should rely on human autonomy and inventiveness, and use technology rather than resisting it.

⁸⁰ One such example might be universal basic income. See, for example, Sonia Sodha, “Is Finland’s Basic Universal Income a Solution to Automation, Fewer Jobs and Lower Wages?”, *The Guardian*, February 19, 2017 (available at <https://www.theguardian.com/society/2017/feb/19/basic-income-finland-low-wages-fewer-jobs>). This could be funded by a tax on artificial intelligence. See however “Basic Income as a Policy Option”, OECD, May 2017 (available at <http://www.oecd.org/els/soc/Basic-Income-Policy-Option-2017-Brackground-Technical-Note.pdf> which concludes that a universal basic income paid at a flat rate to all citizens would fail to reduce poverty levels in advanced economies and require substantially higher taxes to fund its simplicity. See also Andrew McAfee and Erik Brynjolfsson, “Why “How many jobs will be killed by AI?” is the wrong question”, 24 June 2017, <https://www.linkedin.com/pulse/why-how-many-jobs-killed-ai-wrong-question-andrew-mcafee>. The authors argue that instead of universal income, a further policy solution to technological unemployment/retraining could be a large expansion of the Earned Income Tax Credit, a wage subsidy currently available to low-income workers.

Algorithms and Coordinated Effects

Terrell McSweeney¹

Good afternoon, everyone. I am happy to be here with you today at the University of Oxford. I'd like to thank the Centre for Competition Law and Policy for organizing this event. I am going to talk today about the rise of algorithmic pricing and its implications for competition enforcement.

First of all, I think it is important to step back and recognize just how important algorithms are in modern society. Every email we send relies on algorithms to get where it needs to go. Every Internet search we run relies on algorithms to provide us with relevant results. Every app on a smart phone is a bundle of computer code, or in other words, an algorithm. Without algorithms, online markets wouldn't exist because we wouldn't have computers, much less a functioning Internet. If you've ever so much as used a calculator, you know how useful algorithms can be.

An algorithm literally flew me over here to participate in this panel. After all, the autopilot feature on commercial airlines that makes flights safer and more efficient is just an advanced algorithm. Its benefit is that it is able to process vast quantities of constantly changing flight data and make instantaneous adjustments. More data, faster reactions.

In most things, "more data, faster reactions" is an unqualified good. But for pricing, the consumer welfare effects are not as straightforward. Pricing algorithms raise three issues from a competition perspective. First, they may increase the effectiveness of overt collusion. Second, they may facilitate coordinated interaction in the absence of a traditional "agreement" between competitors. And third, they may enable price discrimination strategies that lead to higher prices for certain groups of customers.

Collusion

We already have a real-world example of the first concern on the books. In 2015, the U.S. Department of Justice brought a price-fixing case against two retailers for aligning their pricing algorithms to increase the online price of posters.²

In that case, humans reached an agreement to fix prices. The pricing algorithms were the tools used to implement the agreement. Well, you may say, what's the big deal? That's just naked price fixing. Antitrust enforcers have clear legal authority to challenge price fixing, so how does the use of pricing algorithms change anything?

¹ Commissioner, US FTC. Remarks as prepared for delivery. The views expressed in this speech are my own and do not necessarily reflect those of the Commission or any other Commissioner.

² See Press Release, U.S. Dep't of Justice, Former E-Commerce Executive Charged with Price Fixing in the Antitrust Division's First Online Marketplace Prosecution (Apr. 6, 2015), <http://www.justice.gov/opa/pr/formercommerce-executive-charged-price-fixing-antitrust-divisions-first-online-marketplace>.

The answer is that pricing algorithms may make price fixing attempts more frequent and potentially more difficult to detect. Traditionally, maintaining a collusive scheme requires identifying cheating among participants, responding to new market developments, and avoiding detection by antitrust officials. Algorithms could be used in an attempt to overcome these challenges, such as by automating conspirators' responses to changing market developments or speeding them up, mitigating the need for ongoing coordination between the participants.

