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### Emerging Antitrust Threats and Enforcement Actions in the Online World

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# Emerging Antitrust Threats and Enforcement Actions in the Online World

**Ariel Ezrachi and Maurice E Stucke**

E-commerce promises to bring us closer to some economists' ideal of perfect competition – where ample choice, better quality and lower prices reign. The new online world promises to reduce entry barriers and search costs, as well as increasing transparency and market access.

However, a closer look reveals an imperfect online environment. Powerful anti-competitive undercurrents are following the wave of innovation and competitiveness introduced by e-commerce. More online markets are exhibiting increased concentration, barriers to expansion and entry, as well as anti-competitive strategies.

At times, these anti-competitive strategies may be based on contractual frameworks – such as parity clauses and online marketplace bans.<sup>1,2</sup> Indeed, the European Commission (the 'Commission') sector inquiry on e-commerce noted the increased use of selective distribution systems online 'to better control their distribution networks, in particular in terms of the quality of distribution but also price'.<sup>3</sup> It also noted increasing 'restrictions on the use of price comparison tools and

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1 Ariel Ezrachi, 'The Competitive Effects of Parity Clauses on Online Commerce' (2015) 11/2-3 European Competition Journal 488-519.

2 Ariel Ezrachi, 'The Ripple Effects of Online Marketplace Bans' (2017) 40-01 World Competition Law and Economics Review 47-66.

3 Available at: [http://ec.europa.eu/competition/antitrust/sector\\_inquiries\\_e\\_commerce.html](http://ec.europa.eu/competition/antitrust/sector_inquiries_e_commerce.html).

exclusion of pure online players from distribution networks'.<sup>4</sup> Moreover, licensing practices may impede entry by new online business models and services. Rather than promoting the flow of goods and services across the European Union, the sector inquiry found that 'almost 60% of digital content providers who participated in the inquiry have contractually agreed with right holders to "geo-block"', which 'prevents consumers from purchasing consumer goods and accessing digital content online from other EU Member States'.<sup>5</sup> At other times, competition may be at risk due to other potential anti-competitive strategies, from algorithmic tacit collusion to abusive behaviour by powerful providers or gatekeepers.

This paper explores three emerging antitrust threats in the online world – algorithmic tacit collusion, behavioural discrimination and abuses by the emerging super-platforms – and the enforcement challenges they raise. We note the growing realisation by competition agencies as to the imperfections of the online environment, the ability to utilise new technologies to dampen competition and additional risks of data-opolies.

### Algorithmic tacit collusion

The use of algorithms to facilitate cartel activity has already been the subject of investigation in the US,<sup>6</sup> as well as elsewhere.<sup>7</sup> However, technology may give rise to more challenging collusion scenarios, where agreement between humans may be absent and price alignment is reached through the intelligent use of algorithms.<sup>8</sup>

In markets with homogeneous products and barriers to entry, pricing algorithms may be used to dampen competition through conscious parallelism.<sup>9</sup> Companies could deem it rational to (unilaterally) embed the tacit collusion model into their pricing algorithms. Such a strategy may provide for an effective, predictable and fast mechanism that fosters interdependence on the market – without the competitors' executives or their algorithms agreeing on price. Pricing algorithms, in increasing market transparency and speedily punishing deviations from the tacit equilibrium, can provide the ultimate tool to stabilise prices above the competitive level. The

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<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*

<sup>6</sup> See: [www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/04/06/topkins\\_information.pdf](http://www.justice.gov/sites/default/files/opa/press-releases/attachments/2015/04/06/topkins_information.pdf); Also see: Jill Priluck, 'When Bots Collude' (*The New Yorker*, 25 April 2015), available at: [www.newyorker.com/business/currency/when-bots-collude](http://www.newyorker.com/business/currency/when-bots-collude).

<sup>7</sup> *Eturas and others*, Court of Justice of the EU (C-74/14); see also the UK Competition and Markets Authority infringement decision regarding 'Cartel relating to sales of posters and frames by 2 competing online sellers on Amazon's UK website' (Trod). Available at: [www.gov.uk/cma-cases/online-sales-of-discretionary-consumer-products](http://www.gov.uk/cma-cases/online-sales-of-discretionary-consumer-products).

