COGNITIVE FORECLOSURE

ABSTRACT

Digital markets now fundamentally intertwine with our social and economic lives. International enforcement actions, the US and EU Google cases in particular, demonstrate how from a behavioural economic perspective digital platforms may be beginning to implicate antitrust's two most fundamental doctrinal components—conduct and market power—in nuanced ways. In short, the regulatory and policy landscape showcases that we may be moving closer towards an antitrust world whereby firms can manipulate consumers' psychological shortcomings to foreclose competition – a new form of nefarious conduct that might appropriately be termed "cognitive foreclosure". And because consumers' cognitive anomalies are the drivers behind this new form of potentially anti-competitive conduct, consumers simultaneously are the potential solution. The behavioural deviation from perfect *competition, then, would need to be "substantial" and "sustainable" such that consumers cannot short-circuit these emerging market failures themselves. This Thesis proffers digital platform markets as one context in which such a deviation may be expected to occur and hence warrant antitrust intervention.*

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List of Abbreviations

Rational Choice Theory ("RCT")

Law & Economics ("L&E")

United States ("US")

European Union ("EU")

United Kingdom ("UK")

Behavioural Economics ("BE")

Behavioural Law & Economics ("BLE")

Dual-Process-Theory ("DPT")

United States Department of Justice ("US DOJ")

Federal Trade Commission ("FTC")

Australian Competition & Consumer Commission ("ACCC")

European Commission ("European Commission" or "Commission")

Digital Services Act ("DSA")

Digital Markets Act ("DMA")

ACKNOWLEDGEMENTS

For Brindha, June, and John

INTRODUCTION

Can you live in that moment, as best you can, with clear eyes and love in your heart?

With joy in your heart?

If you can do that gentlemen, then you're perfect

Coach Gaines, Friday Night Lights[1]

Digital platform markets revolutionised our commercial lives[2] and spawned substantial social and economic benefits.[3] Consumers have been said to benefit, for example, from reduced transaction costs,[4] wider choice, higher quality, and more relevant product offerings.[5] An estimated 70 percent of value to the economy is predicted to come from digital platforms over the next decade.[6]

[1] Youtube, 'Friday Night Lights Movie Clip – Coach Gaines on Being Perfect' *Youtube* (27 May 2011) <https://www.youtube.com/watch?v=o-iPiN_YHjY> accessed 10 March 2020.

[2] Jacques Crémer et al, 'Competition Policy for the Digital Era' (European Commission, Final Report, 2019) 12; Nasdaq, 'UK Online Shopping and E-Commerce Statistics for 2017' *Nasdaq* (14 March 2017) <https://www.nasdaq.com/articles/uk-online-shopping-and-e-commerce-statistics-2017-2017-03-14> accessed 11 November 2019.

[3] Jason Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (Open Government Licence, March 2019) 17–19; Fiona Scott Morton et al, 'Stigler Committee on Digital Platforms' (Subcommittee on Market Structure and Antitrust, Final Report, July 2019) 27.

[4] Search costs, in particular, can become substantially reduced as a consumer identifies products they desire within seconds as compared to searching for products in brick-and-mortar markets. See eg Jonathan D Levin, 'The Economics

Simultaneously digital platform markets have ignited "foreclosure" or "exclusionary" antitrust[7] concerns,[8] with such 'claims and cases' against tech giants for excluding rivals having grown in multiplicity.[9] These concerns have manifested globally. Antitrust enforcers—from Australia to France, from Germany to Singapore, and from the United Kingdom (hereafter "UK") to the United States (hereafter "US")—are all highlighting the contestability of digital platform markets as a top priority.[10] Specific enforcement actions and efforts are also gaining global momentum. Note Spotify's recent complaint to the European Commission of anti-competitive conduct against Apple,[11] the Australian Competition & Consumer Commission's (hereafter "ACCC") investigation into digital platforms,[12] and a raft of other European[13] and US[14] enforcement

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of Internet Markets' (2011) NBER Working Paper Series, Working Paper No 16852, 1 <https://web.stanford.edu/~jdlevin/Papers/InternetMarkets.pdf> accessed 15 March 2022 (describing how internet platforms have reduced various kinds of economic costs, including 'the cost of creating and distributing certain types of products and services').

[5] See Oxera, 'Benefits of Online Platforms' (2015) 19 <https://www.oxera.com/wp-content/uploads/2018/07/The-benefits-of-online-platforms-main-findings-October-2015.pdf.pdf> accessed 15 March 2022.

[6] World Economic Forum, 'Shaping the Future of Digital Economy and New Value Creation' *World Economic Forum* <https://www.weforum.org/platforms/shaping-the-future-of-digital-economy-and-new-value-creation> accessed 19 May 2022.

[7] See eg Robert Bork, *The Antitrust Paradox: A Policy at War With Itself* (The Free Press 1993) 134 et seq; Richard Posner, 'Exclusionary Practices and the Antitrust Laws' (1974) 41 University of Chicago Law Review 506, 515–534.

[8] ACCC, 'Digital Platforms Inquiry' (Final Report, July 2019) 1 <https://www.accc.gov.au/system/files/Digital%20platforms%20inquiry%20-%20final%20report%20-executive%20summary.pdf> accessed 5 December 2019 ('In Australia, and in other jurisdictions, wide-ranging questions are being asked about the role and impact of digital platforms [including] alleged anti-competitive conduct…'); Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 27; Crémer et al, 'Competition Policy for the Digital Era' (n 2) 12.

[9] Konstantinos Stylianou, 'Exclusion in Digital Markets' (2018) 24 Michigan Telecommunications & Technology Law Review 181, 182.

[10] Nigel Parr et al, 'Competition Policy in the Digital Era: A Comparative Guide' *Ashurst* (20 June 2019) <https://www.ashurst.com/en/news-and-insights/legal-updates/comparative-guide-to-digital-competition-policy/> accessed 29 February 2020.

[11] European Commission, 'Antitrust: Commission Sends Statement of Objections to Apple on App Store Rules for Music Streaming Providers' *Europa* (30 April 2021) <https://ec.europa.eu/commission/presscorner/detail/en/ip_21_2061> accessed 25 April 2022; Tommi Lahtinen and Victor Pierre, 'Spotify's Allegations – Genuine Anti-competitive Concerns or a Devious Bite of the Apple?' *Leiden Law Blog* (16 April 2019) <https://leidenlawblog.nl/articles/spotifys-allegations-genuine-anti-competitive-concerns-or-a-devious-bite-of> accessed 1 December 2019.

[12] ACCC, 'Digital Platforms Inquiry' (n 8).

[13] *Google Android* (Case AT 40099) Commission Decision C(2018) 4761 final, on appeal Case T-604/18 *Google and Alphabet v Commission*; *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 final, upheld on appeal Case T-612/17 *Google Search (Shopping)* EU:T:2021:76; European Commission, 'Commission Sends Statement of Objections to Amazon for the Use of Non-Public Independent Seller Data and Opens Second Investigation Into Its E-Commerce Business Practices' *European Commission* (Brussels, 10 November 2020) <https://ec.europa.eu/commission/presscorner/detail/en/IP_19_4291> accessed 19 May 2022; *Google Search (AdSense)* (Case AT 40411) Commission Decision C(2019) 2173 final; European Commission, 'Commission Opens Investigation

actions and investigations. In addition, there has been a proliferation of proposed regulatory tools, for example the European Union's Digital Markets Act[15] and the American Innovation and Choice Online Act in the United States,[16] both of which seek to prohibit, among other behaviour, an emerging and hotly contested form of foreclosure: self-preferencing.[17] In short, there seems to be a regulatory and policy push towards greater intervention, broader scopes of liability, and more intense scrutiny; in essence, *more* antitrust.[18] Indeed, competition law (hereafter "antitrust" and/or "competition law") agencies punished one of these tech companies—Google—with the largest ever antitrust fine.[19] President Biden's recent executive order similarly reflects heightened digital platform concerns.[20] These facts alone signal a general significance for antirust policy and

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Into Possible Anticompetitive Conduct by Google and Meta, in Online Display Advertising' *European Commission* (Brussels, 11 March 2022) <https://ec.europa.eu/commission/presscorner/detail/en/IP_22_1703> accessed 10 July 2022.

[14] Kiran Stacey and Kadhim Shubber, 'Which Antitrust Investigations Should Big Tech Worry About?' *Financial Times* (Washington and New York, 28 October 2019) <https://www.ft.com/content/abcc5070-f68f-11e9-a79c-bc9acae3b654> accessed 2 December 2019; Federal Trade Commission, 'Google, Inc., In the Matter of' *Federal Trade Commission* (05 December 2014) <https://www.ftc.gov/enforcement/cases-proceedings/122-3237/google-inc> accessed 06 April 2020. See eg Federal Trade Commission, 'Facebook, Inc., FTC v.' *Federal Trade Commission* (17 November 2021) < https://www.ftc.gov/legal-library/browse/cases-proceedings/191-0134-facebook-inc-ftc-v> accessed 19 May 2922; US DOJ, 'Justice Department Sues Monopolist Google for Violating Antitrust Laws' *United States Department of Justice* (20 October 2020) <https://www.justice.gov/opa/pr/justice-department-sues-monopolist-google-violating-antitrust-laws> accessed 12 March 2021; Cecilia Kang, 'A Facebook Antitrust Suit can Move Forward, a Judge Says, in a Win for the F.T.C.' *New York Times* (11 January 2022) <https://www.nytimes.com/2022/01/11/technology/facebook-antitrust-ftc.html> accessed 13 July 2022.