Coordinated Interaction

The second concern with pricing algorithms is that they may facilitate coordinated interaction – sometimes called tacit collusion or parallel accommodating conduct. In their book, *Virtual Competition*, Professors Maurice Stucke and Ariel Ezrachi discuss a number of different mechanisms for coordination, which they refer to as “collusion scenarios.”³ One possibility is that multiple competitors might use algorithmic pricing software offered by the same company. Another is that firms' nominally independent algorithms may simply gravitate collectively towards higher prices on their own.

Bruno Salcedo recently put out a paper discussing a dynamic economic model he developed to look at algorithmic pricing by multiple firms.⁴ Salcedo's results suggest that pricing algorithms can be “an effective tool for tacit collusion” with the potential to lead to near monopolistic pricing.⁵ The model assumes that firms are able to “decode” their competitors' algorithms. Salcedo included a specification in which firms were given an option to mask their algorithms to prevent decoding. The firms in the model chose not to exercise the option – preferring instead to allow their algorithms to be decoded after a time by their competitors.⁶

Concerns about algorithmic tacit collusion are still largely theoretical at this point. Nonetheless, recent examples suggest that the concern is not fanciful. Earlier this month, the *Wall Street Journal* published an article entitled “Why Do Gas Station Prices Constantly Change? Blame the Algorithm”.⁷

The article examined the use of artificial intelligence software by European gas stations. One gas station operator candidly told the *Journal* that its decision to use the software was

³ ARIEL EZRACHI & MAURICE E. STUCKE, *VIRTUAL COMPETITION: THE PROMISE AND PERILS OF THE ALGORITHM DRIVEN ECONOMY* (2016).

⁴ Bruno Salcedo, *Pricing Algorithms and Tacit Collusion* 3, Nov. 1, 2015, <http://brunosalcedo.com/docs/collusion.pdf>.

⁵ *Id.* at 5, 50.

⁶ *Id.* at 4.

⁷ Sam Schechner, *Why Do Gas Station Prices Constantly Change? Blame the Algorithm*, *WALL ST. J.*, May 8, 2017, <https://www.wsj.com/articles/why-do-gas-station-prices-constantly-change-blame-the-algorithm-1494262674>.

prompted by the effects of a years-long price war with its competitors.⁸ A pilot study involving that same operator found that stations running the software averaged 5% higher margins.⁹

A few caveats are in order. First, the decision of the gas station operator to use artificial intelligence software, on its own, is not an antitrust violation. Second, without more information, it's hard to know whether the reported higher margins are the result of coordinated effects. Another possibility is that the software enabled the gas station operator to engage in unilateral price discrimination – a topic I will turn to in a moment. Nonetheless, the takeaway from the article is that artificial intelligence (AI) pricing software appears to have changed pricing practices in certain European retail gas markets.

Price Discrimination

The third concern with pricing algorithms is that they may enable price discrimination strategies that lead to higher prices for certain groups of customers. The CEO of an AI pricing firm basically said as much in the Wall Street Journal article, claiming that his firm's software was "about making margin on people who don't care, and giving away margin to people who do care".¹⁰ Of course, price discrimination isn't just about raising prices to customers who "don't care." It works just as well for customers who care very much, but are nonetheless willing to pay a higher price because they lack the practical ability to go elsewhere.

At the same time, price discrimination can produce real consumer benefits. Price discrimination can increase market output, which we as competition enforcers generally view as a positive. Indeed, some products and services would not be offered at all without price discrimination.

As an example, imagine it costs \$20 for a movie theater to screen a film. Hannah is willing to pay \$14 to see the film. Emily is willing to pay \$8. If the theater charges \$14, only Hannah will buy a ticket. If it charges \$8, both Hannah and Emily will buy tickets – but the theater still won't collect enough money to cover its cost. The only way for the theater to screen the film is to figure out a way to charge Hannah more than Emily.¹¹ The calculus gets a bit complicated, but it turns out the answer is \$8 popcorn. Everybody wins. Pricing algorithms will undoubtedly lead to an increase in price discrimination. Whether that is a good or a bad thing for consumers is likely to depend on facts that are specific to individual markets and individual algorithms.

