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Exclusionary innovation in the European Commission's decisions against Google

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ABSTRACT


Exclusionary innovation poses a bigger threat to competition in digital platform markets than in other innovation markets given the relevance of data-driven network effects as well as the strong incentive and ability of digital platforms to pursue an envelopment strategy. This paper advocates a theory of harm called “platform-wide exclusionary innovation” which applies to conduct that plausibly creates short-term consumer benefit but is more likely to foreclose rivals and therefore reduce technological progress in the long run. This theory of harm can help to explain Google’s conduct that the European Commission condemned in its three decisions against Google between 2017 and 2019. Due to interconnections between Google’s practices in the three cases this article assesses whether they may be considered jointly for the purpose of finding of an infringement of Article 102 TFEU or under the proposed Digital Markets Act.

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KEYWORDS Competition law; abuse of dominance; innovation; foreclosure; digital platforms

1. Introduction

The past four decades have shown that in new economy markets, most notably in the ICT sector, competition repeatedly takes place by way of creative destruction. New firms displaced previous champions by introducing disruptive innovations, only to suffer the same fate when the next wave of technology came along. IBM’s dominance in the mainframe computers market, which it had claimed in the 1960s, has been upended by the Wintel architecture (i.e. Intel’s microprocessors and Microsoft’s operating systems) that began to dominate the personal computer market in the 1980s. Their dominance, in turn, came under attack with

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the emergence of cloud computing and mobile devices in the 2000s.¹ Microsoft's in part unsuccessful attempt to prevent internet browsers from replacing Windows paved the way for search engines and Google, which has dominated the general internet search market for over 15 years now. It is not clear whether Google Search will be upset by a disruptive innovator in the near future. There is, however, more certainty, that Google has been undermining innovation not just in the general internet search market but also in adjacent markets to maintain its dominant position in its core market.

This paper seeks to analyse on the basis of the three Google cases how the company engaged in anticompetitive conduct, if not to prevent the emergence of the next wave of technology, then at least to stifle actual competitors' capacity to innovate. It argues that exclusionary innovation is more harmful to competition in digital platform markets because of envelopment strategies and the role of data-driven network effects.

The paper proceeds in four sections: the next section briefly outlines the relationship between competition and innovation. The third section sheds light on theories of harm to innovation and advocates a new theory called "platform-wide exclusionary innovation theory" that may help to understand the harm to innovation caused in platform markets. The section then illustrates how this theory could explain the harm to innovation in the US and EU Microsoft cases. Section 4 addresses exclusionary innovation in digital platform markets and how innovation has potentially been harmed in the three recent Google cases brought by the European Commission. Section 5 concludes.

2. Relationship between competition and innovation

Apart from price, innovation is one of the main parameters for competition.² Innovation is of even more importance in so-called zero-price markets, i.e. markets where products or services are offered to consumers free of charge.³ Competition law does not only adopt a static perspective

¹See Inge Graef, *EU Competition Law, Data Protection and Online Platforms: Data as Essential Facility* (Kluwer Law International 2016) 71; Patrick Barwise and Leo Watkins, 'The Evolution of Digital Dominance: How and Why We Got to GAFA' in Martin Moore and Damian Tambini (eds), *Digital Dominance: The Power of Google, Amazon, Facebook and Apple* (OUP 2018) 21, 22.

²A broad conception of innovation includes enhancements in terms of quality.

³See e.g. Graef (n 1) 55; Ioannis Kokkoris, 'The Google Saga: episode I' (2018) 14 *European Competition Journal* 462, 464; Terrell McSweeney and Brian O'Dea, 'Data, Innovation and Potential Competition in Digital Markets – Looking Beyond Short-term Price Effects in Merger Analysis', *CPI Antitrust Chronicle*

but also a dynamic one. As such one of its objectives is to safeguard incentives for innovation.⁴ However, it has been suggested by Manne and Wright that “the ratio of what is known to what is unknown with respect to the relationship between innovation, competition, and regulatory policy is staggeringly low” and that beyond that “the process of innovation itself is not well understood”.⁵

Since the rise of the Chicago School, which also has had a large influence on EU competition law since the late 1990s,⁶ it is commonly agreed that competition law should be cautious to intervene in dynamic industries. First, market power is only temporary and there is a higher likelihood of deterring innovation. The costs from over-enforcement (i.e. false positives) are considerably higher than the costs from under-enforcement (i.e. false negatives).⁷ Second, since exploiting market power is often the means by which a firm can earn a return on innovation and market intervention might deter such innovation.⁸ Chicago scholars, by applying insights from neoclassical price theory to antitrust analysis, presumed that market outcomes reflect the interplay of standalone market forces and the technical demands of production.⁹ Critics of excessive enforcement have claimed that in many instances competition authorities have actually inhibited competition, the very process competition law was supposed to foster, thus exemplifying Bork’s “antitrust paradox”.¹⁰

February 2018, 2. See also Ariel Ezrachi and Maurice E Stucke, ‘The Curious Case of Competition and Quality’ (2015) 3 *Journal of Antitrust Enforcement* 227.

⁴See J Gregory Sidak and David J Teece, ‘Dynamic Competition in Antitrust Law’ (2009) 5 *Journal of Competition Law & Economics* 581.

⁵Geoffrey A Manne and Joshua D Wright, ‘Introduction’ in Geoffrey A Manne and Joshua D Wright (eds), *Competition Policy and Patent Law under Uncertainty: Regulating Innovation* (CUP 2011) 1.

⁶See the ‘more economic approach’.

⁷Howard A Shelanski, ‘Information, Innovation, and Competition Policy for the Internet’ (2013) 161 *University of Pennsylvania Law Review* 1663, 1670–71; Geoffrey A Manne and Joshua D Wright, ‘Google and the Limits of Antitrust: The Case against the Case against Google’ (2011) 34 *Harvard Journal of Law and Public Policy* 171, 186; Arianna Andreangeli, ‘Spotlight on the IT Industry: The Microsoft Case – Protecting Rivalry on Innovative Markets ... but at What Price for Their Future’ in Barry Rodger (ed), *Landmark Cases in Competition Law: Around the World in Fourteen Stories* (Kluwer Law International 2012) 89, 107. See also OFT, ‘Innovation and Competition Policy’, Discussion Paper OFT377 (2002), paras. 3.62–3.63.

⁸See Keith Hylton, ‘The Wisdom of Douglas Ginsburg and the Competition Versus Innovation Conflict’ in Nicolas Charbit, Carolina Malhado and Ellie Yang (eds), *Douglas H. Ginsburg Liber Amicorum: An Antitrust Professor on the Bench, Volume I* (Institute of Competition Law 2018) 48–49; Shelanski (2013) 1670–71.

⁹Andrew I Gavil and others, *Antitrust Law in Perspective: Cases, Concepts and Problems in Competition Policy* (West Publishing, 3rd edn, 2017) 71–72; Lina M Khan, ‘Amazon’s Antitrust Paradox’ (2017) 126 *Yale Law Journal* 710, 719.

¹⁰William H Page and John E Lopatka, *The Microsoft Case: Antitrust, High Technology, and Consumer Welfare* (University of Chicago Press 2007) 2.

According to Gavil and First drawing the line between conduct deriving from superior skill and conduct warranting condemnation as exclusionary was a challenge that US courts faced in the Microsoft case.¹¹ Melamed and Rubinfeld describe the US Microsoft case¹² as a clash between two profoundly different approaches to antitrust law.