<sup>8</sup> Ariel Ezrachi and Maurice E Stucke, 'Artificial Intelligence & Collusion: When Computers Inhibit Competition' [forthcoming] *Illinois Law Review*.

<sup>9</sup> Ariel Ezrachi and Maurice E Stucke, *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy* (Harvard University Press 2016).

stability needed for algorithmic tacit collusion is further enhanced by the fact that computer algorithms are unlikely to exhibit human biases.<sup>10</sup>

To illustrate, let us consider the use of online pricing in an oligopolistic retail market for petrol. Two recent economic studies explored how the increased transparency resulting from posting petrol prices online – and the use of pricing algorithms – have fostered conscious parallelism. In 2012, petrol stations in Chile were required to post their fuel prices on a government website and keep this updated as prices changed at the pump. An economic study found that this Chilean regulation softened, rather than increased, competition.<sup>11</sup> Further, the petrol stations' margins rose by ten per cent on average. Similarly, in Germany, the government required petrol stations to report any price changes for gasoline or diesel fuel in 'real time'.<sup>12</sup> The enhanced market transparency, one economic study found, increased prices further. Compared to the control group, retail petrol prices increased by about €0.012-0.033, and diesel increased by about €0.02.<sup>13</sup>

The industry-wide use of pricing algorithms may increase both market transparency and the risk of tacit collusion, which grows with the emergence of hub-and-spoke structures. Our focus here is not the traditional hub-and-spoke price-fixing conspiracies, aimed at competitors' expressly fixing the price or facilitating cartel activities. Rather, we note how, in an online environment, a hub-and-spoke framework may emerge when sellers use the same third-party provider for algorithmic pricing or the same data pool to determine price.

To illustrate, take a recent *Wall Street Journal* story about the petrol market in Rotterdam. Dutch petrol stations used advanced analytics and artificial intelligence (AI) provided by Danish company a2i Systems to determine their petrol prices.<sup>14</sup> *The Wall Street Journal* noted how retail petrol prices dropped, at times, to reflect

10 European Commission Merger Guidelines, para 44 (observing that '[c]oordination is more likely to emerge if competitors can easily arrive at a common perception as to how the coordination should work. Coordinating firms should have similar views regarding which actions would be considered to be in accordance with the aligned behaviour and which actions would not'.)

11 Fernando Luco, Working paper: 'Who Benefits from Information Disclosure? The Case of Retail Gasoline' (Department of Economics, Texas A&M University, April 2017), available at: [https://cf00f56d-a-62cb3a1a-sites.googlegroups.com/site/flucoe/home/Info\\_disclosure.pdf?attachauth=ANoY7colGaf66bKWn0h\\_BnbFaq4kHFB7rYjrbb6v7VN6BhIzeTPbNs2I.RUOiyuLeAP4jY8YXe3nuDW2dFEF2wrI.Od0YihxBS-4CB2hgafQqHf5a-uyPyq\\_DIPrThncKj7sNvnxGxomB\\_Hk3ROwYLV9tZWtdWn5YFDΛzjA69ARs-8nxOrFEJzac5ULK2IBwGHkIO9QsN9sEdZfUnX1OjUL9J2qE\\_IWdgPuhA%3D%3D&attredirects=0](https://cf00f56d-a-62cb3a1a-sites.googlegroups.com/site/flucoe/home/Info_disclosure.pdf?attachauth=ANoY7colGaf66bKWn0h_BnbFaq4kHFB7rYjrbb6v7VN6BhIzeTPbNs2I.RUOiyuLeAP4jY8YXe3nuDW2dFEF2wrI.Od0YihxBS-4CB2hgafQqHf5a-uyPyq_DIPrThncKj7sNvnxGxomB_Hk3ROwYLV9tZWtdWn5YFDΛzjA69ARs-8nxOrFEJzac5ULK2IBwGHkIO9QsN9sEdZfUnX1OjUL9J2qE_IWdgPuhA%3D%3D&attredirects=0).