⁸ See id. ("Danish oil and energy company OK hired a2i Systems in 2011 because its network of gas stations was suffering from a decade-old price war").

⁹ See id.

¹⁰ Id. at 7.

¹¹ See Andrew Odlyzko, Privacy, Economics, and Price Discrimination on the Internet, Fifth International Conference on Electronic Commerce (July 27, 2003), at 5-8, <https://ssrn.com/abstract=429762>.

Algorithms' Pros and Cons and the Implications for Competition Enforcers

In sum, pricing algorithms present potential pros and cons for consumers. So why are algorithms' effects ambiguous when it comes to pricing, when they are positive in so many other areas? The simple answer is that pricing is an activity for which our human limitations may generate positive social externalities in many cases.

Vigorous competition occurs in many markets despite the fact that those markets have attributes that make them vulnerable to coordinated conduct.¹² In many instances, this is essentially a collective failure of market participants to solve the prisoner's dilemma. All firms would be better off if they paralleled one another on pricing, but each individual firm is better off undercutting its competitors to earn additional sales. Our antitrust laws are designed to encourage this failure – up to and including jail time for executives who attempt to “solve” the prisoner's dilemma by colluding with competitors.

The great promise of algorithms and AI is their ability to transcend human limitations and produce better outcomes by processing more data, faster. The issue is that “better outcomes” from the perspective of firms won't always align with better outcomes from the perspective of consumers. If algorithms enable firms to “solve” their unique prisoner's dilemmas without resorting to overt collusion, that would be great news for them but bad news for consumers.

What policy and enforcement choices should we make when it comes to pricing algorithms? It's probably easier to start with what choices we shouldn't make. We shouldn't outlaw pricing algorithms. Algorithms are right up there with the printing press in terms of their contributions to our modern economy. They have the potential to produce real consumer benefits and to make more products available to more people. After all, the entire premise of market competition is that firms will respond to changes in the market and that those responses will generally benefit consumers. Algorithms enable firms to identify market changes better and respond to them more quickly. In a great many cases, that will be an unambiguously good thing.

If pricing algorithms are found to reduce barriers to coordinated interaction under certain conditions, then enforcers may need to consider stepping up our aggressiveness with respect to coordinated effects analysis. Continuing research will be incredibly valuable in this area. I think it would be helpful to understand whether algorithms are resulting in coordinated effects and, if so, under what conditions. And as the technology running the algorithm becomes smarter and more autonomous, research should focus on whether it tends to achieve a collusive outcome without being programmed to do so.

I applaud the excellent work that has already been done. And I am encouraged that this has become an important topic of discussion among antitrust practitioners. Next month the OECD

¹² The U.S. antitrust agencies describe the conditions that make a market conducive to coordinated interaction in their 2010 Horizontal Merger Guidelines. See U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, 2010 HORIZONTAL MERGER GUIDELINES § 7.2.

will be holding a roundtable on algorithms and collusion¹³ and I look forward to reading the contributions of participants. We have a lot to learn about the effects of pricing algorithms and AI. Further research will contribute to better and more effective competition enforcement in this area.

One thing I can say with confidence is that the rise of pricing algorithms and AI software will require changes in our enforcement practices. We, as enforcers, need to understand how algorithms and AI software work in particular markets. At the FTC, we have taken steps to expand our in-house expertise by adding the Office of Technology, Research and Investigations, which includes technologists and computer scientists.¹⁴ As I have said before, this is just a first step. I believe that technologists will come to play an increasing role in cases involving pricing algorithms and AI in the future.

¹³ Organization for Economic Development, Algorithms and Collusion, <http://www.oecd.org/competition/algorithms-and-collusion.htm>.

¹⁴ See Jessica Rich, BCP's Office of Technology Research and Investigation: The next generation in consumer protection, Fed. Trade Comm'n business blog, Mar. 23, 2015, <https://www.ftc.gov/newsevents/blogs/businessblog/2015/03/bcps-office-technology-research-investigation-next>.