[15] For the latest publicly available version, see Council Regulation (EU) 2022/…of the European Parliament and of the Council on contestable and fair markets in the digital sector (Digital Markets Act).

[16] Section 2992, 117th Congress (2021-2022).

[17] European Commission, 'The Digital Markets Act: Ensuring Fair and Open Digital Markets' *Europa* <https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/digital-markets-act-ensuring-fair-and-open-digital-markets_en> accessed 26 March 2022; American Innovation and Online Choice Act, 117th Congress (2021-2022), section 2992. See also Bill Baer, 'Why Amazon is Wrong About the American Innovation and Online Choice Act' *Brookings* (14 June 2022) https://www.brookings.edu/blog/techtank/2022/06/14/why-amazon-is-wrong-about-the-american-innovation-and-online-choice-act/ accessed 20 June 2022. See also Chapter 3, Part III.

[18] Javier Espinoza and Sam Fleming, 'Margrethe Vestager Eyes Toughening 'Burden of Proof' for Big Tech' *Financial Times* (30 October 2019) <https://www.ft.com/content/24635a5c-fa4f-11e9-a354-36acbbb0d9b6> accessed 07 February 2020; Crémer et al, 'Competition Policy for the Digital Era' (n 2) 4 ('[I]n the context of highly concentrated markets characterised by strong network effects and high barriers to entry (i.e. not easily corrected by markets themselves), one may want to err on the side of disallowing potentially anti-competitive conducts, and impose on the incumbent the burden of proof for showing the pro-competitiveness of its conduct'); Parr et al, 'Competition Policy in the Digital Era: A Comparative Guide' (n 10) (noting that a common theme amongst antitrust regulators is 'an increased focus on digital platforms…').

[19] Sam Schechner and Douglas MacMillan, 'Google is Fined $5 Billion in Android Antitrust Case' *The Wall Street Journal* (18 July 2018) <https://www.wsj.com/articles/google-to-be-fined-5-billion-by-eu-in-android-case-1531903470> accessed 31 January 2021.

[20] The White House, 'Executive Order on Promoting Competition in the American Economy' *The White House* (09 July 2021) <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/07/09/executive-order-on-promoting-competition-in-the-american-economy/> accessed 21 October 2021.

enforcement at a time when the total value of the world's top 100 platforms increased by 40 percent in 2020 alone by growing to €10.5 trillion.[21]

In parallel, behavioural economics (hereafter "BE") and its implications for "digital platform" antitrust are emerging as a growing, more specific competition policy concern. Antitrust agencies, across several jurisdictions, are now identifying this nexus on their agenda, with the UK's antitrust agency recently announcing plans for a behavioural insights division due to its growing concern about digital platforms.[22] More specifically, recent enforcement actions—the EU and US *Google* cases in particular[23]—and policy reports have all in principle identified (but not analytically developed) an emerging form of market power that might appropriately be termed "behavioural" market power.[24] Simultaneously, digital platform firms' capacities to actively manipulate users'

[21] Note that to be included in the global top 100, the minimum platform value recently rose to €5.5 billion. European Commission, 'How do Online Platforms Shape Our Lives and Businesses?' *Europa* (25 February 2021) < https://digital-strategy.ec.europa.eu/en/library/how-do-online-platforms-shape-our-lives-and-businesses-brochure#Benefits> accessed 19 May 2022.

[22] Beckie Smith, 'Competition Watchdog Seeks Chief for New Behavioural Insights Division' *Civil Service World* (30 October 2019) <https://www.civilserviceworld.com/articles/news/competition-watchdog-seeks-chief-new-behavioural-insights-division> accessed 13 March 2021.

[23] *Google Android* (Case AT 40099) Commission Decision C(2018) 4761 Final, on appeal Case T-604/18 *Google and Alphabet v Commission*; *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, upheld on appeal Case T-612/17 *Google Search (Shopping)* EU:T:2021:763. See also US DOJ, 'Justice Department Sues Monopolist Google for Violating Antitrust Laws' *United States Department of Justice* (20 October 2020) <https://www.justice.gov/opa/pr/justice-department-sues-monopolist-google-violating-antitrust-laws> accessed 12 March 2021.

[24] See eg Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 41 ('Market power is, ironically, generated by the very consumers who are harmed by it. Consumers do not replace the default apps on their phones, do not scroll down to see more results, agree to settings chosen by the service…Consumers make these "mistakes" because of inherent behavioral biases such as discounting the future too much and being too optimistic'); Crémer et al, 'Competition Policy for the Digital Era' (n 2) 4 ('The assessment of market power has to be case specific, and it must take into account insights drawn from behavioural economics about the *strength of* consumers' biases towards default options and short-term gratification') (emphasis added); ACCC, 'Digital Platforms Inquiry' (n 8) 110 ('One of the ACCC's key findings [in its Market Power chapter] is that Google has *substantial market power* in the supply of search services and in the supply of search advertising. The ACCC identified consumer inertia as a barrier to expansion and considered that that customer inertia is reinforced by a default bias that exists with Google Search being the default search engine on a number of internet browsers, and Google Chrome being the default internet browser on a number of operating systems') (emphasis added); ACM, 'Behavioural Economics and Competition Policy' (The Netherlands Authority for Consumers and Markets, June 2013) 12 <https://www.acm.nl/sites/default/files/old_publication/publicaties/11586_acm-behavioural-economics-competition-policy.pdf> accessed 13 March 2021 (describing how the imperfect rationality of a consumer with respect to a product's entire cost (including add-ons) may confer on suppliers 'pockets of market power').

cognitive shortcomings and generate foreclosure are also being acknowledged[25] – an indication, perhaps, that we may be moving closer towards an antitrust world of "cognitive" foreclosure.[26]

Nevertheless, antitrust enforcement of cognitive foreclosure due to behavioural market failures in digital platform markets might be questioned for at least two reasons. *First*, as a demand-side market failure, BE market failures fall within a category of market failures infamous for blurring the line between antitrust enforcement and consumer protection, with the latter traditionally governing market failures more *de minimis* in nature.[27] Indeed, empirically there exists variance in both *ir*rational decision-making and behavioural bias intensity.[28] Consequently, behavioural market failures' capacities for generating "sustainable" and "substantial" market power—a pre-requisite, as we will learn, for triggering antitrust scrutiny[29]—would seem to be a more nuanced inquiry rather than a binary issue. *Second*, and relatedly, being *ir*rational has a social cost and remedying it with substantial penalties via antitrust may perpetuate realities where consumers feel lower incentives to improve their decision-making's rationality.[30] From a moral hazard perspective, therefore, it may be appropriate to limit antitrust intervention only to the most (1) hostile of consumer learning environments and (2) insuperable of biases so as to induce consumers towards greater levels of rational switching and, consequently, societal rationality. Indeed, the proposed Digital Services Act[31] seeks to directly ban, for example, Dark Patterns and thus provides a potential complementary

[25] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 176 (describing how foreclosure can manifest when platforms exploit consumers' behavioral biases 'to keep consumers *attached* to their platforms and make switching to alternatives more difficult. These tactics generally make consumers less receptive to competitive alternatives – they lower contestability – and thus raise entry barriers') (emphasis added).
[26] In this Thesis, the terms "behavioural" foreclosure and "cognitive" foreclosure are used synonymously.
[27] See Chapter 7, Part I (illustrating BE as a potentially "combined" consumer protection/antitrust issue).
[28] See Avishalom Tor, 'Understanding Behavioral Antitrust' (2013) 92 Texas Law Review 574, 608 et seq. See also Chapter 5, Part III; Chapter 7, Part I.
[29] See Chapter 2, Part II.
[30] See Chapter 7, Part II.
[31] Council Regulation (EC) 2020/0361 of 15 December 2020 proposal for a regulation of the European Parliament and of the Council on a Single Market for Digital Services (Digital Services Act) and amending Directive 2000/31/EC [2020]. See also Foo Yun Chee, 'Key EU Parliament Committee Agrees Tough Position on DSA Tech Rules' *Reuters* (14 December 2021) <https://www.reuters.com/markets/deals/key-eu-parliament-committee-agrees-tough-position-dsa-tech-rules-2021-12-

enforcement tool to what some view as a possible antitrust issue. Yet this approach may need to be reconceived, as it could constitute too much protection if it is socially desirable to provide consumers with the right incentives for developing themselves as more rational and engaged consumers in the long-run.[32]

Regulatory and academic literature does not show a developed answer to the issue of whether and, if so, the extent to which, behavioural market failures *should* be antitrust issues.[33] If it has been addressed, it has not been answered systematically. Most of the commentary talks about BE and its implications for antitrust analysis very generally by removing the rationality assumption;[34] not in a more specific manner that comprehensively analyses a monopolist firm's manipulation of consumer biases and its relationship to switching as a function of antitrust enforcement scope. Those that do allude to switching do so in passing.[35] More important, any rigorous and sustained commentary on the relationship between consumer biases and switching in digital platform markets has been limited, with the UK's antitrust agency even acknowledging as much.[36]

14/#:~:text=BRUSSELS%2C%20Dec%2014%20(Reuters),forthcoming%20negotiations%20with%20EU%20countries.> accessed 25 July 2022.

[32] See Chapter 3, Part III (illustrating and discussing the phenomenon of Dark Patterns).