12 'Fuel Sector Inquiry', Final Report by the Bundeskartellamt May 2011, available at: [www.bundeskartellamt.de/SharedDocs/Publikation/EN/Sector%20Inquiries/Fuel%20Sector%20Inquiry%20-%20Final%20Report.pdf?\\_\\_blob=publicationFile&v=14](http://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Sector%20Inquiries/Fuel%20Sector%20Inquiry%20-%20Final%20Report.pdf?__blob=publicationFile&v=14); Ralf Dewenter, Ulrich Heimeshoff and Hendrik Lüth, 'The Impact of the Market Transparency Unit for Fuels on Gasoline Prices in Germany' May 2016, available at: [www.dice.hhu.de/fileadmin/redaktion/Fakultaeten/Wirtschaftswissenschaftliche\\_Fakultaet/DICE/Discussion\\_Paper/220\\_Dewenter\\_Heimeshoff\\_Lueth.pdf](http://www.dice.hhu.de/fileadmin/redaktion/Fakultaeten/Wirtschaftswissenschaftliche_Fakultaet/DICE/Discussion_Paper/220_Dewenter_Heimeshoff_Lueth.pdf).

13 *Ibid.*

14 Sam Schechner, 'Why Do Gas Station Prices Constantly Change? Blame the Algorithm' (*The Wall Street Journal*, 8 May 2017), available at: [www.wsj.com/articles/why-do-gas-station-prices-constantly-change-blame-the-algorithm-1494262674](http://www.wsj.com/articles/why-do-gas-station-prices-constantly-change-blame-the-algorithm-1494262674).

less demand. It also noted how, during some periods, ‘the stations’ price changes paralleled each other, going up or down by more than 2 U.S. cents per gallon within a few hours of each other. Often, prices dropped early in the morning and increased toward the end of the day, implying that the A.I. software may have been identifying common market-demand signals through the local noise’.<sup>15</sup> The software operated by a2i Systems is focused primarily on modelling consumer behaviour and learns when raising prices drives away customers and when it does not.<sup>16</sup> In a case study found on its website, the company discussed how it helped OK Benzin, Denmark’s leading petrol station owner, avoid a price war: ‘Between 2007 and 2012 the market was characterized by fierce competition and high volatility. At the peak there were 10 to 20 price changes a day, and the spread between the highest and the lowest price of the day could be up to 15 eurocent’.<sup>17</sup> In enlisting a2i Systems, the leading retail network of approximately 700 petrol stations (which accounted for 25 per cent of the Danish retail fuel market), sought ‘to improve the pricing analysis and decision process and optimize pricing according to their overall strategy in order to lower the cost of price wars or better yet, to avoid them’.<sup>18</sup>

Regarding its pricing algorithms, the Chief Executive of a2i Systems noted that ‘[t]his is not a matter of stealing more money from your customer. It’s about making margin on people who don’t care, and giving away margin to people who do care’.<sup>19</sup> As *The Wall Street Journal* reported, the complex algorithm operated by a2i Systems was tested against a control group that did not use the system to determine price. The result? ‘The group using the software averaged 5% higher margins’.<sup>20</sup> For the petrol company, a2i Systems notes, this ‘means millions [more] Euros’ annually.<sup>21</sup>

While the use of the same algorithm to determine price may well have been legitimate, one wonders whether it may further facilitate alignment of price decisions. This anecdote supports the assertion that, as competitors use a single hub (a single provider for algorithmic pricing), one may expect – in markets susceptible to tacit collusion – greater alignment of pricing decisions and higher prices overall.