The government built its case from the facts, with meticulous attention to the details. It did not broadly attack Microsoft's right to compete aggressively, to innovate and to bring its products to markets. It attacked instead specific aspects of Microsoft's conduct that it believed went too far – conduct that both interfered with rivals' ability to gain widespread market acceptance for their products and did not advance any meaningful, legitimate, pro-competitive interest. Microsoft, by contrast, advanced broad, sometimes ideological arguments. Its defense emphasized the dynamic nature of the industry, the importance of innovation, reasons why courts should not interfere with product design or the use of IP, and the quality of its products.¹³

Given that the contestability of markets attracts potential competitors who seek to displace the market leader,¹⁴ Microsoft argued that it constantly felt the threat of its position being overtaken by new entrants.¹⁵ Microsoft was also at the centre of a landmark case in EU competition law, where the European Commission and the General Court had to carefully navigate between, on the one hand, a dominant firm's right to innovate and compete, and on the other hand, preventing it from harming the competitive process. This case will be addressed in the next section. As argued in this paper the Commission was facing a similar question in the Google cases.

3. Exclusionary innovation as a theory of harm

There is still considerable uncertainty regarding anticompetitive practices that may have a detrimental impact on innovation. Under EU

¹¹See Andrew I Gavil and Harry First, *The Microsoft Antitrust Cases: Competition Policy for the Twenty-First Century* (MIT Press 2014) 13. Despite the fact that network effects are barriers to entry that stem from the structure of the market, the Microsoft case essentially embodied post-Chicago School critique. Post-Chicagoans also rely less on neoclassical price theory and place greater emphasis on the strategic behaviour of firms (M Sean Royall, 'Symposium: Post-Chicago Economics - Editor's Note' (1995) 63 *Antitrust Law Journal* 445, 447. See also E Thomas Sullivan and others, *Antitrust Law, Policy, and Procedure: Cases, Materials, Problems* (LexisNexis, 7th edn, 2014) 56.

¹²Discussed in more detail below.

¹³A Douglas Melamed and Daniel L Rubinfeld, 'U.S. v. Microsoft: Lessons Learned and Issues Raised' in Eleanor M Fox and Daniel A Crane (eds), *Antitrust Stories* (Foundation Press 2007) 286, 310.

¹⁴Marcus Glader, *Innovation Markets and Competition Analysis: EU Competition Law and US Antitrust Law* (Edward Elgar 2006) 52.

¹⁵Nicholas Economides, 'United States v. Microsoft: A Failure of Antitrust in the New Economy' (2001) 32 *University of West Los Angeles Law Review* 3, 21.

competition law it is not clear to what extent a dominant undertaking's right to compete, which also entails its autonomy over its product design, should be balanced against the prospects for innovation in the market in the mid- to long-term.

(A) Recognition of Exclusionary Innovation as a Theory of Harm under Article 102 TFEU

As a fundamental principle, it is claimed that the design of a product should be a firm's prerogative and be free from intervention from competition authorities.¹⁶ Nonetheless, it has been pondered that a competition authority may be allowed to intervene when a dominant firm's product design denies the existence of markets.¹⁷ Since there is no presumption of an abuse from the modification of one or more technical elements of a product, a competition authority needs to formulate a clear theory of harm that explains how the conduct has, or is likely to have, adverse effects on competition, applying sound economic principles to the facts of a case. Yet, theories of harm to competition involving innovation considerations are accompanied by uncertainty. The main reason for that likely stems from the difficulty of measuring a direct, adverse impact on innovation. While consumer welfare losses are relatively straightforward for economists to assess in pricing abuses, that exercise is far more cumbersome where the theory of harm concerns the potential foreclosure of innovation.¹⁸ In other words, whether an innovation leads to a modest or even a substantial improvement is difficult to quantify.¹⁹ Similarly, it is rarely possible to predict in abstract terms which technologies will eventually break through and which ones will fail.²⁰

With regard to EU competition law Colomo argues that it is not obvious in what capacity innovation is accounted as it is a rather static competition law frameworks which has been strongly concerned about changes in the structure of the market.²¹ A theory of harm to innovation

¹⁶Annabelle Gawer, *Platforms, Markets and Innovation* (Edward Elgar 2009) 5.

¹⁷*ibid.*

¹⁸Peter Alexiadis, 'Forging a European Competition Policy Response to Online Platforms' (2017) 18 *Business Law International* 91, 144.

¹⁹See Richard J Gilbert, *Innovation Matters: Competition Policy for the High-Technology Economy* (MIT Press 2020) 214.

²⁰Alexiadis (n 18) 144. See also Gilbert (n 19) 188. E.g. in the US Microsoft case, there was insufficient evidence to find that, absent Microsoft's actions, Navigator and Java already would have ignited genuine competition.

²¹Pablo Ibáñez Colomo, 'Restriction on innovation in EU competition law' (2015) LSE Law, Society and Economy Working Papers 22/2015, 3 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2699395> accessed 30 March 2022.

in such a static competition law framework is traditionally one in which indirect harm to innovation follows from exclusionary conduct. In other words, a potentially adverse impact on innovation is not the primary motivation for the investigation, but rather a repercussion of the likely reduction in the competitive constraints faced by firms.²² For example in *Intel*, the negative impact on AMD's innovation was found to follow from the limited contestability of the market as a result of Intel's exclusionary rebates.²³ A direct harm to innovation, on the other hand, may result from "exclusionary innovation". According to Montagnani exclusionary innovation describes practices that may be beneficial to consumers but at the same time threaten to foreclose competitors, irrespective of the dominant company's intent.²⁴ This theory of harm is more focused on intermediate foreclosure of competition. Under the decisional practice of the Commission exclusionary innovation has so far been about tying. Exclusionary innovation may be a promising strategy in zero-price markets. In such markets firms cannot undercut each other's prices and are therefore forced to compete based on non-price factors such as quality or innovation.²⁵

There are also theories that are concerned about the level of innovation following anticompetitive practices by an incumbent. Parker et al. consider a theory of harm in investments on innovation which is predicated upon foreclosure. By contrast to exclusionary innovation there is no plausible benefit to consumers. It describes that once a market has tipped towards one firm the latter has incentives to engage in anticompetitive practices to deter new entrants. With higher barriers to entry the incentives for innovation decrease. As innovation is a means of safeguarding a dominant firm's market position against rivals, the reduced likelihood of potential competition through practices that rely on market power lessens the need for innovation to safeguard that market position.²⁶

²²ibid 3.

²³COMP/C-3/37990 – *Intel* [2009] OJ C227/13, paras. 1597–1616.

²⁴Maria L. Montagnani, 'Predatory and Exclusionary Innovation: Which Legal Standard for Software Integration in the Context of the Competition v. Intellectual Property Rights Clash?' (2006) 37 *International Review of Intellectual Property and Competition Law* 304.

²⁵Cf. Januzs Ordovery and Robert D Willig, 'An Economic Definition of Predation: Pricing and Product Innovation' (1981) 91 *Yale Law Journal* 8, 22.

²⁶Geoffrey Parker, Georgios Petropoulos and Marshall W Van Alstyne, 'Digital Platforms and Antitrust' (22 May 2020) 13 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3608397> accessed 30 March 2022. See also Colomo (n 21) 8. According to this theory of harm, incentives for innovation by small firms are also hurt. It is difficult for start-ups to find funds and convince investors to trust them to innovate if they compete (or try to enter) in a market with very established platform or if

Under a dynamic view on competition, according to Colomo, innovation considerations could justify interventions that are not principally concerned with foreclosure but around the likely effects of a practice on the level of innovation.²⁷ As such the Commission may justify its intervention in a given case where a dominant undertaking's conduct threatens to harm the market's ability and incentive to innovate rather than to exclude equally efficient competitors.²⁸ Colomo argues that the Commission may focus more on the harm to innovation than foreclosure of rivals in refusal to supply cases.²⁹ He claims, as discussed below, that the decision in *Microsoft* with respect to the refusal to supply interoperability information must be understood against this background.³⁰ Since the criterion that the refusal to supply prevents the launch of a new product for which there is consumer demand, as required in *IMS Health* and *Magill*, is difficult to satisfy, the Commission may attempt to circumvent it by demonstrating that the refusal leads to a reduction in the rate of technological progress in the relevant market.³¹ In the absence of competitive constraint from more innovative products the dominant undertaking has less incentive to innovate and therefore the overall technical progress in the market will stagnate. In this point, Colomo's theory of harm to innovation thus aligns with the one proposed by Parker et al.