[33] Some have started to assess the *implications* of consumer manipulation for antitrust. See eg Matthew Bennett et al, 'What Does Behavioural Economics Mean for Competition Policy' (2010) 6 Competition Policy International 111, 121; Max Huffman, 'Marrying Neo-Chicago With Behavioral Antitrust' (2012) 78 Antitrust Law Journal 105, 128 et seq; Maurice Stucke, 'Behavioral Exploitation and its Implications on Competition and Consumer Protection Policies' in Swedish Competition Authority (ed), *The Pros and Cons of Consumer Protection* (Davidsons Tryckeri 2012); Nicolas Petit and Norman Neyrinck, 'Behavioural Economics and Abuse of Dominance: A Fresh Look at the Article 102 TFEU Case-Law' (2010) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1641431> accessed 20 March 2020.

[34] See Tor, 'Understanding Behavioral Antitrust' (n 28) 590, footnote 82 (citing literature).

[35] See eg Alan Devlin and Michael Jacobs, 'The Empty Promise of Behavioural Antitrust' (2014) 37 Harvard Journal of Law & Public Policy 1009, 1025–1029; Maurice Stucke, 'Reconsidering Competition' (2011) 81 Mississippi Law Journal 107; Tor, 'Understanding Behavioral Antitrust' (n 28); Avishalom Tor, 'The Market, The Firm, and Behavioral Antitrust' (2013) Notre Dame Law School legal Studies Research Paper No 1447 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2293733> accessed 28 February 2020; Huffman, 'Marrying Neo-Chicago With Behavioral Antitrust' (n 33).

[36] CMA, 'Online Search Behaviour: Literature Review' (Competition and Markets Authority 2017) 4 <https://www.gov.uk/government/publications/online-search-behaviour-literature-review> accessed 04 March 2020 ('[T]he literature on [online firms exploiting consumer behavioural biases] is not extensive but it has documented a few cases in which online retailers have successfully adopted strategies to induce consumers to purchase…').

This Thesis thus seeks to fill an emerging but noticeable gap in antitrust discourse by comprehensively examining the BE implications for antitrust's two most fundamental doctrinal components in digital platform markets: anticompetitive conduct and market power. The significance of such research can be seen on several levels. *First*, it can be seen in an online world where switching *really* matters for the rivalrous process[37] and where pernicious but powerful methods of foreclosure are increasingly at the fore of digital platform enforcement actions.[38] *Second*, behavioural market failures as demand-side market failures *prima facie* raise the normative issue of demarcating the antitrust/consumer protection boundary, given demand-side market failures' reputations for implicating this issue.[39] Indeed, the heterogeneous nature of (1) markets' self-correcting capacities and (2) behavioural economic phenomena's capacities for generating "substantial" and "sustainable" market failures empirically showcases a need for nuance with respect to how the aforementioned boundary should be drawn. *Third*, and relatedly, the doctrinal debate around the legal characterisation of the conduct at issue in the very recent *Google Search (Shopping)* judgment—a demand-side rather than a supply-side market failure, as we will see[40]—provides yet another motivation for a renewed legal assessment of this emerging kind of conduct in digital platform contexts.

Against this backdrop, this Thesis unfolds as follows. Part I describes the functional relationship between antitrust enforcement scope and one's beliefs in self-correcting markets from both supply-side and, more pertinently, demand-side contexts. It shows how not all deviations—most often, demand-side deviations—from perfect competition warrant antitrust scrutiny; rather, the deviation must be "substantial" and "sustainable" if antitrust intervention is to be justified. The Part concludes by describing the emerging phenomenon of cognitive foreclosure in digital platform

[37] See Chapter 6, Part II.
[38] See Chapter 3, Part I; Chapter 3, Part III.
[39] See Chapter 2, Part II. See also Chapter 7.
[40] See Chapter 6, Part I.

markets and how this new kind of demand-side market failure, in contrast to some traditional views about demand-side market failures, may justifiably raise antitrust issues in digital platform contexts. Part II assesses antitrust's "identification" problem – that is, the need for a "workable" framework in order to discern liability. The problem is illuminated to be particularly acute in antitrust given the nature of the conduct it is trying to regulate coupled with futurity issues of self-correcting markets, which is an inherently uncertain prospect. An additional "identification" problem is proffered in the specific context of digital platform markets and how current antitrust doctrine is unable to account for the emerging form of conduct in *Google Search (Shopping)*. The Part thus concludes with a "workable" framework for identifying "substantial" and "sustainable" cognitive foreclosure due to behavioural market failures in digital platform markets. Part III seeks to justify the limits imposed by the "workable" framework advanced in Part II. It is argued that these limits are justified in light of the attendant need to preserve consumers' incentives to develop themselves as more rational decision-makers. Only "substantial" and "sustainable" behavioural market failures, then, are to be within the remit of antitrust enforcement so that consumers retain incentives to move away from *ir*rational behaviour and towards more rational behaviour in the long-run.

PART I – COGNITIVE FORECLOSURE: AN EMERGING ANTITRUST PHENOMENON

1 – MARKET IMPERFECTIONS AND ANTITRUST ENFORCEMENT SCOPE

INTRODUCTION

In a world of perfectly competitive markets, society would not need any antitrust enforcement.[41] One parameter, then, for measuring the justifiability of *more* antitrust, as highlighted in the Introduction,[42] is a market's self-correcting capacities – that is, its degree of 'frictionless commerce' and inherent abilities to perfectly[43] substitute for government intervention.

Some antitrust schools of thought (hereafter "antitrust schools") believed in markets more than others. Whilst a spectrum of belief exists—including Harvard and its modern-day equivalent "New Brandeis"—the Chicago–*Post*-Chicago dichotomy is particularly illuminating because of its diametrically opposed views about market perfectionism and respective scopes of antitrust intervention.[44] Some scholars have conceived of these beliefs as ideologies and that they "matter" for antitrust enforcement.[45]

This Chapter explains how one's preference for antitrust enforcement will never be binary—*zero* antitrust or *total* antitrust—but rather one of degree due to the imperfect nature of markets. The Chapter thus establishes a market structure image through which to view the scope of antitrust

[41] See Chapter 1, Part I.
[42] See Introduction (highlighting the global regulatory push for a *more* interventionist antitrust regime in digital platform markets).
[43] See Erik Brynjolfsson and Michael Smith, 'Frictionless Commerce? A Comparison of Internet and Conventional Retailers' (2000) 46 Management Science 563. See Thomas Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (1994) 69 New York University Law Review 1, 8 ('Deviations from [perfect competition's] assumptions – so called market "imperfections" and "failures" – provide the traditional intellectual foundation for economic regulation, including antitrust').
[44] Herbert Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (2001) 2001 Columbia Business Law Review 257, 278–279 ('The principal difference between Chicago and post-Chicago…is…that under a more complex set of assumptions about how a market works, anticompetitive outcomes seem more plausible'). See also Ernest Gellhorn, William E Kovacic and Stephen Calkins, *Antitrust Law and Economics* (5th edn, Thomson/West Publishing 2004) 589. Hovenkamp has also described the spectrum as Harvard on the extreme end of governmental intervention and Chicago at the extreme end of beliefs in self-correcting markets, i.e.very little governmental intervention. See Herbert Hovenkamp, 'Antitrust and the Costs of Movement' (2012) 78 Antitrust Law Journal 67, 67.
[45] See Marina Lao, 'Ideology Matters in the Antitrust Debate' (2014) 79 Antitrust Law Journal 649.

intervention. Second, the Chapter illuminates this latter proposition through two contrasting antitrust schools—Chicago and *Post*-Chicago—demonstrating how their differing degrees of belief in markets drive their antitrust enforcement scope preferences.

I. TWO EXTREME WORLDS; ONE REAL ONE – ANTITRUST AS A MATTER OF DEGREE

Market failure is the predominant justification for regulation.[46] Markets are not perfect, so market mechanisms by themselves cannot 'ensure efficiency'.[47] As Breyer explains, '[t]he justification for intervention arises out of an alleged inability of the marketplace [itself] to deal with particular structural problems'.[48] Antitrust is a form of regulatory intervention aiming to remedy a specific type of market failure: monopoly. Monopoly is one end of a market structure spectrum; the other end is perfect competition.[49]

One argument for classifying monopoly as a market failure is its generation of social harm—compared to perfect competition, which can generate pareto-optimal social benefits[50]—and so antitrust is allegedly needed to remedy these 'deviations' from perfection.[51] The extreme

[46] John R Commons, *Legal Foundations of Capitalism* (New York, The Macmillan Company 1939); Victor P Goldberg, 'Institutional Change and the Quasi-Invisible Hand' (1974) 17 Journal of Law and Economics 461, 461 ('The economist's basic policy premise is that (so long as certain "market failures" do not arise), this self-interest will, like an Invisible Hand, guide resources to a proper usage; when market failures arise the usual policy prescription is to amend the rules (for example, by breaking up monopolies, placing an optimal tax on pollution, or redefining property rights) to make the marginal private costs and benefits equal to the marginal social costs and benefits so that the free play on self-interest will again achieve desirable results').

[47] Joseph Stiglitz, 'Government Failure vs. Market Failure' (2008) Columbia Academic Commons, 3 <https://academiccommons.columbia.edu/doi/10.7916/D82F7V5C> accessed 10 February 2020; Don Boudreaux and Robert B Ekelund, 'Regulation as an Exogenous Response to Market Failure: A Neo-Schumpterian Response' (1987) 143 Journal of Institutional and Theoretical Economics 537, 538 (describing how skepticism towards governmental regulation 'is not based on the naïve belief that markets work flawlessly always and everywhere. Markets can, and in particular instances do, fail').

[48] Stephen Breyer, *Regulation and its Reform* (Harvard University Press 1982) 15.