The aforementioned scenarios raise several key challenges. First, at the policy level, one may question the desirability of condemning pure tacit collusion. In

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15 *Ibid.*

16 *Ibid.* See also on the company website: ‘PriceCast Fuel utilizes Artificial Intelligence (AI) to optimally reach the local and/or global target for any given station and product. By continuously monitoring data (such as transactions, competitors’ prices, time, location, traffic, weather, etc.) PriceCast Fuel learns about customers’ and competitors’ behaviors and optimizes the price for each product at each site, taking every significant correlation into account’. available at: <http://a2isystems.com/pricecast.html#pricecast-fuel-19>.

17 PriceCast Fuel Case Story, available at: [http://a2isystems.com/files/pdf/PriceCast%20Fuel%20Case%20Story%20\('15\).pdf](http://a2isystems.com/files/pdf/PriceCast%20Fuel%20Case%20Story%20('15).pdf).

18 *Ibid.*

19 *Ibid.*

20 *Ibid.*

21 *Ibid.*

instances where the alignment is the result of market structure, should it be condemned? Should competition agencies treat the use of algorithms to foster tacit collusion as market manipulation or a new form of collusion? And, if so, how can one distinguish between rational and legitimate reaction to market dynamics and illicit action? Second, at the practical level, intervention may be difficult. In markets governed by pricing algorithms, the resulting effects on price may be difficult to detect. Possible audit of the algorithm could address some concerns, but advancements in technology and AI may undermine detection. Elsewhere, we elaborate on these challenges and possible market and enforcement solutions.<sup>22</sup> Lastly, the presence of hub-and-spoke structures online may call for clearer guidelines to providers of data analysis and algorithmic pricing. Should the use of the same provider be condemned outright? Could the provider offer guarantees as to its operation and the use of internal firewalls?

In June 2017, the Organisation for Economic Co-operation and Development (OECD) Competition committee convened a panel to explore the risks and possible enforcement approaches to the above scenarios. While ‘pure’ conscious parallelism often evades enforcement scrutiny (outside merger control), several agencies indicated that, when the use of algorithms gives rise to illicit signalling and concerted action, it may be caught under their jurisdiction’s antitrust laws. The comments of the Russian Federal Antimonopoly Service (FAS) were noteworthy – it began investigating the use of software products that optimise price-setting in 2016. The FAS raised concerns that software used to collect, compare, analyse and determine prices online serves as a vehicle for the coordination of economic activities and restriction of competition. As part of its ongoing investigation, the FAS engaged in dawn raids in 2017.<sup>23</sup>

### **Behavioural discrimination**

The industry-wide use of pricing algorithms can foster tacit collusion. It can also foster a different strategy, where we buy things we do not need at the highest price we are willing to pay.<sup>24</sup> While perfect price discrimination is rarely feasible in the real world, near-perfect price discrimination may be within reach in our online environment. Under certain conditions, online platforms and sellers may employ sophisticated strategies to approximate our reservation price. As the volume,

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<sup>22</sup> Ariel Ezrachi and Maurice E Stucke, ‘Algorithmic Collusion: Problems and Counter-Measures’ (21-23 June 2017) OECD Roundtable on Algorithms and Collusion DAF/COMP/WD(2017)25. Available at: [https://one.oecd.org/document/DAF/COMP/WD\(2017\)25/en/pdf](https://one.oecd.org/document/DAF/COMP/WD(2017)25/en/pdf).

<sup>23</sup> Written contribution from the Russian Federation submitted for Item 10 of the 127th OECD Competition committee on 21-23 June 2017.

<sup>24</sup> See n 9 above; see also: Ariel Ezrachi and Maurice E Stucke, ‘The Rise of Behavioural Discrimination’ (2016) 37 *European Competition Law Review* 484.

variety and value of personal data increases, self-learning pricing algorithms can use the data collected on individuals to identify subgroups of like-minded, like-price-sensitive consumers who share common biases and levels of willpower. The ability to track each user enables sellers to engage in 'near-perfect' discrimination, as they segregate users in countless ways, to be able to individually tailor the price based on one's willingness to pay.