This paper advocates a modified theory of exclusionary innovation. By contrast to the theories above, this theory does not only consider foreclosure of rivals but also the harm to the level of innovation. It applies to conduct that plausibly benefits consumers in the short run while at the same time is more likely to foreclose competitors and therefore reduce technological progress longer-term. In assessing harm to innovation the theory adopts a more holistic approach. In addition to harm to innovation in the relevant market it also considers the detriment to innovation in related markets. As such this theory is particularly suitable in multi-sided markets. As illustrated below in the *Microsoft* and *Google*

they compete in a platform's trading partner market but all the trading surplus is appropriated by the platform (Parker, Petropoulos and Van Alstyne (n 26) 13).

²⁷Colomo (n 21) 3.

²⁸*ibid* 14.

²⁹Possibly in refusal to supply cases where no intellectual property is at stake and therefore the 'new product' criterion does not apply.

³⁰Colomo (n 21) 18. Indeed, the Commission's Guidance on Article 102 TFEU states that consumers are not only harmed where a refusal to supply prevents the development of new products but also where follow-on innovation is likely to be stifled (see Commission, 'Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings' [2009] OJ C45/7, para. 87).

³¹Colomo (n 21) 18.

cases, this theory may help to understand the harm to innovation caused in digital platform markets. For the purposes of this paper, this theory is referred to as “platform-wide exclusionary innovation theory”. Since consumers may benefit from potential competitors’ innovations in the mid to long run this theory of harm is aligned with the protection of the competitive process rather than the protection of competitors.³²

(B) Exclusionary innovation in the Microsoft Cases

Around the turn of the millennium, Microsoft faced highly publicized lawsuits brought by the US Department of Justice and the European Commission among other competition authorities worldwide. In the 1990s, the company was the supplier of the world’s most popular PC operating system, “Windows”. However, Windows’ dominance was not future-proof. In 1995, Microsoft’s co-founder and CEO, Bill Gates, was worried that his company was a laggard in the emerging internet technology, which he predicted to become “the most important single development to come along since the IBM PC was introduced in 1981”.³³ A browser was seen as a “front end” that allows users to access resources and information across a network rather than, like Windows or other Graphics User Interface software, only on the client computer.³⁴ Gates feared that such a platform could eventually replace Windows.³⁵

The DOJ among other things alleged that Microsoft violated section 1 of the Sherman Act by unlawfully tying its Internet Explorer to Windows and unlawfully maintained a monopoly position in the PC operating system market in violation of section 2 of the Sherman Act. Following the DOJ’s investigation, lawsuits were brought against Microsoft alleging that the firm had monopolized the market for personal computer operating systems by adopting anticompetitive measures against Netscape’s Navigator browser and Sun Microsystems’ Java technologies. The concept of a “nascent competitor” was largely developed as a result of that case.³⁶ According to Hemphill and Wu a nascent competitor “is a firm whose prospective innovation represents a serious future threat to

³²While some (potential) competitors might benefit from an intervention it is hard to predict whether potential rivals’ technologies will be successful in the future, and therefore a focus on protecting competitors would be misguided.

³³Memo from Bill Gates to Executive Staff and direct reports, ‘The Internet Tidal Wave’, May 26, 1995.

³⁴Gary Reback and Susan Creighton, White Paper Regarding the Recent Anticompetitive Conduct of the Microsoft Corporation (July 1996), 49.

³⁵*ibid.*

³⁶John M Yun, ‘Potential Competition, Nascent Competitors, and Killer Acquisitions’ (2020), 655 <<https://ssrn.com/abstract=3733716>> accessed 30 March 2022.

an incumbent”.³⁷ At the time of the trial, the Navigator browser and the Java applications were the most important form of middleware³⁸ and had the potential to erode Microsoft’s “applications barriers to entry” (ABE) that sheltered its Windows operating system (OS) from competition, and possibly leading to the latter’s displacement. The Navigator/Java platform was a “partial substitute” for Windows, that could grow into a full-fledged and possibly superior substitute if it became the platform of choice among developers and users.³⁹

Apart from the concept of nascent competitors, the Microsoft case is also credited with making a significant contribution to the economic theory of network effects. Network effects can be explained by the fact that a platform becomes more attractive for end-users when it has more end-users who they can interact with.⁴⁰ The concepts of nascent competitor and network effects are closely tied.⁴¹ Network effects can help a nascent competitor to contest the market. If more developers and end-users had adopted the Navigator/Java platform, it could have weakened the network effects that impeded entry into the market for operating systems in which Microsoft had a monopoly position.⁴² On the flipside, network effects and switching costs can make it very hard for new companies to gain entry into market and shield an incumbent from competition.⁴³ Page and Lopatka claim that the theory of network effects “provided a lens through which Microsoft’s victories over its rivals appeared anticompetitive”.⁴⁴ The principal reasons for Windows’ tight grip on the operating systems market was not its intellectual property, but rather the thousands of applications written for it.⁴⁵ The government built its ABE argument, which was essential to its case, on indirect network effects.⁴⁶ The ABE confronted an entrant

³⁷C Scott Hemphill and Tim Wu, *Nascent Competitors* (2020) 168 University of Pennsylvania Law Review 1879, 1880.

³⁸Middleware is software that lies between an operating system and the applications running on it enabling interaction and transmission of information.

³⁹Page and Lopatka (n 10) 29; 36–37; 44. See also Gilbert (n 19) 169.

⁴⁰See Michael L Katz and Carl Shapiro, ‘Network Externalities, Competition, and Compatibility’ (1985) 75 *American Economic Review* 424; Carl Shapiro and Hal R Varian, *Information Rules: A Strategic Guide to the Network Economy* (Harvard Business School Press 1999); Joseph Farrell and Paul Klemperer, ‘Coordination and Lock-In: Competition with Switching Cost and Network’ in Mark Armstrong and Robert H Porter (eds), *Handbook of Industrial Organization, Volume 3* (North Holland 2007) 1967.

⁴¹See also Suzanne Van Arsdale and Cody Venzke, ‘Predatory Innovation in Software Markets’ (2015) 29 *Harvard Journal of Law & Technology* 244, 271–72.

⁴²Page and Lopatka (n 10), 29; 36–37; 44.

⁴³Thomas Eisenmann, Geoffrey Parker and Marshall Van Alstyne, ‘Platform Envelopment’ (2011) 32 *Strategic Management Journal* 1270; Gilbert (n 19) 14.

⁴⁴Page and Lopatka (n 10) 22.

⁴⁵Gilbert (n 19) 167.

⁴⁶Melamed and Rubinfeld (n 13) 292 and 303; Page and Lopatka (n 10) 29.

into the OS market with a “chicken-and-egg” problem in that it could not find end-users for its OS unless it could assure them that they would be able to use a large enough number of applications with the OS and it could not get application developers to write applications for the OS until it had a sufficiently large user base.⁴⁷ To preserve the ABE, Microsoft employed various aggressive measures to hinder the Navigator browser and Java technologies from gaining sufficiently wide adoption.⁴⁸

Microsoft’s aggressive measures and their effects on competition can be explained with platform-wide exclusionary innovation theory. Even though there was insufficient evidence to find that, absent Microsoft’s conduct, the Navigator/Java platform would have ignited genuine competition in the OS market, the findings of fact in the trial suggested “Microsoft has retarded, perhaps altogether extinguished, the process by which these two middleware technologies could have facilitated the introduction of competition into an important market”.⁴⁹

Microsoft’s practices were also investigated under EU competition law. In a landmark decision, the Commission found that Microsoft by refusing to supply interoperability information concerning its Windows architecture to non-Microsoft work group servers was able to acquire a dominant position in the OS market for work group servers.⁵⁰ The Commission also held that Microsoft abused its dominant position in the OS market for PC systems by tying the Windows Media Player to Windows. The CFI [now GC] confirmed the Commission’s decision and held that Microsoft engaged in anticompetitive refusal to supply and tying. Both of Microsoft’s practices were found to foreclose competition. A few years later, the Commission once more imposed a hefty fine against Microsoft – this time in relation to the tying of the Internet Explorer to Windows.⁵¹

Between the two practices in the first Microsoft case, the refusal to supply follows the theory of harm to innovation proposed by Colomo, whereas the tying of the Media Player to Windows corresponds with the platform-wide exclusionary innovation theory put forward in this paper. With regard to the refusal to supply the Commission did not establish that the practice prevented the emergence of a “new product”

⁴⁷Melamed and Rubinfeld (n 13) 303. See also Bernard Caillaud and Bruno Jullien, ‘Chicken & Egg: Competition Among Intermediation Service Providers’ (2003) 34 *RAND Journal of Economics* 309.