[49] N Gregory Mankiw and Mark P Taylor, *Economics* (2nd edn, Cengage Learning 2011) 70 (acknowledging how markets fall somewhere 'between the extremes of perfect competition and monopoly').

[50] John Vickers, 'Concepts of Competition' (1995) 47 Oxford Economic Papers 1, 1 (pareto efficiency is where 'resources are allocated in such a way that no-one can be made better off without others becoming worse off'). cf Mankiw and Taylor, *Economics* (n 49) 321 –323 (explaining the deadweight loss to society that monopoly generates, which 'causes the quantity sold to fall short of the social optimum').

[51] See Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43). But note that antitrust law will not be triggered unless a certain threshold of market power is reached and on the condition that there is abusive conduct. Consequently, there is a broad spectrum of market imperfection that will not trigger antitrust scrutiny.

deviation—a monopolist with absolute market power—illustrates why antitrust may be needed: absolute market power would allow the monopolist 'to reduce output or capacity, to raise prices, to reduce the quality of products, to limit the choice available to consumers or to suppress innovation without fear of a damaging competitive response by other firms'.[52] In this extreme world of absolute monopoly, the scope of antitrust intervention would be wide, particularly if there is little or no prospect of new entry to ameliorate the monopolist's conduct (though of course, only monopoly abuse will trigger antitrust law).[53]

Perfect competition, in contrast, is another extreme world but one in which no antitrust enforcement would be needed because of certain underlying assumptions.[54] In this stylised world of perfect competition,[55] there exists infinite buyers and sellers, homogeneous products,[56] consumers with perfect market information, no barriers to entry or exit, and no transaction costs.[57] No antitrust enforcement would be needed because if a firm tried to exercise market power (by definition, it has none) by, say, raising price it would instantaneously lose its entire custom to another firm selling at cost.[58] In short, no antitrust would be needed because competitive constraints are both infinite (all sellers can find buyers) and perfect (firms can enter and exit freely and instantaneously and

[52] Richard Whish and David Bailey, *Competition Law* (9th edn, OUP 2018) 2; William Landes and Richard Posner, 'Market Power in Antitrust Cases' (1981) 94 Harvard Law Review 937, 938; Thomas Philippon, *The Great Reversal* (Harvard University Press 2019) 26. See Case 27/76 *United Brands v Commission* [1978] ECR 207, para 65 (defining dominance as 'a position of *economic strength* enjoyed by an undertaking which *enables it to prevent effective competition* being maintained on the relevant market by giving it the power to behave *to an appreciable extent independently* of its competitors, customers and ultimately of its consumers') (emphasis added).

[53] It is well-established that antitrust will not challenge market power but rather its abuse. So whilst monopoly is far removed from perfect markets, it may well be the result of legitimate rivalrous processes. See eg Case 322/81 *Michelin I* [1983] E.C.R. 3461, para 57; *Verizon Communications v Law Offices of Curtis Trinko* 540 US 398 (2004).

[54] See Wyn Morgan, Michael Katz and Harvey Rosen, *Microeconomics* (2nd edn, McGraw-Hill Higher Education 2009) 370 et seq.

[55] Whish and Bailey, *Competition Law* (n 52) 8.

[56] Phillip Areeda, Louis Kaplow and Aaron Edlin, *Antitrust Analysis: Problems, Texts, and Cases* (6th edn, Aspen Publishers 2004) 488 ('At the perfectly competitive extreme, buyers have no unique desire for any one seller's product: If one seller raises its price even a trifle above the competitive price, all buyers will purchase elsewhere').

[57] Ronald Coase, 'The Problem of Social Cost' (1960) 3 Journal of Law & Economics 1. Transaction costs are costs necessary to effectuate market economic exchanges – like finding a trading partner, negotiating with that partner, and drafting a contract.

[58] Whish and Bailey, *Competition Law* (n 52) 6.

consumers can switch between firms freely and instantaneously). Market mechanisms themselves are a perfect substitute for antitrust intervention.

In the real world, however, perfectly competitive markets do not exist[59] and absolute monopoly is 'rare'.[60] Thus, there will be many 'intermediate' positions along this perfect-competition–monopoly spectrum.[61] A policymaker's antitrust enforcement scope preference, then, will be dictated partly by the degree to which the policymaker believes that the market can effectively substitute for government intervention (though as noted, the market can never perfectly substitute in this regard).

Some antitrust schools, for instance, believed in markets more than others. Compared to Chicago,[62] for example, the Harvard School had a heightened concern for entry barriers[63] (which Chicago saw as non-existent 'ghosts [inhabiting] antitrust theory'[64]) and epitomised its scepticism of markets' capacities to self-correct because this implied they believed new firm entry to be less likely. More specifically, it doubted the ability of this specific market mechanism to play its role perfectly in the rivalrous process.

For present purposes, the following discussion focuses on Chicago and *Post*-Chicago because they illuminate two distinct positions on the enforcement spectrum.[65] Their preferences for antitrust

[59] Stiglitz, 'Government Failure vs. Market Failure' (n 47) 2–3. This is not to say, however, that there may be markets that closely resemble the perfectly competitive model, even if they do not resemble it perfectly. See eg Morgan, Katz and Rosen, *Microeconomics* (n 54) 375 (proffering the examples of hairdressers and hand car washes as resembling perfectly competitive markets).
[60] Whish and Bailey, *Competition Law* (n 52) 9.
[61] ibid.
[62] Richard Posner, 'The Chicago School of Antitrust Analysis' (1979) 127 University of Pennsylvania Law Review 925, 932 (describing Chicago as rejecting an 'expansive notion of "barriers to entry"…').
[63] Joe Bain, *Industrial Organization* (2nd edn, John Wiley & Sons, Inc 1967) 251.
[64] Bork, *The Antitrust Paradox: A Policy at War With Itself* (n 7) 310, 312.
[65] Gellhorn, Kovacic and Calkins, *Antitrust Law and Economics* (n 44) 589 ('American antitrust experience has reflected "a fundamental tension between two views of the market": [*Post*-Chicago] regards markets as fragile, prone to distortion by private firms, and readily correctable through public intervention…[Chicago]…regards business rivalry as generally

enforcement scope—narrow and wide respectively—diverged largely because of differing beliefs in the perfection of markets.[66] The following section thus seeks to demonstrate this proposition by comparing these schools' beliefs in markets (or rather, their differences in willingness to appreciate market imperfections) and therefore their preferences to respectively narrow and widen antitrust enforcement scope. We will see that much of how Chicago and *Post*-Chicago viewed the need for enforcement depends on their beliefs about organic shifts across the market structure spectrum. Most important, this in turn hinges on a disbelief in the ability of each specific market mechanism—both firms and consumers—to play their role in the rivalrous process perfectly.

II. IMPERFECT MARKETS AS A FUNCTION OF ANTITRUST ENFORCEMENT SCOPE

Having established the perfect competition–monopoly market structure spectrum (hereafter "market structure spectrum") and its relationship to the scope of antitrust intervention when firms abuse their monopoly positions, we can now develop a parallel and closely related spectrum of antitrust enforcement scope (hereafter "enforcement spectrum") – that is, the zeal of enforcement intervention. Of course, antitrust enforcement policy may be a product of several factors[67] but as the previous section illustrated, one factor can clearly be your belief in 'robust'[68] markets that do have strong self-correcting capacities. If you believe new firm entry is likely in response to price rises,[69] for example, then you reasonably conclude antitrust intervention is largely unnecessary because market power will eventually be eroded.

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robust, doubts the efficacy of public efforts to cure imperfections, and emphasizes the relative ability of market processes to erode privately imposed competitive restraints or privately acquired market power').

[66] Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (n 44).

[67] For instance, it can be a product of different goals. See Ioannis Lianos, 'Some Reflections on the Question of the Goals of EU Competition Law' (2013) CLES Working Paper Series 3/2013 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2235875> accessed 19 February 2020.

[68] Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (n 44) 269.

[69] ibid 266 (describing the Chicago School as believing in the ability of new entry to "undermine" 'monopoly pricing' and that 'in an efficient capital market such entry will almost always occur'). See also William Baumol, 'Contestable Markets: An Uprising in the Theory of Industry Structure' (1982) 72 American Economic Review 1, 4.

a. Chicago

The Chicago School believed in the perfection of markets more than others. It demonstrated through economic analysis underpinned by robust market assumptions that most antitrust enforcement was condemning 'competitively benign'[70] practices (including exclusionary practices)[71] and induced courts to fundamentally change their approach to antitrust analysis – a judicial concession, at least perhaps at the time, that '[m]arkets are [indeed] much better than judges at sifting efficient from anticompetitive practices'.[72]

Labelling the Chicago School as just an antitrust enforcement policy with a high degree of belief in markets may sound simplistic but there is a good degree of consensus on this point.[73] As Hovenkamp explains, a 'foundational' principle of Chicago antitrust is, first and foremost, 'that markets are extremely robust and competitive outcomes are highly likely to emerge without any significant governmental intervention…'[74]

Chicago analyses of foreclosure abuses—like predatory pricing, tying, and vertical integration—are illustrative. These analyses show that such abuses are unlikely due to self-correcting market forces[75] and, therefore, demonstrate how reliance upon these impending forces can be a function of narrow antitrust enforcement scope. A recurring self-correcting mechanism

[70] William Page, 'Microsoft and the Limits of Antitrust' (2010) 6 Journal of Competition Law & Economics 33, 34.
[71] William Page, 'The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency' (1989) 75 Virginia Law Review 1220, 1233.
[72] Frank Easterbrook, 'The Chicago School of Antitrust and Exclusionary Conduct' (2008) 31 Harvard Journal of Law & Public Policy 439, 442.
[73] Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (n 44) 269–270; Eleanor Fox and Lawrence Sullivan, 'Antitrust–Retrospective and Prospective: Where Are We Coming From? Where Are We Going? (1987) 62 New York University Law Review 936, 958; Robert Lande, 'Chicago Takes it on the Chin: Imperfect Information Could Play a Crucial Role in the Post-Kodak World' (1993) 62 Antitrust Law Journal 193, 193; Page, 'The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency' (n 71) 1233.
[74] Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (n 44) 269.
[75] See Posner, 'Exclusionary Practices and the Antitrust Laws' (n 7). See also Page, 'The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency' (n 71) 1233–1235.

displayed across these analyses is new entry – attracted by monopoly pricing and pressurising prices back down to competitive levels.