Importantly, in the algorithm-driven world, we are often unaware of when we are subjected to a personalised dynamic price. What appears competitive may be nothing more than a controlled and manipulated personalised environment – one in which the offers we see, the order or search results and our overall environment, have been 'orchestrated'. The ability to engage in discriminatory pricing rests, to a large extent, on the presence of asymmetric information – the sophisticated seller taking advantage of customer's lack (or unawareness) of outside options.

Given the profitability of these strategies, dynamic personalised pricing will likely increase under certain market conditions.<sup>25</sup> Despite this, many competition agencies are yet to take a stand on the subject. Some equate first-degree price discrimination (almost perfect discrimination) to third-degree discrimination, and argue for overall efficiencies. Others view this as a consumer protection problem better left to another agency. Either way, the current treatment of online discriminatory pricing under competition law remains ambiguous.

Luckily, the solution to these strategies is not solely at the hands of the competition enforcers. Increasingly, private operators offer users tools to address tracking and price discrimination. With increased market demand, these providers may help remedy asymmetric information and empower users in regaining control over the online interface. Still, in the technology arms race, the odds favour the sellers, who stand to gain the most from imperfect information. In addition, increased concentration online may further tilt the balance in favour of a few key super-platforms.

### **Super-platforms, market power and abuse**

Beyond the use of pricing algorithms, the online environment has also given rise to enforcement challenges due to increased concentration. Of particular concern has been the emergence of key gatekeepers that benefit from network effects and

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<sup>25</sup> US Department of Justice and the Federal Trade Commission, Horizontal Merger Guidelines (2010) 6: '[f]or price discrimination to be feasible, two conditions typically must be met: differential pricing and limited arbitrage.' Under the first condition, suppliers 'must be able to price differently to targeted customers than to other customers. This may involve identification of individual customers to which different prices are offered or offering different prices to different types of customers based on observable characteristics.'; 'In other cases, suppliers may be unable to distinguish among different types of customers but can offer multiple products that sort customers based on their purchase decisions'. Under the second condition, 'the targeted customers must not be able to defeat the price increase of concern by arbitrage, e.g., by purchasing indirectly from or through other customers'.

may be in a position to leverage market power or to engage in anti-competitive exclusionary practices,<sup>26</sup> exploitative behaviour and discriminatory practices.<sup>27</sup>

The modern, online world has seen the rise of super-platforms, as consumers increasingly migrate to mobile and tablet operating systems controlled by two super-platforms, Apple and Google, to the social network and messaging super-platform controlled by Facebook and the shopping and entertainment super-platform controlled by Amazon. As *The Wall Street Journal* observed: 'Anyone building a brand, for example, can't ignore Facebook's highly engaged daily audience... Anyone starting a business needs to make sure they can be found on Google. Anyone with goods to sell wants Amazon to carry them'.<sup>28</sup>

Each super-platform has established an ecosystem in which it provides services, at times, in competition with other providers. Notable is the growth of these ecosystems as the super-platforms expand their reach across markets. Indeed, this trend has given rise to increased calls for widening of the scope of merger control to capture transactions in high-tech industries that may not meet the current threshold criteria.<sup>29</sup> Nonetheless, outside the ex ante enforcement of merger control, challenges remain as to the treatment and scrutiny of current super-platforms.

#### *Leveraging of market power*

'Frenemy' dynamics exist in the world of mobile and tablet operating systems. The two super-platforms – Apple's iOS and Google's Android mobile software platforms – are like a coral reef, seeking to attract software developers, apps and accessory makers to their ecosystem. Here, the super-platform and apps are friends. However, once the super-platform vertically integrates to compete against the market participants, its incentives can change. The super-platform can leverage its market power to favour its own products or services over superior alternatives. In doing so, it could marginalise or eliminate as-efficient competitors and deter entry. With a small number of powerful gatekeepers, such strategy may increase market consolidation and hamper innovation.

26 Ingo Klauss and Nina Laskey, 'Germany: Anti-Competitive Agreements – Selective Distribution Systems' (2014) 35(2) *European Competition Law Review* N6; *Google* (Case AT.39740).