⁴⁸Page and Lopatka (n 10) 29–30 and 27.

⁴⁹*United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, ¶¶ 60, 411 (D.D.C. 1999) (Findings of Fact).

⁵⁰Commission Decision of 24 March 2004, Case COMP/C-3/37.792 *Microsoft*.

⁵¹Commission Decision of 6 March 2013, Case COMP/C-3/39.530 *Microsoft (Tying)*. Microsoft was not initially fined due to the commitments it offered, however, when the company was fined after it failed to comply with some of its commitments.

for which there was separate consumer demand, as required under the case law at the time. Instead, the Commission found that the refusal did not allow consumers “to benefit from innovative work group server operating system features brought to the market by Microsoft’s competitors”⁵² and that in the long run there would be hardly any innovation other than possibly from Microsoft itself.⁵³

Microsoft’s tying practice corresponds with the platform-wide exclusionary innovation theory. On the one hand, the supply of Windows with the Media Player contributes to a “stable and well-defined” Windows platform which may benefit end-users. The Court acknowledged the rapid evolution of the industry and the possibility that with time, separate products may be regarded as forming a single product.⁵⁴ On the other hand, the tying threatened to foreclose not only competition generally but also innovation specifically. It could be argued that in considering innovation in the long term and in light of the applications barrier to entry the tying of Windows with essential software applications does not only make it harder for the developers of these applications to innovate but also for competitors in the OS market to compete effectively with Windows. Microsoft integrating Windows with essential apps made it more attractive for end-users, and this in turn made it more appealing for third-party developers to write their software for Windows and not for any other OS. Thus, they faced a “chicken-and-egg” problem similar to the abovementioned ABE.

4. Exclusionary innovation by gatekeepers in digital platform markets

Despite the decline in the use of PCs in favour of mobile devices and the rise of cloud technology since 2013,⁵⁵ browsers – contrary to Bill Gates’ fear – have not replaced PC operating systems altogether.⁵⁶ Nonetheless, the industry has changed enormously since the Microsoft cases and

⁵²Case COMP/C-3/37.792 – *Microsoft*, para. 694.

⁵³*ibid.*, para. 700.

⁵⁴Case T-201/04 *Microsoft v. Commission*, ECLI:EU:T:2007:289, paras. 913–916.

⁵⁵‘PC shipments continue global decline as mobile wins out’ <<https://www.reuters.com/article/technology-pcs/pc-shipments-continue-global-decline-as-mobile-wins-out-idc-UKL3N0KK20720140110>> accessed 30 March 2022.

⁵⁶Both on personal computers and on mobile devices operating systems are still very relevant. However, it is true that Microsoft has been and still is behind the curve when it comes to mobile operating systems which Bill Gates has referred to in ‘The Internet Tidal Wave’. See ‘Mobile Operating System Market Share Worldwide Feb 2021–Feb 2022’ <<https://gs.statcounter.com/os-market-share/mobile/worldwide>> accessed 30 March 2022.

browsers have evolved in their own right and among other things paved the way for search engines.⁵⁷ The latter are the “gateway to the internet” as they allow users to explore billions of websites. Search engines themselves have quickly evolved to become a valuable tool for advertizers to connect with consumers. For over a decade now, the most popular search engine, with a worldwide market share consistently above 85 per cent, has been Google Search.⁵⁸

Exclusionary innovation is likely to be more anticompetitive when committed by digital platforms. This section addresses two questions: first, whether Google’s conduct qualifies as exclusionary innovation, and second, to what extent the three Commission’s decisions can be treated collectively as a “single overall abuse” under Article 102 TFEU or an infringement under the proposed Digital Markets Act.⁵⁹

(A) Exclusionary Innovation in Digital Platform Markets

Digital platforms have been described as “digital resources that enable efficient interactions between external producers, content providers, developers, and consumers that lead to value creation from (online or even offline) trade”.⁶⁰ Some of the largest platforms act as gatekeepers.⁶¹ In the 1990s and early 2000s, according to Gawer, “perhaps the most media-covered platform (and archetypal example)” was the Microsoft Windows OS platform.⁶² Its “successor” at least in terms of ubiquity is arguably the Google platform, revolving around Google Search as its core service. This paper adopts a narrow interpretation of the concept of “digital platforms” by looking at online advertising platforms only. Like a PC platform, digital platforms such as search engines and social networks are two-sided (or even multi-sided), driven by innovation and characterized by competition for the market.⁶³ However, the

⁵⁷Gilbert (n 19) 167.

⁵⁸See ‘Search Engine Market Share Worldwide Feb 2021–Feb 2022’ <<https://gs.statcounter.com/search-engine-market-share>> accessed 30 March 2022; ‘Worldwide desktop market share of leading search engines from January 2010 to January 2022’ <<https://www.statista.com/statistics/216573/worldwide-market-share-of-search-engines/>> accessed 30 March 2022.

⁵⁹Commission, ‘Proposal for a Regulation of the European Parliament and of the Council on contestable and fair markets in the digital sector (Digital Markets Act)’ COM/2020/842 final.

⁶⁰Parker, Petropoulos and Van Alstyne (n 26) 2.

⁶¹For example the DMA Proposal speaks of ‘a small number of large providers of core platform services’ (DMA Proposal, Rec. 3).

⁶²See Gawer (n 16) 1. Gilbert notes that in the US Microsoft litigation Microsoft’s conduct was not specifically analysed as a platform, arguably because platforms were not part of the vernacular at that time (Gilbert (n 19) 179).

⁶³See Parker, Petropoulos and Van Alstyne (n 26).

crucial difference between the two is that advertising platforms rely on advertizers in addition to users and developers which makes their business model very different from the software industry or other innovation markets.⁶⁴ Advertising platforms operate by providing free services to consumers in exchange for consent to the collection of their personal data (so-called “Big Data”).⁶⁶ They then sell advertising businesses the opportunity to serve their ads to a targeted and highly personalized online audience.⁶⁷

The collection of data on digital platforms can result in network effects that extend beyond the type of network effects seen in the software industry. Stucke and Grunes identify three “data-driven network effects” that stem from the scale, scope, and the spill-over effect of data.⁶⁵ The more users actively or passively contribute data, the more a platform company can enhance the quality of its service. This renders the service more attractive to new users, who then feed more data to the company allowing it to enhance its service even further. On the one hand, data-driven business models can be procompetitive, resulting in better quality and higher innovation, which will eventually improve consumer welfare.⁶⁶ On the other hand, the positive feedback loop of data-driven network effects can amplify the stakes of gaining both users and advertizers potentially resulting in one company dominating the market and engaging in anticompetitive conduct.⁶⁷ Strong network effects and high switching costs often shield the incumbent from entry by potential competitors.⁶⁸ An entrant, therefore, needs to offer a “differentiated and superior Internet experience” to entice customers and advertizers away from the incumbent.⁶⁹

Many platforms adopt an “envelopment” strategy to extend their scope. Envelopment involves expansion by one platform provider into another firm’s market by bundling its own platform’s functionality

⁶⁴See David S Evans, ‘Antitrust Issues Raised the Emerging Global Internet Economy’ (2008) 102 North-western University Law Review 285, 305.