Chicago considers price predation unlikely because pricing below cost in order to oust rivals is 'unprofitable even in the long-run'.[76] A firm incurs losses during the predation period and if it attempts recoupment at a later date by raising price, 'new entrants will be attracted, the price will be bid down to the competitive level, and the attempt at recoupment will fail'.[77] The market thus self-corrects by returning to the competitive price – induced by supply-side pressures of new firm entry in response to price rises. As Easterbrook surmises,[78] '[a]n anticompetitive practice that produces a monopoly overcharge attracts entry from rivals…'[79] In contrast it could be argued[80] that the market mechanism of new entry is 'less likely' in tying cases because a firm desiring to enter the tying product market 'must enter the market for the tied product as well'[81] e.g. a new shoemaker is supposed to have to make his own shoelaces too. Yet here too Chicago considers new entry unlikely to be deterred because in most tying cases the tied product is usually just a 'trivial adjunct': for example prospective firms would face little difficulty 'in procuring the requisite cards or ink or salt to supply together with his computer, duplicating equipment, or salt machinery'.[82] Regarding vertical mergers, foreclosure supposedly manifests because an upstream firm acquiring a downstream distributor can preclude a competing upstream firm from accessing the newly-acquired downstream distribution. But Chicago maintains new upstream entry will be attracted by the

[76] Posner, 'The Chicago School of Antitrust Analysis' (n 62) 927.
[77] ibid. See also John McGee, 'Predatory Price Cutting: The Standard Oil (N.J.) Case' (1958) 1 Journal of Law & Economics 137, 160 (describing it as 'pointless' for Standard Oil to try and monopolise retailing because 'entry was cheap and quick').
[78] He "surmises" because making such a prediction is inherently uncertain. See Paul Joskow and Alvin Klevorick, 'A Framework for Analyzing Predatory Pricing Policy' (1979) 89 The Yale Law Journal 213, 222 (describing the 'difficult task of inferring unobservable long-run market outcomes from observable short-run market conditions' as 'inherently uncertain').
[79] Easterbrook, 'The Chicago School of Antitrust and Exclusionary Conduct' (n 72) 442.
[80] See Carl Kaysen and Donald F Turner, *Antitrust Policy: An Economic and Legal Analysis* (Harvard University Press 1959).
[81] Posner, 'Exclusionary Practices and the Antitrust Laws' (n 7) 510.
[82] ibid

subsequent price rise, followed by new downstream distribution entry in response. And whilst this 'parallel entry' pre-requisite might 'delay entry',[83] it will not prevent it and might even boost the *incentive* to enter because of the *ex ante* anticipation of a longer duration for supra-competitive pricing.[84]

These analyses reveal Chicago's high degree of belief in self-correcting market forces and, therefore, an important conclusion about its antitrust enforcement scope preference: firms generally will be unilaterally unable to 'obtain or enhance' monopoly power and so antitrust agencies should just focus on cartels and horizontal mergers.[85] This is clearly a policy preference for *less* (not *more*) antitrust – with such a preference being the product of a belief in market mechanisms (in the foregoing vignette the capacity of new entry to erode market power in the long-run).[86]

Case-law can additionally demonstrate Chicago's marauding belief in markets – with their outcomes exemplifying how such beliefs can be a function of *less* antitrust. *Matsushita*[87] and *Jefferson Parish*[88]—viewed as "wins"[89] for Chicago—illuminate how a high degree of belief in markets (or rather a low willingness to appreciate their imperfections) can drive narrow antitrust outcomes.

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[83] ibid 525.
[84] ibid 517 ('A commonly overlooked point is that an increase in the time required for new entry may actually make entry more attractive to some firms; they may anticipate a longer period before any supracompetitive profits that they are able to obtain in the market disappear due to competition from additional entrants'). See also Robert Bork, 'Vertical Integration and the Sherman Act: The Legal History of an Economic Misconception' (1954) 22 University of Chicago Law Review 158, 200 (concluding that vertical integration 'confers no ability to alter market price, does not impede entry, and adds nothing unique to the ability to employ predatory tactics').
[85] Posner, 'The Chicago School of Antitrust Analysis' (n 62) 928.
[86] Page, 'The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency' (n 71) 1233 ('Crucial to [the Chicago] inquiry is the recognition that *other economic actors* in the market *will* respond to the practice in ways that maximize their own well-being') (emphasis added).
[87] *Matsushita v Zenith Radio Corp*, 475 US 574 (1986).
[88] *Jefferson Parish Hospital District v Hyde*, 466 US 2 (1984).
[89] See Daniel Crane, 'Chicago, Post-Chicago, and Neo-Chicago' (2009) 76 University of Chicago Law Review 1911, 1912; Easterbrook, 'The Chicago School of Antitrust and Exclusionary Conduct' (n 72) 446 ('Today's Supreme Court has seen things [Bork's] way' – an example being *Jefferson Parish*).

In *Matsushita*, American manufacturers argued that Japanese firms had engaged in predatory pricing but the Japanese firms argued such a strategy was 'economically irrational' and therefore their motivation to engage in such a practice in the first instance was vitiated.[90] The Court's reasoning—predicated on Chicago analysis—exemplifies how believing in markets' long-run self-correcting capacities can be a function of narrow antitrust enforcement scope. Specifically, the Court held that predatory pricing is 'speculative' and, consequently, for it to be rational 'the conspirators must have a reasonable expectation of recovering, in the form of later monopoly profits, more than the losses suffered'.[91] Citing Bork, McGee, and Easterbrook, the Court reasoned that such a strategy was unlikely because the short-run losses were 'definite' whilst the long-run gains depended on 'successfully neutralizing the competition'.[92] Moreover, even if the Japanese firms did neutralize the competition, their subsequent monopoly pricing might 'breed quick entry by new competitors…'[93] Such a strategy was therefore unlikely because market forces cut strongly against the 'assurance' required.[94] This 'assurance' was all the more uncertain here because it involved alleged predation by numerous conspirators who would likely cheat.[95] The strategy's speculative nature, coupled with the difficulty of allocating *ex post* gains (assuming they materialised), magnified a conspirator's incentive to cheat.[96] Thus, the Court ultimately vindicated these market mechanisms' capacities to deter predatory pricing by holding that the Japanese firms, 'as presumably rational businesses…had every incentive *not* to engage in [predatory pricing], for its likely effect would be to generate losses…with no corresponding gains'.[97] This made such a strategy 'implausible'[98] – implausible,

[90] *Matsushita v Zenith Radio Corp*, 475 US 574, 588 (1986).
[91] *Matsushita v Zenith Radio Corp*, 475 US 574, 588–589 (1986).
[92] *Matsushita v Zenith Radio Corp*, 475 US 574, 589 (1986).
[93] *Matsushita v Zenith Radio Corp*, 475 US 574, 589 (1986). See Bork, *The Antitrust Paradox: A Policy at War With Itself* (n 7); John McGee, 'Predatory Pricing Revisited' (1980) 23 Journal of Law & Economics 289; Frank Easterbrook, 'Predatory Strategies and Counterstrategies' (1981) 48 University of Chicago Law Review 263, 268.
[94] *Matsushita v Zenith Radio Corp*, 475 US 574, 589 (1986).
[95] *Matsushita v Zenith Radio Corp*, 475 US 574, 590 (1986).
[96] *Matsushita v Zenith Radio Corp*, 475 US 574, 590–592 (1986) ('Maintaining supracompetitive prices…depends on the continued cooperation of the conspirators [and] on the inability of other would-be competitors to enter the market…').
[97] *Matsushita v Zenith Radio Corp*, 475 US 574, 595 (1986).
[98] See *Matsushita v Zenith Radio Corp*, 475 US 574, 595–596 (1986).

because, no rational firm would undertake it in light of the market forces it would have to contend with.