27 See Maurice E Stucke and Allen P Grunes, *Big Data and Competition Policy* (Oxford University Press 2016).

28 Don Clark and Robert Mcmillan, 'Facebook, Amazon and Other Tech Giants Tighten Grip on Internet Economy' *The Wall Street Journal* (5 November 2015), available at: [www.wsj.com/articles/giants-tighten-grip-on-internet-economy-1446771732](http://www.wsj.com/articles/giants-tighten-grip-on-internet-economy-1446771732).

29 An increasing number of jurisdictions have been considering the introduction of a new threshold to merger control that could capture transactions based on share value. This, it is believed, will enable scrutiny of significant transaction involving new high-tech companies that do not meet the traditional turnover criteria. An illustration of such change may be found in the 9th Amendments to the German Act against Restraints of Competition, which lowers the threshold for notification of merger transactions to include instances where the value of the target is over €400m (amendment entered into force on 9 June 2017).



The Commission's investigation into Google's practices is key here. In 2010, the Commission began investigating whether Google 'gives systematic favourable treatment to its comparison shopping product (currently called "Google Shopping") in its general search results pages, e.g. by showing Google Shopping more prominently on the screen'.<sup>30</sup> The concern was that Google 'may therefore artificially divert traffic from rival comparison shopping services and hinder their ability to compete on the market'.<sup>31</sup> In essence, was Google leveraging its market power in the online general search engine market to create an advantage in the related market of comparison-shopping services? If so, Google's behaviour could limit choice and harm rival comparison-shopping services, consumers and innovation. The top Commission competition official noted:

'when a consumer enters a shopping-related query in Google's search engine, Google's comparison shopping product is systematically displayed prominently at the top of the search results. This display is irrespective of whether it is the most relevant response to the query. Thus, Google's commercial product is not subject to the same algorithms as other comparison shopping services... with the result that consumers may not necessarily see the most relevant results in response to their queries, and Google's competitors may not get the commercial opportunities that their innovations deserve'.<sup>32</sup>

In June 2017, following a lengthy investigation, the Commission fined Google €2.4bn for abusing its dominant position. The Commission asserted that 'Google has systematically given prominent placement to its own comparison shopping service' and has 'demoted rival comparison shopping services in its search results'.<sup>33</sup> The Commission noted how changes in positioning of the search engine results have a detrimental effect on the number of clicks and visibility:

'The evidence shows that consumers click far more often on results that are more visible, i.e. the results appearing higher up in Google's search results. Even on a desktop, the ten highest-ranking generic search results on page 1 together generally receive approximately 95% of all clicks on generic search results (with the top result receiving about 35% of all the clicks). The first result on page 2 of Google's generic search results receives only about 1% of all clicks. This cannot just be explained by the fact that the first result is more relevant, because evidence also shows that moving the first result to the third rank leads to a reduction in the number of clicks by about 50%. The effects on mobile devices are even more pronounced given the much smaller screen size'.<sup>34</sup>

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30 See: [http://europa.eu/rapid/press-release\\_IP-15-4780\\_en.htm](http://europa.eu/rapid/press-release_IP-15-4780_en.htm).

31 *Ibid.*

32 *Ibid.*

33 See: [http://europa.eu/rapid/press-release\\_IP-17-1784\\_en.htm](http://europa.eu/rapid/press-release_IP-17-1784_en.htm).

34 *Ibid.*

The decision highlights the super-platform's power to determine access to the online market and the fate of those who rely on it. According to the Commission, Google recognised that its own shopping service was inferior to alternatives. However, since Google began its preferential strategy, its own downstream comparison shopping service services 'has increased its traffic 45-fold in the United Kingdom, 35-fold in Germany, 19-fold in France, 29-fold in the Netherlands, 17-fold in Spain and 14-fold in Italy'.<sup>35</sup>