Internet Markets and Algorithmic Competition: The Rest of the Story

Harry First* and Spencer Weber Waller**

It was a delight to attend and participate in this rich program about internet markets and the effect of algorithms on competition, law, and life itself. Our panel in wrapping up the very full day of amazing speakers ranged perhaps the farthest from the issue of competition law that began the day. Our task was to speculate about the future and the effect of the growing prevalence of algorithmic-based economic activity on democracy, the media, personal autonomy, and even what it means to be human.

In this brief essay, we wanted to expand on our remarks on the final panel about two perspectives that were not front and center in the superb and capacious presentations of the day. These are 1) the critical role of private rights of actions in defining the jurisprudence, enforcement regime, and remedies in dealing with algorithmic competition; and 2) the role of legal regimes outside of the U.S. and EU in dealing with these critical issues.

For a variety of reasons most of the conversation at the Oxford conference focused on the public enforcement of competition law by the U.S. and the EU involving algorithmic collusion, abuse of dominance, and mergers and acquisitions involving the leading firms in the field – the so-called Frightful Five of Alphabet (parent of Google), Amazon, Apple, Facebook, and Microsoft. This is appropriate since most of the major antitrust actions involving structural and behavioral changes to monopolies and dominant firms so far have been initiated by these enforcers. It is thus fair to analyze the mixed record on preventing and defeating dominance and its abuse by these enforcers and what this tells us about our digital future.

But the Antitrust Division of the Justice Department, the Federal Trade Commission and the European Commission are not alone in the enforcement of competition law.¹ All the investigations and enforcement actions of these three key players do not constitute even a meaningful fraction of the total number of private competition actions filed each year in the United States, and increasingly throughout the world. In addition, it must be recognized that private rights of actions play an important role in maintaining the link between antitrust and democracy, one of the themes of the Oxford conference.²

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¹ Since many of the issues discussed at the conference also fall under the umbrella of privacy law, it is also fair to note that privacy law is not the primary mandate of any of these agencies although creative use of competition law involving privacy law and data will be part of any meaningful enforcement agenda going forward. See ARIEL EZRACHI & MAURICE STUCKE, *VIRTUAL COMPETITION* (2016); MAURICE STUCKE & ALLEN GRUNES, *BIG DATA AND COMPETITION POLICY* (2016); Chris Jay Hoofnagle, *FEDERAL TRADE COMMISSION PRIVACY LAW AND POLICY* (2016).

² See generally Harry First & Spencer Weber Waller, *Antitrust's Democracy Deficit*, 81 *FORDHAM L. REV.* 2543 (2013).

What is likely to happen is that public enforcement will be the source of the rare divestiture (not seen in the US since the 1984 consent decree with AT&T) and significant behavioral injunctions, as in *Microsoft*. Private enforcement actions will continue to fill the gap in terms of cases not brought by the government, and also following on the heels of government cases seeking compensation for overcharges for direct and indirect purchasers as well as lost profits for excluded competitors. In *Microsoft* itself, the government action was a lengthy proceeding involving a coalition of federal and state enforcers which resulted in a significant consent decree. At the same time, there were over 200 private law suits, many in the form of class actions, which created important jurisprudence and resulted in more than \$5 billion in damages recovered in settlements with consumer and business firm plaintiffs.³

Algorithmic collusion is the most likely place where the private litigation will first be felt. The incentives that make the US system of private enforcement unique are likely to generate cases both as follow-ons to any government action and as stand-alones where the facts and law are strong enough for plaintiffs' counsel being willing to risk the costs of litigation for the chance of prevailing on contingent fee. In the process, law is likely to be made on such questions as the nature of agreement by algorithm with or without deep machine learning; proof of such agreements; causation; damages; expert testimony; and a plethora of cutting edge doctrines that are not likely to be dealt with in the public side of the case if that is pursued.

Private litigation about abuse of dominance will be an even higher stakes venture, with or without any specific government action. *Microsoft* so far is one of the very few abuse of dominance cases to have generated significant private damage actions in the U.S. and elsewhere. But in winner take all markets, it is not far-fetched to envision excluded rivals seeking recompense and users seeking damages for overcharges, and/or diminutions in quality or privacy, with the help of counsel willing to invest in a case on contingent fee or through litigation finance mechanisms.