It could be argued, then, that if the Court had not intensely accounted for market forces—particularly the possibility of new entry—it may have been less inclined to rely on the implausibility rationale. Indeed, the alleged practice's implausibility weighed heavily in the Court's reasoning. Therefore, its decision—one which narrowed the scope of antitrust enforcement for exclusionary abuses—seemed to be, at least partly, the product of its belief in self-correcting market forces.[99]

Jefferson Parish[100] further illustrates how a belief in robust markets (or rather an unwillingness to appreciate their imperfections) can be a function of narrow antitrust enforcement scope. A hospital had an exclusive contract with an independent anaesthesiologist provider – Roux. The parties subsequently drew up another contract with the exclusivity clause deleted but the hospital continued its operations as if there was exclusivity. This meant consumers using the hospital also had to use Roux as the anaesthesiologist,[101] i.e. a tying arrangement.[102] On the question of market power and its use in coercing consumers to purchase a product they would not otherwise have purchased absent the tying arrangement,[103] the Court was unwilling to entertain the Court of Appeals' reliance on 'market imperfections' – like the inadequacy of information to accurately compare medical care across several providers.[104] The Court described these imperfections as 'abstract' notions of 'market power' and displayed faith and belief in a consumer's capacity to choose correctly:

[99] There was also market evidence that the conduct was 'in fact' unsuccessful, so its reliance on *future* self-correcting market mechanisms was not absolute. See *Matsushita v Zenith Radio Corp*, 475 US 574, 592 (1986).
[100] *Jefferson Parish Hospital District v Hyde*, 466 US 2 (1984).
[101] *Jefferson Parish Hospital District v Hyde*, 466 US 2 (1984).
[102] See Whish and Bailey, *Competition Law* (n 52) 705.
[103] *Jefferson Parish Hospital District v Hyde*, 466 US 2, 26 (1984).
[104] *Jefferson Parish Hospital District v Hyde*, 466 US 2, 27 (1984).

> If consumers lack price consciousness, that fact will not force them to take an anaesthesiologist whose services they do not want – their indifference to price will have no impact on their willingness or ability to go to another hospital where they can utilize the services of the anaesthesiologist of their choice.[105]

The case demonstrates how antitrust enforcement scope can be a product of your willingness (or lack of in this case) to entertain market imperfections – like imperfect information. Indeed, had the Court accounted for such imperfections—that is, consumers' information failures—it would have arrived at a much broader conception of market power. Thus, a disbelief in market perfection can be a function of wide antitrust enforcement scope.

b. *Post*-Chicago

Post-Chicago, in contrast, 'generally define[d] a broader zone for antitrust intervention'.[106] As we will see, this wider antitrust enforcement scope stemmed largely from *Post*-Chicago's greater willingness to consider the messiness and complexity of markets[107] and, therefore, their imperfections.[108] Otherwise put, *Post*-Chicago had a policy preference for wider antitrust enforcement scope because it believed to a lesser degree that markets were capable of substituting for government intervention.

Kodak[109] exemplifies this point. Kodak sold photocopier equipment and also aftermarket service and parts for that equipment. Independent service organisations (hereafter "ISOs") also

[105] *Jefferson Parish Hospital District v Hyde*, 466 US 2, 28 (1984).
[106] William Kovacic, 'The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix' (2007) Columbia Business Law Review 1, 22, footnote 64.
[107] Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (n 44) 270.
[108] Ibid 267 ('By contrast [to Chicago], "post-Chicago" antitrust has relatively less confidence in markets as such…'); Tara Schleicher, 'The U.S. Supreme Court's Use of Post-Chicago Antitrust Theory in *Eastman Kodak v. Image Technical Services:* Implications for Marketing Practice' (1997) 16 Journal of Public Policy & Marketing 310, 311; Lande, 'Chicago Takes it on the Chin: Imperfect Information Could Play a Crucial Role in the Post-Kodak World' (n 73) 193 ('The Chicago School believes that suboptimal effects from imperfect information are relatively rare, while the post-Chicago School believes that they often are common enough to affect competition in a market').
[109] *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451 (1992).

serviced Kodak machines – meaning Kodak competed with ISOs in this aftermarket.[110] But Kodak soon changed its policy by mandating Kodak machine owners to use Kodak-only parts and service, thereby attempting to exclude ISOs.[111] On the market power question,[112] Kodak argued it was precluded from exercising aftermarket market power over parts and service because the primary equipment market was competitive; thus:

> any increase in profits from a higher price in the aftermarkets…would be *offset* by a corresponding loss in profits from lower equipment sales as *consumers* began purchasing equipment [in the primary market] with more attractive service costs [in the aftermarket].[113]

In his Dissent Scalia agreed with Kodak and maintained that a rationally informed customer would have factored into their price assessment the product's aftermarket cost.[114] The Court, however, had less faith in the perfection of this rationality and held customers could not have been expected to be so forward-thinking given the high information costs of informing themselves of a product's entire cost across its life-cycle.[115]

The Court's reasoning demonstrates 'a rejection of the Chicago School principle that customers are *sufficiently well informed* that they will attribute high aftermarket prices to the cost of ownership' thereby rendering it 'impossible for a nonmonopolist to earn overall monopoly profits by charging high aftermarket prices'.[116] Thus, the antitrust scope is wider precisely because of a lesser belief in the perfection of self-correcting market mechanisms (in this case the imperfect

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[110] *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451, 457 (1992).
[111] *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451, 458 (1992).
[112] *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451, 464 (1992).
[113] *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451, 466 (1992) (emphasis added).
[114] *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451, 495 (1992). See Lande, 'Chicago Takes it on the Chin: Imperfect Information Could Play a Crucial Role in the Post-Kodak World' (n 73) 194 ('If the information possessed by customers [at t=0] had been *perfect*…they would have anticipated that Kodak might change its policy [at t=1] after the customers purchased their machines and were locked in to purchasing spare parts from Kodak') (emphasis added).
[115] See *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451, 473 (1992).
[116] Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (n 44) 285.

capacity of a consumer to price products over a long period of time). *Kodak* consequently raises an important lesson for antitrust enforcement scope: "imperfect information" can frustrate the perfectness of competitive markets because it can prevent a consumer from inducing her competitive constraints perfectly. And the more you doubt a consumer's capacity to induce her competitive constraint perfectly, the more you will arrive at narrow market definitions and therefore wider market power.[117]

CONCLUSION

Post-Chicago viewed markets as imperfect with *Kodak* illustrating how information failures can be 'detrimental' to competition.[118] This affords antitrust plaintiffs broader capacity to argue narrower market definitions, widen market power, and consequently widen antitrust enforcement scope.[119] Chicago, in contrast, seemed to appreciate market imperfections much less than *Post*-Chicago[120] and hence produced a narrower antitrust enforcement scope. As such, oscillating beliefs in the perfection of market mechanisms can be a function of antitrust enforcement scope.

Yet the Chicago–*Post*-Chicago enforcement story also reveals a more subtle but significant point about the market structure spectrum. This spectrum is arguably less to do with market structure and more about market *actors*—supply-side and demand-side—effectuating their competitive constraints perfectly (or more realistically, close to perfection). A highly imperfect prospect of new entry, for instance (which might have swayed the Court in *Matsushita*) moves the

[117] Lande, 'Chicago Takes it on the Chin: Imperfect Information Could Play a Crucial Role in the Post-Kodak World' (n 73) 197 (Consideration of '[i]mperfect information can create more narrowly defined relevant markets because it can effectively prevent customers from turning to certain potential substitutes'. Consequently, '[a] finding of narrower markets usually will have the effect of making it more likely that a firm will be found to have market power').
[118] Schleicher, 'The U.S. Supreme Court's Use of Post-Chicago Antitrust Theory in *Eastman Kodak v. Image Technical Services:* Implications for Marketing Practice' (n 108) 316.
[119] ibid ('Under the post-Chicago view used by the court in *Kodak*, the plaintiff's heightened ability to prove [market power] make a Section 2 monopolization claim's success more likely').
[120] Lande, 'Chicago Takes it on the Chin: Imperfect Information Could Play a Crucial Role in the Post-Kodak World' (n 73) 193 ('Even Chicago-School antitrust scholars believe that information can be imperfect, but the *degree to which* information is *believed* to be imperfect accounts for much of what separates "post-Chicago" antitrust from Chicago-School antitrust') (emphasis added).

antitrust enforcement dial closer to the monopoly side of the market structure spectrum. Similarly, the less that consumers play their role perfectly in the rivalrous process (like in *Kodak*), the closer the antitrust enforcement dial moves to monopoly. What we are about to see, however, is that the latter—demand-side market failures—may generate not simply the question of how much antitrust intervention there should be but rather, whether there should be any antitrust intervention at all.

2 – DEMAND-SIDE IMPERFECTIONS AND ANTITRUST ENFORCEMENT SCOPE

INTRODUCTION

Ex ante assumptions about a market's capacity to self-correct, as illustrated in the previous Chapter, can influence significantly antitrust enforcement scope and, consequently, the scope of business conduct permitted.[121] Both *Jefferson Parish* and *Kodak* demonstrated how a disbelief in the imperfect incentive and/or ability of consumers, for example, to exert their competitive constraints through switching can be a determinant of market power.

Switching (hereafter "switching", "demand-substitution", and/or "demand-substitutability")[122] has always been central to antitrust analysis because of the relationship between market definition and price elasticity and, consequently, market power.[123] Indeed, regulators, in their various communications, have stipulated the significance of demand-substitutability to market definition analysis (and therefore market power).[124] Decisions of the highest courts in both the US

[121] In Chapter 1, we saw how fervent beliefs in the prospect of new entry, for example, can result in narrow antitrust rules. See Chapter 1, Part II. See also Lao, 'Ideology Matters in the Antitrust Debate' (n 45).

[122] Unless otherwise indicated, "switching" in this Chapter is used synonymously with "demand-substitutability" and implies a consumer that is a rational maximiser of her preferences. Otherwise put, "switching" is taken to mean the incentive and ability of a consumer to choose alternative substitutes.