The Commission's leveraging theories and decision may play a role in other investigations into Google's practices. In 2016, the Commission issued a statement of objection concerning Google abusing its dominant position with its mobile Android super-platform to 'preserve and strengthen its dominance in general internet search'.<sup>36</sup> Absent a 'frenemy' relationship, a super-platform would ordinarily leave it to manufacturers or customers to decide what apps to preinstall on the smartphone. Android is technically an open operating system, but Google (according to the Commission) controlled the operating system's development through its licensing agreements with the Android smartphone manufacturers. It reduced the smartphone manufacturers' incentives to preinstall competing search apps, as well as consumers' incentives to download such apps. Google also paid money to 'some of the largest smartphone and tablet manufacturers as well as mobile network operators' on the condition that they exclusively preinstall Google Search on their devices, and not any other search provider.<sup>37</sup>

As we increasingly rely on a few super-platforms, their market power concomitantly grows. That power will likely increase further as we rely less on our familiar personal computer and more on our mobile phones (where multi-homing can be more difficult), and particularly on the voice-controlled interfaces of the 'digital personal assistants' on our smartphone, smart watch, smart car and home device. Amazon, Google and Apple are currently battling to get their personal assistant into our home and connected to our smart appliances. Why search online when we can simply ask our personal assistant? Why read the newspaper when we can ask Alexa, Siri or Google Home for the latest news? The useful and innovative voice-recognition feature can reduce the friction for buying things. Paradoxically, it can also lessen our incentive to independently search and increase our reliance on the limited (but ostensibly personalised) results offered by the personal assistant. Foreclosure may become easier. To the same extent, price manipulation and discrimination may become more common, as our interface is controlled and our outside options are limited. Worryingly, we may lack the ability to detect, and not fully appreciate, the gatekeeper's ability to distort the marketplace, competition and our welfare.

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<sup>35</sup> *Ibid.*

<sup>36</sup> See: [http://europa.eu/rapid/press-release\\_IP-16-1492\\_en.htm](http://europa.eu/rapid/press-release_IP-16-1492_en.htm).

<sup>37</sup> *Ibid.*

*Exploitation*

As hinted above, the ability to foreclose the market may, ultimately, enable the super-platform to exploit users downstream and sellers upstream. In two-sided markets, where services to users are ostensibly free and the income is generated on the other side from utilising the customer base, exploitation may take the form of quality degradation.

By and large, when a product or service is offered for free, the primary dimension of competition is typically quality.<sup>38</sup> The presumption is that competition will likely stimulate investment in quality. Yet, when a firm with significant market power earns its profits from one side of the market (such as advertising), its incentive to invest in quality on the other side of the market may be distorted. In such instances, it may degrade quality below levels that consumers prefer, if doing so increases profits.<sup>39</sup>

An interesting aspect of quality, which has recently been considered part of the competition analysis, is privacy protection.<sup>40</sup> In many online markets, the volume, variety, velocity and value of personal data can have competitive significance.<sup>41</sup> The ability to extract and use personal data can improve targeted behavioural advertising and advance the algorithms' ability to identify our habits, wants and weaknesses. In such an environment, a super-platform, which benefits from market power, may opt to downgrade our privacy protection when limited outside options are available, switching is costly and when it is difficult for others to convey to consumers the products' or services' inherent quality differences or to prompt them to switch.

In March 2016, the German *Bundeskartellamt* initiated a proceeding against Facebook on the suspicion of abusing its power in the market for social networks.<sup>42</sup> The case's significance stems from the fact that the infringement of data and privacy protection rules could potentially play a significant role in the competition analysis. Facebook has been accused of, and fined for, infringing data protection rules in several jurisdictions.<sup>43</sup> Now the German *Bundeskartellamt* is considering the

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38 For illustration, see EU Commission decisions in: Case No COMP/M.6281 – *Microsoft/Skype*, and Case No COMP/M.5727 – *Microsoft/Yahoo!*. Also illustrative is the UK Office of Fair Trading decision in 'Completed Acquisition by Motorola Mobility (Google, Inc) of Waze Mobile Ltd' ME/6167/13.

39 Maurice E Stucke and Ariel Ezrachi, 'When Competition Fails to Optimise Quality: A Look at Search Engines' (2016) 18 *Yale Journal of Law and Technology*.