⁶⁵Maurice E Stucke and Allen P Grunes, *Big Data and Competition Policy* (OUP 2016); See also OECD, ‘Exploring Data-Driven Innovation as a New Source of Growth: Mapping the Policy Issues Raised by “Big Data”’ (2013) OECD Digital Economy Papers No. 222, p. 11.

⁶⁶Andres V Lerner, The Role of ‘Big Data’ in Online Platform Competition (2014), 15, <<https://ssrn.com/abstract=2482780>> accessed 30 March 2022.

⁶⁷Annabelle Gawer, ‘Competition Policy and Regulatory Reforms for Big Data: Propositions to Harness the Power of Big Data While Curbing Platforms’ Abuse of Dominance’, Background Note, Big Data: Bringing Competition Policy to the Digital Era, OECD Competition Committee, 29-30 November 2016, 5.

⁶⁸See Eisenmann, Parker and Van Alstyne (n 43).

⁶⁹J Gregory Sidak and David J Teece, ‘Innovation Spillovers and the Dirtroad Fallacy: The Intellectual Bankruptcy of Banning Optional Transactions for Enhanced Delivery over the Internet’ (2010) 6 Journal of Competition Law & Economics 521, 542; Eisenmann, Parker and Van Alstyne (n 43) 1270.

with that of the target firm so as to leverage shared user relationships and common components.⁷⁰ A dominant firm that is otherwise shielded from entry by standalone rivals because of strong network effects and high switching costs can be susceptible to an adjacent platform provider's envelopment attack.⁷¹ Conversely, an incumbent can entrench its market position against standalone rivals by enveloping other markets.

Envelopment is more likely to occur in digital markets compared to most other industries where typically significant investments are necessary to move into related markets.⁷² Platforms have both the incentive and the ability to expand into other markets. Their incentive is often to acquire data generated in those markets.⁷³ The ability to expand stems from low incremental costs and the structure of the Web ecosystem,⁷⁴ while the modularity of data as a sharable input makes it easy for large platform providers to develop new products and services.⁷⁵ The impact on innovation may, however, not be necessarily positive. According to Eisenmann et al. "the fact that a platform becomes more interesting the more users it has, combined with often overlapping user bases of platforms lead to companies innovating by enveloping into other markets, rather than relying on the more traditional Schumpeterian innovation".⁷⁶ The enveloping platform is not outcompeting its rivals based on superior technology or quality but rather because of its ability to offer a broader (and perhaps more integrated) product or service. In that respect envelopment resembles tying and bundling practices.⁷⁷ While consumers may benefit when a dominant firm expands into adjacent or new markets, competitors may condemn the expansion as anticompetitive leveraging of market power.⁷⁸ Yet, the emergence of Big Data does not always increase consumer welfare. Especially in the case of digital platforms that offer their services free of charge to users and monetize user data through online advertisement, platform operators may have the incentive

⁷⁰Eisenmann, Parker and Van Alstyne (n 43) 1271.

⁷¹*ibid.* Microsoft embarked on an envelopment attack against RealNetworks, the developer of the RealPlayer that competed with the Windows Media Player. Even though the latter did not offer no major functional improvements over the RealPlayer, Microsoft could rely on its significantly larger user base from the Windows OS.

⁷²See Gilbert (n 19) 20 and 192.

⁷³Miguel de la Mano and Jorge Padilla, 'Big Tech Banking' (2018) 13 <<https://ssrn.com/abstract=3294723>> accessed 30 March 2022.

⁷⁴Evans (n 64) 294; Gilbert (n 19) 21 and 192.

⁷⁵Marc Bourreau and Alexandre de Streel, 'Digital Conglomerates and EU Competition Policy' (2019) 9 <<https://ssrn.com/abstract=3350512>> accessed 30 March 2022.

⁷⁶Eisenmann, Parker and Van Alstyne (n 43) 1271.

⁷⁷See Section 3.B above.

⁷⁸Gilbert (n 19) 22.

and the power to prioritize maximizing income over providing users with better quality offerings.⁷⁹

Due to the relevance of data-driven network effects as well as the strong incentive and ability of platforms to pursue an envelopment strategy, exclusionary innovation poses a bigger threat to competition in digital platform markets than in other innovation markets including the PC OS market. Data-driven network effects and envelopment also highlight the importance of the structure and the process of competition in those markets. In more recent years, some scholars have criticized the shortcomings of the consumer welfare approach to promote competition, which is amplified in the context of online platforms and data-driven markets.⁸⁰ According to the Neo-Brandeis School, which gained prominence in the wake of the rise of digital platforms, the Chicago School's primary focus on price and output is misguided. Consumer welfare considerations should also include product quality, variety, and innovation. Moreover, effective antitrust enforcement should not overlook whether and how market power is being acquired, nor wait until market power is exercised.⁸¹ Khan argues that "the best guardian of competition is a competitive process, and whether a market is competitive is inextricably linked to how that market is structured".⁸² Open markets are more likely to generate innovation compared to markets that are encumbered by a gatekeeper. An approach that focuses on the process of competition rather than the outcome is more suitable for preventing a platform from raising barriers to entry or using its bargaining power to hinder a dependent company from bringing a superior product or service to market.

(B) Exclusionary Innovation in the Google Cases

Besides perhaps Facebook (now "Meta"), no digital platform illustrates the significance of network effects and envelopment better than the Google platform. Google quickly developed into much more than just

⁷⁹Adrian Kuenzler, 'Advancing Quality Competition in Big Data Markets' (2019) 15 *Journal of Competition Law & Economics* 500, 500–01.

⁸⁰See e.g. Khan (n 9) 737. For a critical view on the Neo-Brandeisian School, see e.g. Joshua D Wright and Aurelien Portuese, 'Antitrust Populism: Towards a Taxonomy' (2020) 25 *Stanford Journal of Law, Business & Finance* 131; Joshua D Wright and others, 'Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust' (2019) 51 *Arizona State Law Journal* 293; Seth B Sacher and John M Yun, 'Twelve Fallacies of the "Neo-Antitrust" Movement' (2019) 26 *George Mason Law Review* 1491.

⁸¹Khan (n 9) 738.

⁸²*ibid* 745.

a search engine business. Google⁸³ quickly expanded into a number of other markets, but general internet search continues to be its flagship service. In many national markets around the world Google has by far the largest market share in the general internet search market and search-related advertising. Barriers to entry are very high as Google has built a massive content delivery network and other costly assets that have attracted a critical mass of users and advertizers.⁸⁴ However, Google's growth is arguably not purely based on competing on the merits. The company allegedly engaged in anticompetitive practices that have prevented rivals from becoming more serious competitors. Between 2017 and 2019, the European Commission imposed three decisions against Google's parent company Alphabet for abusing its dominant position in various relative product markets in the EU.⁸⁵

(1) Platform-wide Exclusionary Innovation in the Google Cases

The various investigations against Google have attracted a large amount of commentary as to whether the company engaged in anticompetitive behaviour or competition on the merits.⁸⁶ This section limits itself to assessing the three Google cases from the perspective of exclusionary innovation.

(a) Google Android

The Google Android investigation concerned Google's "Android" operating system, which at the time of the investigation was the market leader in mobile OS. With each device manufacturer that was a member of the Android ecosystem Google had entered into a number of partner agreements, in particular an "Anti-fragmentation Agreement"

⁸³Or Alphabet following the restructuring of the company in October 2015.

⁸⁴Sidak and Teece (n 69) 542; Eisenmann, Parker and Van Alstyne (n 43) 1270.