[123] See Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1024 (describing how a 'fundamental' premise of antitrust economics is the assumption that 'an increase in the price of a firm's product will trigger a substitution effect as some consumers shift their purchases towards functionally interchangeable products (substitutes)'); Richard Posner, *Antitrust Law* (2nd edn, University of Chicago Press 2001) 148–149 (describing how significant price increases can 'make poor substitutes at the competitive price look good to consumers, will induce producers of other products to make even costly adaptations in their production processes in order to produce the monopolized product, and may even induce the creation of entirely new firms to produce it'); Whish and Bailey, *Competition Law* (n 52) 29 ('[D]demand substitutability is the essence of market definition [and therefore market power analysis]'); Jonathan Baker, 'Market Definition: An Analytical Overview' (2007) 74 Antitrust Law Journal 129, 132 ('U.S. courts have long emphasized that markets should be defined with respect to the economic force of demand (buyer) substitution. Accordingly, courts look to the *buyer's view* of which products…would be acceptable alternatives') (emphasis added). See also Gregory Werden, 'Demand Elasticities in Antitrust Analysis' (1998) 66 Antitrust Law Journal 363.

[124] European Commission, Commission Notice 97/C 327/03 On the Definition of Relevant Market for the Purposes of [EU] Competition Law [2003] OJ C 372/5, para 13 ('[D]emand substitution constitutes the most immediate and effective disciplinary force on the suppliers of a given product, in particular in relation to their pricing decisions'); United States Department of Justice (hereafter "DOJ"), 'Horizontal Merger Guidelines' (U.S. Department of Justice and the Federal Trade Commission, 19 August 2010), para 4.1 et seq. (Describing the importance of the SSNIP test) (emphasis added); Office of Fair Trading (hereafter "OFT"), 'Market Definition: Understanding Competition Law' (OFT 403, December 2004, subsequently adopted by the UK Competition and Markets Authority) 2 <https://www.gov.uk/government/publications/market-definition> accessed 13 May 2020 ('Market definition is not an

and EU also attest to its significance,[125] as do leading antitrust books and treatises.[126] This relationship to market power means that demand-substitution arises at the "outer boundary" of antitrust analysis because market power assessments are predicated on market definitions and if there is no market power then 'the [antitrust] process stops'.[127] Market definition, therefore, is at the forefront of issues in antitrust litigation.[128]

Market power, generally accepted in both economics and law as a firm's ability to price above marginal cost (i.e. above competitive levels),[129] of course depends on both the disincentive

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end in itself but a key step in identifying the competitive constraints acting on a supplier of a given product or service'); ibid 3 (The 'substitute products [identified] are the most immediate competitive constraints on the behaviour of the undertaking supplying the product in question').

[125] Case 6-72 *Europemballage Corporation and Continental Can Company Inc v Commission* [1973] ECR 215, para 32 (in evaluating an undertaking's dominant position, 'the definition of the relevant market is of essential significance, for the possibilities of competition can only be judged in relation to those characteristics of the products in question by virtue of which those products are particularly apt to satisfy an inelastic need and are only *to a limited extent interchangeable* with other products') (emphasis added). The US Supreme Court in *Brown Shoe*—a vertical merger case—held that market definition is a necessary first step in finding market power because it determines the potential for product interchangeability and, consequently, the extent to which a firm has power over price. *Brown Shoe Co, Inc v United States*, 370 US 294, 324–325 ('[d]etermination of the relevant market is a necessary predicate to a finding of a violation of the Clayton Act because the threatened monopoly must be one which will substantially lessen competition "within the area of effective competition"'. The "competitive area" is determined 'by reference to a product market' and a product market's 'outer boundaries…are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and the substitutes for it'). See also *United States v EI du Pont de Nemours & Co*, 351 US 377, 395 ('In considering what is the relevant market for determining the control of price and competition, no more definite rule can be declared than that commodities reasonably interchangeable by consumers for the same purposes make up that "part of the trade or commerce" monopolization of which may be illegal').

[126] Posner, *Antitrust Law* (n 123) 148 ('[T]he *concept* of elasticity remains indispensable in giving meaning to the concept of market') (emphasis in original). cf Ariel Ezrachi, *EU Competition Law: An Analytical Guide to the Leading Cases* (7th edn, Hart Publishing 2021) 36–37 (acknowledging the limitations of market definition).

[127] George Hay, 'Market Power in Antitrust' (1992) 60 Antitrust Law Journal 807, 808 ('[A]ntitrust analysis is often a two-step process. First we assess the degree of market power, i.e. the potential for competitive harm. Where there is no market power, the process stops…').

[128] Louis Kaplow, 'Why (Ever) Define Markets?' (2010) 124 Harvard Law Review 437, 439 ('Market power…is most often assessed under the market definition/market share paradigm, making market definition the most litigated issue in the field'). See also European Commission, Commission Notice 97/C 327/03 On the Definition of Relevant Market for the Purposes of [EU] Competition Law (n 124) para 4 ('The definition of the relevant market in both its product and its geographic dimensions often has a *decisive influence* on the assessment of a competition case') (emphasis added); Baker, 'Market Definition: An Analytical Overview' (n 123) 129 ('Throughout the history of U.S. antitrust litigation, the outcome of more cases has surely turned on market definition than on any other substantive issue'); Robert Pitofsky, 'New Definitions of Relevant Market and the Assault on Antitrust' (1990) 90 Columbia Law Review 1805, 1807 ('Knowledgeable antitrust practitioners have long known that the most important single issue in most enforcement actions—because so much depends on it—is market definition') See also *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451, 469, footnote 15 (1992) ('Courts usually have considered the relationship between price in one market and demand in another in defining the relevant market. Because market power is often inferred from market share, market definition generally *determines the result of* the case') (emphasis added).

[129] See Mankiw and Taylor, *Economics* (n 49) 313 (contrasting monopoly pricing with pricing in competitive markets); Andreu Mas-Colell, Micjael D Whinston and Jerry R Green, *Microeconomic Theory* (Oxford University Press 1995) 383 (describing why a monopolist, in contrast to firms in competitive markets, may find it profitable to price above

and inability of consumers to turn to substitute products because 'the power to exclude competition [has been rightly cited as] *an ingredient* of the power to control price'.[130] Indeed, the Court in *Cellophane* seemed to stress this point in its reasoning – that '[i]t is inconceivable that price could be controlled without power over competition or vice versa'.[131]

Switching in an antitrust sense pertains to the number of options available to consumers and their incentive and ability to realise those options. Indeed, some scholars have conceived of antitrust in this way.[132] In the perfectly competitive market described in Chapter 1, a consumer has infinite options and faces zero transaction costs in attaining them.[133] Frictions in this perfection—like search costs, information failures, fundamental uncertainty, or product heterogeneity, for example—would

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competitive levels); Hal R Varian, *Microeconomics* (8th edn, WW Norton & Company 2010) Ch 24 (contrasting a monopolist's pricing with the pricing of competitive industries). Many US Supreme Court cases have used this definition or a form of it. See eg *Ohio v American Express Co.*, 138 SCt 2274, 2288 ('Market power is the ability to raise price profitably by *restricting output*') (emphasis in original). *Fortner v United States Steel Corp*, 394 US 495, 503 (1969) ('Market power is usually stated to be the ability of a single seller to raise price and restrict output…'); *Jefferson Parish Hosp Dist No 2 v Hyde*, 466 US 2, 27, footnote 46 (1984) ('[M]arket power exists whenever prices can be raised above the levels that would be charged in a competitive market'); *United States Steel Corp v Fortner Enterprises, Inc.*, 429 US 610, 620 (1977) ('[T]he question is whether the seller has the power…to raise prices or to require purchasers to accept burdensome terms that could not be exacted in a completely competitive market'); *NCAA v Board of Regents of the Univ of Okla*, 468 US 85, 109, footnote 38 ('Market power is the ability to raise prices above those that would be charged in a competitive market'). US federal Court of Appeals courts have also used this definition. See eg *United States v Rockford Memorial Corp*, 898 F2d 1278, 1283 (7th Cir 1990) (defining 'market power' as the ability 'to increase price above the competitive level without losing so much business to other suppliers as to make the price increase unprofitable'); *Wilk v American Med Association*, 895 F2d 352, 359 (7th Cir 1990) ('Market power is the ability to raise prices above the competitive level by restricting output'); *Ball Memorial Hospital., Inc. v Mutual Hospital Insurance, Inc.*, 784 F2d 1325, 1335 (7th Cir 1986) (defining market power as 'the ability to raise price significantly higher than the competitive level by restricting output'). See Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 373. The European Commission uses a similar definition in its Priorities Guidance on Article 102 TFEU Enforcement but is conditioned by the word "profitably". See European Commission, 'Guidance on the Commission's Enforcement Priorities in Applying [Article 102 TFEU] to abusive exclusionary conduct by dominant undertakings' (Communication) COM (45), para 11 ('The Commission considers that an undertaking which is capable of profitably increasing prices above the competitive level for a significant period of time does not face sufficiently effective competitive constraints and can thus generally be regarded as dominant').

[130] George Hay, 'Market Power in Antitrust' (n 127) 820.

[131] *EI du Pont de Nemours & Co* (n 125) 392 (describing how the trial court had to assess competitive constraints from other wrapping competitors and how '[p]rice and competition are so intimately entwined that any discussion of theory must treat them as one. It is [therefore] inconceivable that price could be controlled without power over competition, or vice versa').

[132] Robert Lande, 'Consumer Choice as the Ultimate Goal of Antitrust' (2001) 62 University of Pittsburgh Law Review 503, 503 ('The antitrust laws are intended to ensure that the marketplace remains competitive so that worthwhile options are produced and made available to consumers, and this range of options is not to be significantly impaired or distorted by anticompetitive practices'); Neil Averitt and Robert Lande, 'Using the "Consumer Choice" Approach to Antitrust Law' (2007) 74 Antitrust Law Journal 175, 181 (describing the consumer choice approach to antitrust as underpinned by two necessary 'ingredients' – 'options, and the ability to choose among them').