40 *Microsoft/LinkedIn*, para 350 (finding that the potential foreclosure effects from the merger could lead to the 'marginalisation of an existing competitor which offers a greater degree of privacy protection to users than LinkedIn (or make the entry of any such competitor more difficult)' so that the merger, absent any conditions, could 'restrict consumer choice in relation to this important parameter of competition when choosing' a professional social network).

41 See n 27 above, s2.04-2.29, 4.02.

42 See: [www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02\\_03\\_2016\\_Facebook.html](http://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02_03_2016_Facebook.html).

43 'Facebook Faces More Hurdles after Europe Fine' (*Financial Times* 18 May 2017), available at: [www.ft.com/content/0cfb056c-3bd0-11e7-821a-6027b8a20f23](http://www.ft.com/content/0cfb056c-3bd0-11e7-821a-6027b8a20f23).

nexus between privacy violations and market dominance, in particular whether 'Facebook's use of unlawful terms and conditions could represent an abusive imposition of unfair conditions on users'.<sup>44</sup> The fear of social isolation and the threat of refused service may enable exploitation. When faced with a choice of accepting Facebook's onerous privacy setting or being refused access to the network, users are 'forced' to agree to terms and conditions, thereby supplying Facebook even more personal data, which increases its market power over online advertising.<sup>45</sup>

The outcome of these proceedings will impact not only the data-driven online environment, but the scope and goals of competition law. As competition agencies grapple with the changing market dynamics and novel data-driven business strategies, values such as *fairness*, and more specifically, *privacy*, may provide important benchmarks for intervention.

## Conclusion

Big analytics and big data, as well as the rise of the super-platforms, lead us to an online environment where network effects may give rise to power below traditional levels of dominance, pricing algorithms may stifle competition (just as they could stimulate it) and stealth and asymmetric information flourish despite the façade of competition.

The new market dynamic, technologies and startups often captivate our attention and support non-intervention. On the one hand, technology, innovation and investment in the e-commerce sectors may foster dynamic competition and perhaps give rise to the next disruptor. On the other hand, anti-competitive contractual and licensing practices, barriers to entry, network effects, increased concentration and abuse of market power may require some form of intervention.

Encouragingly, several enforcement agencies are devoting resources to understand the changing market dynamics and incentives, the role and use of data and algorithms, the rise of super-platforms and the implications for our welfare. These agencies are mindful that, behind the mirage of competition and disruptive innovation, there is a risk that an increasingly well-oiled machine can supplant the competitive forces we rely upon.

Faced with the limited utility of current legal doctrines on algorithmic tacit collusion, behavioural discrimination and assessing market power (and abuses)

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44 See: [www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02\\_03\\_2016\\_Facebook.html](http://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2016/02_03_2016_Facebook.html). The proceedings do not involve the potential imposition of fine, but will likely affect the role of privacy in competition law. MLEX 'Facebook won't face a fine in German antitrust probe of privacy terms' (3 February 2017), available at <https://inlexmarketinsight.com/insights-center/editors-picks/antitrust/europe/facebook-wont-face-a-fine-in-german-antitrust-probe-of-privacy-terms>.

45 Comments by Andreas Mundt, Bundeskartellamt, Oxford CCLP event 'Online Markets and Offline Welfare Effects' (22 May 2017), available at: [www.competition-law.ox.ac.uk](http://www.competition-law.ox.ac.uk).

in multi-sided online markets with ‘free’ goods and services, agencies must adapt or update their enforcement toolbox to match the emerging challenges. Additionally, they may explore and advocate ex ante instruments that could align the incentives and actions of economic operators with those of consumers and upstream sellers. Careful changes to data protection and mobility, privacy, consumer empowerment, information flows and disclosure requirements could promote actual (rather than virtual) competition in these markets. This task is never easy and it is even harder in dynamic markets. Ill-advised or misguided intervention, without a clear and credible theory of harm, can carry significant welfare costs – but so does under-enforcement.