Nor will the private litigation be confined to the United States. Canada already has a robust private class action practice with respect to competition matters.⁴ The EU has sought to facilitate private damage claims through its damages directive, its collective action recommendation, and the growing number of member states implementing the directive into national law.⁵ Even where contingent fees are prohibited or tightly restricted, litigation

³ ANDREW I. GAVIL & HARRY FIRST, *THE MICROSOFT ANTITRUST CASES: COMPETITION POLICY FOR THE TWENTY-FIRST CENTURY* 260 (2014); WILLIAM H. PAGE & JOHN E. LOPATKA, *THE MICROSOFT CASE: ANTITRUST, HIGH TECHNOLOGY, AND CONSUMER WELFARE* 78-80 (2007).

⁴ *LITIGATING CONSPIRACY: AN ANALYSIS OF COMPETITION CLASS ACTIONS* (Stephen G.A. Pitel ed. 2006).

⁵ DIRECTIVE 2014/104/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 November 2014 on certain rules governing actions for damages under national law for infringements of the competition law provisions of the Member States and of the European Union, L 349/1 (5/12/2014), <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014L0104&from=EN>; COMMISSION RECOMMENDATION on common principles for injunctive and compensatory collective redress mechanisms in the Member States concerning violations of rights granted under Union Law, C(2013) 3539/3, http://ec.europa.eu/justice/civil/files/c_2013_3539_en.pdf. As of May 2017 eleven member states have enacted national legislation implementing the contents of the directive.

finance mechanisms exist to pursue damage claims with a positive expected value, often on a collective basis. As a result, there is a growing bar of highly qualified counsel who will be examining what the EU Commission is doing and what it is not doing, and determining for themselves where private damage litigation makes economic sense. Here too, more than just money will be changing hands. Courts will by necessity be making law and filling in the gaps left by the matters which are brought and litigated, where undertakings are accepted, and those cases which are settled by the EU Commission and the national competition authorities.

Even in jurisdictions where private litigation will never rival that in the U.S.,⁶ the importance of private litigation is already being felt. One recent example is the TenCent private antitrust litigation in China where the court made important new law under the Chinese Anti-Monopoly Law in the important field of internet platform competition on questions of market definition, market power, and liability for abuse of a dominant position.⁷

Of course, most enforcement outside the United States will still rest in the hands of government enforcement agencies. Private litigants can look for jurisdictions that will provide the institutions for litigation and the prospect of effective relief in the form of monetary recoveries. But what about public enforcement by agencies outside the U.S. and the EU? How likely is it that these institutions will be able to intervene in the Internet economy?

This is an important and difficult question to answer, but it is one that needs more attention. The Internet may be global, but the effects of Internet competition are felt locally. Amazon, for example, sells to customers in more than 180 countries, through “marketplaces” operating in eleven countries.⁸ How will competition agencies outside the U.S. and the EU be able to protect the welfare of their consumers, or protect the ability of firms in their countries to compete with these powerful Internet firms?

This is not a new problem, of course. Developing and small-market countries have long had problems dealing with multinational firms that could easily dominate local markets but which were difficult to control. Besides the problem of underfunded agencies and weaker enforcement institutions, smaller countries are also subject to potential hold-ups from large companies that can threaten to withdraw from a country that proves overly aggressive in its antitrust enforcement. For example, Microsoft had at one time threatened to withdraw from South Korea if it tried to force changes in its Windows operating system that Microsoft opposed. In addition, major enforcement agencies lack both the incentive and legal power to deal with anticompetitive conduct whose effects are felt outside their own jurisdictions. These problems will only be exacerbated by these new technologies that even the major enforcers are finding difficult to analyze and control.

⁶ Spencer Weber Waller & Olivia Popal, *The Fall and Rise of the Antitrust Class Action*, 39 WORLD COMP. L. & ECON. REV. 29 (2016).