⁸⁵Commission Decision of 27 June 2017, Case AT.39740 *Google Search (Shopping)* [hereafter '*Google Shopping*'] (largely upheld in Case T-612/17 *Google and Alphabet v Commission* (Google Shopping), ECLI:EU:T:2021:763; Commission Decision of 18 July 2018 Case AT.40099 *Google Android* [hereafter '*Google Android*']; Commission Decision of 20 March 2019, Case AT.40411 *Google Search (AdSense)* [hereafter '*Google AdSense*']. In June 2021 the European Commission opened another investigation in relation to Google's potentially anticompetitive conduct in the online advertising technology sector (see https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3143).

⁸⁶See Ioannis Lianos and Evgenia Motchenkova, 'Market Dominance and Search Quality in the Search Engine Market' (2013) 9 *Journal of Competition Law & Economics* 419; Cédric Argenton and Jens Prüfer, 'Search Engine Competition with Network Externalities' (2011) 8 *Journal of Competition Law & Economics* 73; Daniel A Crane, 'Search Neutrality and Referral Dominance' (2012) 8 *Journal of Competition Law & Economics* 459.

(AFA), which required the manufacturer to distribute an Android Compatible Device and to refrain from developing “Android forks”,⁸⁷ and a “Mobile Application Distribution Agreement” (MADA), which inter alia stipulated that if the manufacturer decided to pre-install one or more Google proprietary apps on its device, it was obliged to pre-install all mandatory Google apps.⁸⁸ In its decision, the European Commission alleged that Google committed three abuses of dominance: (i) the illegal tying of its proprietary mobile apps (the tying of the Google Search app with the Play Store; and the tying of Google Chrome with the Play Store and the Google Search app); (ii) the illegal obstruction of development and distribution of Android forks; and (iii) the illegal payments to device manufacturers and carriers for exclusively pre-installing Google Search.⁸⁹ The Commission held that all three abuses amounted to a single and continuous infringement (SCI) of Article 102 TFEU.⁹⁰ First, the different anticompetitive practices pursued an identical objective, namely to protect and strengthen Google’s dominance in general internet search services and search advertisement.⁹¹ Second, those practices were complementary in creating an interlocking interdependence between them.⁹² Lastly, the Commission held that the finding on an SCI was not affected by Google’s claim that those practices were intended to create an “attractive, compatible, and vibrant” mobile ecosystem, and that the company uses the data it collects to enhance its general internet search service.⁹³

The Commission found that Google’s conduct harmed innovation in the wider mobile space.⁹⁴ The AFA discouraged device manufacturers from experimenting with Android forks and to gauge the market’s interest in those devices.⁹⁵ Edelman and Geradin observe that although

any device manufacturer could in theory develop [alternative Android-based] platforms, the reality is that only companies with no prior history in developing mobile devices (e.g. Amazon) or Android devices (e.g. Nokia) are willing to accept the trade-offs Google imposes when a manufacturer modifies Android.

⁸⁷Google *Android*, paras. 157–162.

⁸⁸*ibid.*, para. 180.

⁸⁹*ibid.*, sections 11–13.

⁹⁰*ibid.*, para. 1340. The SCI concept is further discussed below.

⁹¹*ibid.*, para. 1341.

⁹²*ibid.*, para. 1349.

⁹³*ibid.*, para. 1353.

⁹⁴European Commission, ‘Antitrust: Commission fines Google €4.34 billion for illegal practices regarding Android mobile devices to strengthen dominance of Google’s search engine’, Press release, 18 July 2018 <https://ec.europa.eu/commission/presscorner/detail/en/IP_18_4581> accessed 30 March 2022.

⁹⁵Benjamin G Edelman and D Geradin, ‘Android and Competition Law: Exploring and Assessing Google’s Practices in Mobile’ (2016) 12 *European Competition Journal* 159, 189.

Large manufacturers of Android devices are better positioned to develop and commercialize alternative Android platforms based on the skills and capabilities they have developed with Google's version of Android, but they cannot accept the penalties Google imposes for experimentation.⁹⁶

Samsung, one of the largest smartphone manufacturers in the world, mostly uses Android for its mobile devices, but heavily relies on Tizen⁹⁷ for its smart TVs. Tizen is a Linux-based Open Source OS and has direct support from Samsung and Intel. Compared to other OS, its developers claim that Tizen maximizes the device performance to the highest as it is proven to be light on CPU, battery and memory.⁹⁸ However, in comparison to Android, Tizen misses some must-have apps and the Tizen App store has only limited apps.⁹⁹ Tizen's predominant use outside of mobile devices and its lack of must-have apps arguably stems from the AFA. While Android is more open than Apple's iOS, the partner agreements make it less open than claimed by Google.¹⁰⁰ Irrespective of the goal pursued by the AFA and MADA, they create disproportionate harm to competition and innovation.¹⁰¹ The example of Tizen shows that potentially better mobile OS than Android were likely prevented from emerging due to Google's partner agreements.

Apart from weakening innovation in the wider mobile space, Google's conduct diminished competition and innovation by rival search engine providers and therefore entrenched its dominant position in its core market. The pre-installation of the Google Search app on the majority of Android phones and being set as the default search engine, Google's competitors were foreclosed and the company's already dominant position was entrenched even further. The combined effect of those practices was that it made it hardly possible for a general internet search engine to compete with Google Search effectively.¹⁰² Without existence of the MADA a rival search engine provider could have more easily gained a foothold in the market or grow its market share by having its search

⁹⁶ibid 190.

⁹⁷<<https://www.tizen.org/about>> accessed 30 March 2022; 'Tizen vs Android: A Straight Comparison' <<https://www.weetechsolution.com/blog/tizen-vs-android>> accessed 30 March 2022.

⁹⁸'Tizen: The OS of Everything' <<https://www.weetechsolution.com/blog/tizen-the-os-of-everything>> accessed 30 March 2022.

⁹⁹Himanshu Singh, 'Tizen vs Android Comparison – Samsung vs Google OS' (MindxMaster, 15 January 2017) <<https://www.mindxmaster.com/samsung-tizen-vs-google-android-comparison/>> accessed 30 March 2022.

¹⁰⁰Kent Walker, 'Android's Model of Open Innovation' (Google in Europe, 20 April 2016) <<https://blog.google/around-the-globe/google-europe/androids-model-of-open-innovation/>> accessed 30 March 2022.

¹⁰¹Edelman and Geradin (n 95) 189.

¹⁰²*Google Android*, paras. 947–968. See also Edelman and Geradin (n 95) 189.

app pre-installed on the OS of a device manufacturer.¹⁰³ For instance, Bing's desktop market share is relatively high as it the default browser on many desktop PCs.¹⁰⁴ Additionally, Google's competitors could have paid device manufacturers to be the default search app or to be displayed more prominently on the OS.¹⁰⁵ This could have helped the search engine to get more search data which is necessary to enhance the search algorithm.¹⁰⁶ The search engine providers could have recouped those costs through higher revenues from online search advertisement, while device manufacturers could have passed on the payments of search engines to their customers in the form of lower the prices for their devices.¹⁰⁷ In addition, more competition between search engines would have lowered the prices for search ads which could again have resulted in lower prices for consumers.¹⁰⁸

Even if the tying of Google's search and browser apps as well as the prohibition of Android forks were necessary for building an attractive and stable mobile ecosystem, and therefore constituting a product improvement, it can be argued that these tying arrangements had a more far-reaching detriment on innovation in the wider platform market. The inability of Google's competitors to gain users also meant that due to the crucial importance of network effects they lacked both user data and advertising revenue to improve their search engines. This becomes even more obvious if Google's practices in the AdSense and Shopping cases are considered.

(b) Google AdSense and Google Shopping

Viewed from the perspective of platform-wide exclusionary innovation, the Google AdSense and Google Shopping cases in a broad

¹⁰³See Edelman and Geradin (n 95) 191.