⁷ See *Tencent vs. Qihoo – A Significant 2014 Anti-monopoly Ruling in China*, NAT’L L. REV., (Feb. 23, 2015), <http://www.natlawreview.com/article/tencent-vs-qihoo-significant-2014-anti-monopoly-ruling-china>.

⁸ https://services.amazon.com/global-selling/overview.htm/ref=asus_agf_fnav (visited 6/18/2017).

There is another aspect of antitrust enforcement outside the U.S. and EU that is important to understand when evaluating the challenges that Internet competition poses. Many jurisdictions undertake some “public interest” assessment when enforcing their antitrust laws; indeed, such assessments are often required by their antitrust legislation. This is in some contrast to the U.S. and Europe. Including public interest factors has been out-of-bounds for U.S. antitrust enforcers in merger cases for quite some time (although not for sectoral regulators) and is narrowly constrained in Europe.⁹

There was some suggestion in discussion at the conference that consideration of public interest factors is illegitimate, a view that many in the US/EU antitrust community hold. We should recognize, however, that this dismissal of public interest grounds is parochial and that other jurisdictions legitimately take on board factors that go beyond the pricing and output focus of today’s antitrust analysis. For example, in the New Zealand Corporation Commission’s recent decision involving the merger of two major New Zealand newspapers, the Commission not only took account of the (non-quantifiable) importance of rivalry between the two papers in the production of news stories, it also considered the benefits of a plurality of voices in assessing whether there was some overall public benefit from the merger, an assessment required under New Zealand competition law.¹⁰ Indeed, it may turn out that when assessing the effects of Internet company mergers or specific business practices, the U.S. and EU could learn from how these other jurisdictions have integrated non-price factors into antitrust analysis. Perhaps we have something to learn rather than something to teach.¹¹

Enforcers outside the U.S. and EU, including those in developing and small-market countries, as well as regional competition authorities, need to be brought into the policy discussion and analysis. Many of these countries are important participants in the Internet economy and some are taking enforcement actions already. Japan’s Fair Trade Commission, for example, has recently completed a study of problems involving Big Data collection and the potential for violations of the Antimonopoly Act.¹² It has also recently closed an investigation of Amazon’s use of most-favored-nations clauses in a way that might restrict the ability of other platforms to compete against it, with Amazon agreeing to end its use of these MFNs.¹³ The latter action was characterized as the JFTC “testing the waters of e-commerce regulation” and

⁹ See Harry First & Eleanor M. Fox, Philadelphia National Bank, Globalization, and the Public Interest, 80 ANTITRUST L. J. 307 (2015).

¹⁰ See NZME Limited and Fairfax New Zealand Limited [2017] NZCC 8 (May 2, 2017), www.comcom.govt.nz/dmsdocument/15400 (visited 6/18/2017).

¹¹ See e.g., Spencer Weber Waller, *Bringing Globalism Home: Lessons from Antitrust and Beyond*, 32 LOY. U. CHI. L. J. 113 (2000).

¹² See Report of Study Group on Data and Competition Policy (Summary), June 6, 2017 (English version), <http://www.jftc.go.jp/en/pressreleases/yearly-2017/June/170606.files/170606-2.pdf> (accessed 6/18/2017).

¹³ See Press Release, The JFTC closed the investigation on the suspected violation by Amazon Japan G.K., June 1, 2017 (English), <http://www.jftc.go.jp/en/pressreleases/yearly-2017/June/170601.html> (accessed 6/18/2017).

creating a debate “on maintaining a level playing field versus improving consumer convenience.”¹⁴

Algorithmic competition matters. How much it matters and the role competition law will play is a complicated story to understand and predict. The Oxford conference was an eye opener to these puzzles and the problems that lie ahead in the competition area and beyond. The real challenge lies in how public and private competition law enforcement throughout the globe, and the many other areas of democratic civil society, tackle this very 21st century phenomenon.

¹⁴ See Amazon’s Japan shift seen spurring debate on fair competition, Nikkei Asian Review, <http://asia.nikkei.com/Business/Companies/Amazon-Japan-to-no-longer-force-vendors-to-offer-lowest-price> (accessed 6/7/17).