¹⁰⁴See Brian Dean 'Microsoft Bing Usage and Revenue Stats (New Data)' (25 Oct 2021) <<https://backlinko.com/bing-users>> accessed 30 March 2022; see also Ewan Spence, 'Microsoft's Successful Side Hustle Is Ten Years Old' (Forbes, 3 June 2019) <<https://www.forbes.com/sites/ewanspence/2019/06/03/microsoft-bing-success-profit-income-market-share-knowledge-why/?sh=6ab15a277c75>> accessed 30 March 2022.

¹⁰⁵In 2021 Google reportedly paid Apple US\$15 billion to remain the default search engine on the Safari browser (see Vineet Washington, 'Google Said to Pay Apple \$15 Billion to Remain Default Search Engine on Safari in 2021' (Gadgets 360, 27 August 2021) <<https://gadgets.ndtv.com/apps/news/google-apple-default-search-engine-safari-pay-usd-15-billion-iphone-ipad-mac-2021-microsoft-bing-2520582>> accessed 30 March 2022.

¹⁰⁶Graef (n 1) 11.

¹⁰⁷See Jay Pil Choi and Doh-Shin Jeon, 'A Leverage Theory of Tying in Two-Sided Markets' (2021) 13 *American Economic Journal: Microeconomics* 283.

¹⁰⁸The significance of the advertising side of the market is further illustrated in the Google AdSense decision below.

sense concerned network effects which stemmed from improvements to Google's search-related services that at least indirectly harmed competitors' ability to enhance their search engines. In *Google AdSense*, the European Commission held that Google abused its dominant position in the online search advertising market by imposing a number of restrictive clauses in contracts with third-party websites which prevented Google's competitors from placing their search adverts on these websites.¹⁰⁹ Since it is not possible for rivals in online search advertising such as Bing and Yahoo to sell advertising space in Google's own search engine results pages, third-party websites represent an important entry point for them to grow their business and try to compete with Google.¹¹⁰ A search engine's attractiveness to online search advertizers has an impact on the general internet search service side of that platform. The more advertizers use the search engine for their online ads, the higher the search engine's revenue; and this revenue can be reinvested in the maintenance and improvement of the general internet search service so as to attract more users.¹¹¹ This illustrates how network effects create a positive feedback loop.¹¹² On the other hand, a competing search engine that lacks those network effects as Microsoft puts it "is pulled into a downward spiral that weakens its competitiveness to a point where it is forced to exit".¹¹³ In zero-price markets firms that lack advertizers (i.e. the money-making side) subsidizing the free of charge service (i.e. the money-losing side) cannot survive.¹¹⁴

The importance of investments into product development was also emphasized in the Google Shopping case. The Commission decided that Google abused its dominant position in the market for general internet search services by giving preference to its own comparison shopping service over competing services. The Commission found that this conduct was not only capable of leveraging Google's market power in the market for general internet search services into the market for comparison shopping services,¹¹⁵ but also of protecting its dominant position

¹⁰⁹European Commission, 'Antitrust: Commission fines Google €1.49 billion for abusive practices in online advertising', Press release, 20 March 2019 <https://ec.europa.eu/commission/presscorner/detail/en/IP_19_1770> accessed 30 March 2022.

¹¹⁰ibid.

¹¹¹*Google AdSense*, para. 410. See also Vikas Kathuria, 'Greed for Data and Exclusionary Conduct in Data-Driven Markets' (2019) 35 Computer Law & Security Review 89, 95.

¹¹²Gawer (n 67) 9.

¹¹³*Google AdSense*, para. 415.

¹¹⁴Evans (n 64) 302.

¹¹⁵*Google Shopping*, section 7.3.1.

in the market for general internet search services.¹¹⁶ The Commission argued that developing a fully-fledged general internet search engine requires heavy investments in terms of time and resources.¹¹⁷ Given the incumbent's constant investments into product improvement a new entrant is compelled to match those investments.¹¹⁸ Moreover, improving a general internet search service requires a certain volume of search data to refine the relevance of search results.¹¹⁹ Compared to Google, rival search engine providers lack the necessary funds and search data to improve their search algorithms. The platform-wide exclusionary innovation in *Google AdSense* and *Google Shopping* is thus also about limiting rival's potential of product improvement on the search engine market.

(c) Platform-wide exclusionary innovation in *Microsoft* and the Google cases compared

As mentioned above, a few years before the Microsoft litigation the next wave of technology, namely internet browsers, and therefore a threat to the firm's application barrier to entry was already in the starting blocks. Microsoft adopted various measures, some of which have been found to be anticompetitive, to stifle the emerging Navigator/Java platform. This is different in the EU's proceedings against Google. It appears as if Google primarily seeks to keep at bay competing search engine providers rather than preventing a rival technology from emerging. However, in doing so and given that various internet search-related markets are interconnected, pursuant to the European Commission Google's conduct has had repercussions on innovation in neighbouring markets. For instance, in view of Google's partner agreements it could be argued that they prevented a potential partnership between Bing or any other rival of Google Search with a large smartphone manufacturer and therefore stymied the emergence of a viable alternative to Android/Google Search.¹²⁰ Samsung for example could have developed a forked version of Android or a version of Tizen with some of the must-have Google apps and pre-installed the Bing Search app on it instead of the Google Search app. As one of the leading smartphone

¹¹⁶ibid, section 7.3.3.

¹¹⁷ibid, para. 286.

¹¹⁸ibid, para. 291.

¹¹⁹ibid, para. 287.

¹²⁰The superiority does not necessarily need to be in technical terms. It could also comprise enhanced privacy protection.

manufacturers in the world this partnership could have helped to boost Bing's market share.

Microsoft sheltered Windows from competition through the ABE by engaging in tying and refusal to supply interoperability information. Its intention was to ensure that competing platforms could not offer as many software applications as Windows. The harm to competition appeared on the developer side of the PC OS market. A lack of software applications would fail to attract end-users and vice versa a lack of end-users would fail to attract software developers. Google's protection of its search business against competitors is more far-reaching. Google's practices in the three decisions above also show that the company went to greater lengths to entrench its position. In comparison to the PC OS market, the general internet search market involves one more side, namely the advertising side. Google Search is protected on that side in addition to the developer side. The practices addressed in the Google Android case concerned the hardware (smartphone devices) and software (mobile OS) sides of the market. The default status of Google Search and Chrome on Android, the most widely used mobile OS, makes it much harder for other search engines to reach users. The conduct in the Google AdSense and Google Shopping cases at least indirectly protected Google's search engine by making it more difficult for competitors to match Google's quality of search. The practices in the three Google cases combined show that the different sides of the general internet search market are interconnected. The default status of Google Search enabled by Chrome and Android will attract more users, which in turn will attract more advertizers. The increase in search data allows Google to refine its search algorithm, while the increase in advertising revenue can be invested in improving not just Google Search but the whole product ecosystem supporting it.

(2) Joint consideration of the Google cases

Given the crucial importance of multi-sidedness and network effects for the platform-wide exclusionary innovation theory and the interconnection between Google's practices in the three cases above it should be assessed whether they may be considered jointly for the purpose of finding of an infringement. This section explores whether it is possible to treat Google's practices in the three cases as a "single overall abuse" under Article 102 TFEU, and secondly, as "systematic non-compliance" under the Commission's proposed Digital Markets Act.

(a) Google's Conduct as a "Single Overall Abuse"?

In complex cartel cases, the European Commission typically seeks to establish an SCI. This approach has a number of prosecutorial advantages and increases deterrence. Although less common than under Article 101 TFEU, an SCI is also possible under Article 102. In analogy to the term "single overall agreement" in Article 101 it is sometimes referred to as "single overall abuse" (SOA).¹²¹ For instance in *Intel* the CJEU held that it was appropriate to consider Intel's "overall strategy" as opposed to looking at each separate act on its own, which would lead to an artificial fragmentation of comprehensive anticompetitive conduct.¹²² Notably, both in the Google Android and the Google AdSense cases the Commission found that Google had engaged in an SCI. In the Google AdSense decision the Commission explained that the SCI concept relates to a series of practices that form part of an overall plan due to their identical objective distorts competition within the internal market and that it must be established

whether they complement each other inasmuch as each of them is intended to deal with one or more consequences of the normal pattern of competition and, by interacting, contribute to the realisation of the objectives intended within the framework of that overall plan.¹²³

An unexplored question so far has been whether the various practices engaged by Google in the three cases above may be viewed as an SOA. More specifically, since the developer and advertiser sides are closely connected to the general internet search market could those practices possibly form part of an SOA? In determining the existence of an SOA, the relevant test is whether the various, individual practices are connected by an overall plan in light of their common objective. In that respect, one needs to consider any circumstance capable of casting doubt on that complementary link, such as the period of application, the content (including the methods used) and, correlatively, the objective of the various actions in question.¹²⁴

Yet, by considering those factors it appears that the link between Google's practices in the three cases is not obvious. In the Google Android case the practices mostly related to apps on the Android OS (i.e. the developer side and how Google Search is accessed) and involved

¹²¹See e.g., Richard Whish and David Bailey, *Competition Law* (OUP, 9th edn, 2018) 200.

¹²²Case C-413/14 *Intel v. Commission*, EU:C:2017:632, paras. 56–57.

¹²³*Google AdSense*, paras. 625–626.

¹²⁴*ibid*, para. 626.

mostly tying practices from 2011 onwards to strengthen Google Search. In the Google AdSense case the practices largely involved exclusivity practices from 2006 to strengthen Google's dominant position in the market for online search advertising. The Google Shopping case concerned self-preferencing starting at the earliest in 2008 which mostly aimed at strengthening Google's comparison shopping service. While the link may not be relatively strong based on the product or service in question it is important to note that establishing a complementary link is more difficult in multi-sided markets where the products/services are on different sides of a market. A similar problem is for instance encountered with regard to market definition, where it is recognized that one should consider other sides of the relevant market to properly define it. Nonetheless, the objectives and time periods of Google's practices in the three cases strongly point against a complementary link between them. Instead of an overall plan to strengthen its position in the market for general internet search services one could argue that there has been an incremental or incidental harm to competitors' ability to innovate and compete effectively.

(b) Google's Conduct as "Systematic Non-Compliance"?

In December 2020, the European Commission published a proposal for the Digital Markets Act (DMA). The DMA is intended to complement the EU competition rules.¹²⁵ Since the DMA addresses large digital platforms, so-called "gatekeepers", it complements Article 102 TFEU in particular. Many of the abovementioned concepts are also reflected in the DMA. Recital 3 for instance refers to envelopment by stating that platform providers "exercise control over whole platform ecosystems in the digital economy and are structurally extremely difficult to challenge or contest by existing or new market operators, irrespective of how innovative and efficient these may be".¹²⁶ The DMA emphasizes that the Commission's market investigations in digital platform markets shall aim to inter alia maintain and strengthen the level of innovation.¹²⁷ It further states that

[e]lements that are specific to the providers of core platform services concerned, such as extreme scale economies, very strong network effects, an

¹²⁵DMA Proposal, Rec. 10.

¹²⁶*ibid*, Rec. 3.

¹²⁷*ibid*, Rec. 25.

ability to connect many business users with many end users through the multi-sidedness of these services, lock-in effects, a lack of multi-homing or vertical integration, can be taken into account.¹²⁸

It is not difficult to see that the current DMA proposal was drafted with at least some of the Google cases in mind. Pursuant to Articles 6(1)(b) and (c) of the DMA a gatekeeper shall allow the un-installation of pre-installed software applications or allow the installation of third-party software applications on the operating system of that gatekeeper respectively. These provisions address the conduct in *Google Android*. Article 6(1)(d) stipulates that a platform shall

refrain from treating more favourably in ranking services and products offered by the gatekeeper itself or by any third party belonging to the same undertaking compared to similar services or products of third party and apply fair and non-discriminatory conditions to such ranking.

This prohibition corresponds to the self-preferencing practice in *Google Shopping*.

A novel enforcement measure proposed in the DMA is that the Commission may impose additional remedies following a market investigation, if a gatekeeper is found to be systemically non-compliant. This would be the case where the Commission has issued at least three non-compliance or fining decisions against a gatekeeper in relation to the obligations in Articles 5 and 6 of the DMA within a period of five years prior to the adoption of the decision opening a market investigation.¹²⁹ Since Google's conduct cannot be classified as an SOA under Article 102 TFEU, condemning Google's conduct as systemic non-compliance would be in the interest of keeping markets open and competitive. By the time the DMA enters into force the five year period is likely to have lapsed. In any case, it appears as if the scope of the obligations in Articles 5 and 6 of the DMA are not wide enough for the systemic non-compliance provision to be effective. While the practices in the *Google Android* and *Google Shopping* cases are covered under the obligations in Article 6, the practices in *Google AdSense* fall outside the scope of Articles 5 and 6. Therefore, even if the DMA was in force today, there would currently only be two infringements covered under the scope of the DMA which is not enough for establishing systemic non-compliance. This shows that the scope of the obligations in Articles 5 and 6 is arguably too narrow

¹²⁸ibid, Art. 3(6) and Rec. 25.

¹²⁹ibid, Art. 16 and Rec. 64.

for the prohibition of systemic non-compliance to be effective. To make the DMA more effective it would be advisable to count any infringement of a gatekeeper in a five-year period as “strikes” for the purpose of finding a systemic non-compliance.

5. Conclusion

In some cases, competition authorities and courts faced the challenge of drawing the line between a dominant company’s right to innovate and compete and preventing it from harming the competitive process. Based on the practices in *Microsoft* and the Google cases, this paper suggests a new theory of harm to innovation in Article 102 TFEU cases, called “platform-wide exclusionary innovation theory”. It applies to conduct that may provide short term benefits to consumers but is at the same time more likely to foreclose competitors and thus lead to a lower level of innovation. This theory adopts a more holistic approach as it considers harm to innovation both on the relevant market and on related markets. In the EU *Microsoft* case, the tying of Windows and the Media Player from Microsoft’s perspective was intended to give its customers an out-of-the-box experience. However, this practice, besides threatening to foreclose rival media player developers, also made it more difficult for OS developers to compete with Microsoft due to a lack of software applications available to them compared to Windows. Given the relevance of data-driven network effects and the stronger possibility of envelopment exclusionary innovation is more likely to distort competition in digital platform markets than in other dynamic markets. Even though the tying of Google’s search and browser apps as well as the prohibition of Android forks that were addressed in the Google Android case may have been necessary for providing customers with an attractive and stable mobile ecosystem, these tying arrangements harmed on innovation beyond the mobile OS market. The tying practices also harmed competition and innovation in the general internet search market, Google’s core market. Without access to mobile users Google’s rivals lack search data to enhance their search algorithms. Enhancements to the search algorithm also require heavy investments. Therefore, revenue from online search advertisement is very important. It is those two paths to product enhancement that were more remote to other search engine providers due to Google’s anticompetitive practices in the Google Shopping and Google AdSense cases. In view of the practices in all three Google cases it becomes clear that the

company's protection of its search business against competitors is quite far-reaching. With the advertising side the general internet search market entails an additional side compared to the PC OS market, which was at stake in the Microsoft case. While Google's practices contributed to exclusionary innovation on the general internet search market it is not possible to treat Google's conduct as a single overall abuse under Article 102 TFEU. Instead of an overall plan to strengthen Google's position on the market for general internet search services one could argue that there has been merely an incremental or incidental harm to competitors' ability to innovate and compete effectively. Moreover, Google's conduct can neither be treated as systemic non-compliance within the meaning of the proposed DMA since the scope of the obligations in Articles 5 and 6 is not broad enough.

Disclosure statement

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