[133] See Chapter 1, Part I.

be required for some degree of market power to manifest.[134] Thus, the first goal of this Chapter is to develop the proposition that switching can be a function of market power and, therefore, antitrust enforcement scope.

However, the demand-side of antitrust, including the concepts of demand-substitutability and price elasticity, has had a thorny and fragmented life, not least because of the symbiosis between consumer protection law, on the one hand, and antitrust law, on the other.[135] So perhaps it is unsurprising, then, that when scholars have displayed anxieties about the concept of market power expanding too broadly for antitrust enforcement purposes—that is, when they have been concerned about whether certain kinds of market imperfections should be treated as "antitrust" market power[136]—it has almost always been in demand-side contexts. The issue is whether these demand-side market frictions generate the *kind* of market power that antitrust should concern itself with, which some have defined as meaning "substantial" and "sustainable" market power.[137] This is because if market power is taken to mean simply the ability to price above marginal cost, then almost all firms possess *some* degree of market power because their demand curves will not resemble the stylised world of perfect competition—where price equals marginal cost and the demand curve is horizontal[138]—but rather will be (at the very least slightly) downward sloping.[139]

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[134] In one sense *all* firms have *some* market power because reality is devoid of perfect competition. Thus, deviations from perfection—like those described in-text—will confer *some* degree of market power and empower firms to price above marginal cost (i.e. the economist's definition of market power). As Carlton & Perloff explain, '[i]f this definition is applied literally, probably every firm in the United States has at least a tiny bit of market power'. See Dennis Carlton and Jeffrey Perloff, *Modern Industrial Organization* (Scott, Foresman/Little, Brown 1989) 738. See also Chapter 2, Part II.

[135] See Joshua Wright, 'The Antitrust/Consumer Protection Paradox: Two Policies at War With Each Other' (2012) 121 Yale Law Journal 2216; Neil Averitt and Robert Lande, 'Consumer Sovereignty: A Unified Theory of Antitrust and Consumer Protection Law' (1997) 65 Antitrust Law Journal 713.

[136] The term "antitrust" market power is used in the same sense as Arthur. See Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 5, footnote 8 (using the term "antitrust" market power 'to refer to the market power recognized by antitrust courts as satisfying the market power element of an antitrust offense').

[137] See eg Hay, 'Market Power in Antitrust' (n 127) 817–819; Landes and Posner, 'Market Power in Antitrust Cases' (n 52) 937 ('A finding of monopolization in violation of section 2 of the Sherman Act requires an initial determination that the defendant has monopoly power – a high degree of market power'); Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43).

[138] Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 370 ('The competitive firm maximizes profit just as the monopolist, but it faces a different demand curve. The competitive firm is a price taker; it can sell at the market price all

Thus, even trivial consumer foibles—that is, even small deviations from consumer perfection—could generate some market power, but whether they generate "antitrust" market power[140] is the key question and will be determinative for triggering antitrust scrutiny.[141]

Against this backdrop, this Chapter, first, seeks to descriptively highlight the functional relationship between switching and antitrust enforcement scope, illustrating how both the incentive and ability of a consumer to realise substitutes (hereafter "outside options")[142] can be a function of market power. This proposition will become clear on two levels – at the periphery or "outer bounds" of antitrust enforcement and analysis, which concerns market definition, and closer to the "inner bounds", which concerns the strength of foreclosure effects and, consequently, market power. Second, the Chapter normatively identifies a second variable that can determine the scope of antitrust intervention by differentiating between structural and non-structural market power. The Chapter explains how scholarly anxiety about undue expansions of "antitrust" market power has arisen primarily whenever the demand-side has been in issue – that is, debates about the contours of the concept of "antitrust" market power have been largely products of demand-side market failures.

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it can produce, but it cannot affect that price by changing its output. Thus, the competitive firm faces an *infinitely elastic* demand curve throughout the relevant range, i.e., a demand curve that is a horizontal line') (emphasis added). See also Carlton and Perloff, *Modern Industrial Organization* (n 134) 738.

[139] See Hay, 'Market Power in Antitrust' (n 127) 812–814 (comparing various definitions of market power and concluding that they are 'not very useful for antitrust purposes' because defining market power as "the ability to raise price above competitive levels" will apply to '*any* firm facing a downward sloping demand curve, no matter how slight the slope (i.e. no matter how elastic the demand curve') (emphasis in original). See also Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 370 ('A firm lacks market power if it faces an infinitely elastic demand curve, and a firm possesses market power if it faces a downward sloping demand curve'); ibid 371 ('[T]he vast majority of firms *have at least a little* market power. In particular, every seller of a product that is differentiated with respect to any relevant dimension almost certainly has some market power') (emphasis added); Landes and Posner, 'Market Power in Antitrust Cases' (n 52) 939 ('Under perfect competition, price equals marginal cost, so if a firm's price is above its marginal cost, the implication is that the firm does not face perfect competition, i.e., that it has at least some market power'); Areeda et al, *Antitrust Analysis: Problems, Texts, and Cases* (n 56) 484–485 ('[Market power] is possessed to some degree by every firm that is not constrained by perfect competition').

[140] Hay, 'Market Power in Antitrust' (n 127) 814 ('[M]arket power for antitrust purposes should refer to a situation in which a firm or group of firms is able to profitably maintain prices *significantly* above the competitive level for a *sustained* period of time, thereby earning supranormal economic profit') (emphasis in original). See also Benjamin Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (1993) 3 Supreme Court Economic Review 43, 71 et seq.

[141] This is a legal question, whereby once antitrust law determines that "antitrust" market power exists, the behaviour of the defendant firm would then need to be more closely examined.

[142] "Substitutes" and "outside options" are used synonymously in this Chapter.

These insights thus can help us build upon and nuance the discussions in Chapter 1 by illuminating the normative limits on deviations from perfect competition for antitrust enforcement purposes.[143]

I. SWITCHING AS A FUNCTION OF MARKET POWER – ECONOMIC CONCEPT

a. Switching incentives

The relationship between market definition and market power is well-established within antitrust discourse and practice[144]– with both US and EU courts, for example, acknowledging this interconnection.[145] Clearly, the greater the range of products consumers are assumed to view as substitutes, the greater the potential number of competitive constraints an incumbent firm is assumed to be subject to because a consumer possesses many functionally interchangeable alternatives to turn to should the incumbent firm raise its price.[146] Thus, a wide market definition can result in narrow market power inferences.[147]

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[143] See also Chapter 7, 'The Normative Limits of Behavioural Antitrust' (explaining why the limits are demarcated as such).

[144] Louis Kaplow, 'Market Definition' (2013) The Harvard John M Olin Discussion Paper Series No 745, 2 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2265304> accessed 16 June 2020 ('[M]arket power is a central element of most competition rules throughout the world, and market definition is the most widely used method of assessing market power…').

[145] See eg *US v Grinnell* Corp, 384 US 563, 571 (1966) ('The existence of [monopoly power] ordinarily may be inferred from the predominant share of the market'); *Todd v Exxon Corp.*, 275 F3d 191, 199 (2001) ('One traditional way to demonstrate market power is by defining the relevant product market…'); US *Anchor Mfg, Inc v Rule Indus*, Inc 7 F3d 986, 995–996 (11th Cir 1993); ('[T]he very purpose of defining the relevant market…is to determine whether a monopolist, cartel or oligopoly would be able to reduce market wide output simply by cutting its own output, and thereby raise market wide prices above competitive levels'); *Israel Travel Advisory Service v Israel Industry Tours, Inc*, 61 F3d 1250, 1252 (7th Cir 1995) ('[A] market is defined to aid in identifying any ability to raise price by curtailing output'); *Consul, Ltd v Transco Energy Co.*, 805 F2d 490, 495 (4th Cir 1986) ('The penultimate question, towards which this preliminary inquiry into market definition is directed, is whether the defendant has market power: the ability to raise prices above levels that would exist in a perfectly competitive market'); *Weiss v York Hospital*, 745 F2d 786, 826 (3d Cir 1984) ('[T]he purpose of market definition is to determine whether market power exists'). See Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 385. See eg Case 6/72 *Continental Can v Commission* [1973] E.C.R. 215, para 32.

[146] Whish and Bailey, *Competition Law* (n 52) 31 ('The judgments of the Court of Justice show that the definition of the market is essentially a matter of interchangeability' and '[w]here goods or services can be regarded as interchangeable, they are within the same product market'); Pitofsky, 'New Definitions of Relevant Market and the Assault on Antitrust' (n 128) 1810 (describing how market power is measured by a 'three-step process' and how in the first of these steps 'a market is "defined" by describing those products and production processes that are sufficiently close substitutes such that if a firm or group of firms *tried to raise its price substantially* on any product in that market, it would *promptly lose* substantial business to these substitutes') (emphasis added); *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451, 469 footnote 15 (1992) (citing Areeda and Kaplow and concluding '[w]hat constrains the defendant's ability to raise prices in the service market is "the elasticity of demand faced by the defendant – the degree to which its sales fall…as its price rises"'); European Commission, Commission Notice 97/C 327/03 On the Definition of Relevant Market for the Purposes of [EU] Competition Law (n 124) para 17 ('The question to be answered is whether [a firm's]

To determine the relevant market, one must consider the range of products a consumer would be inclined to turn to in the event of an individual product's price rise – that is, the range of products consumers view as homogenous (i.e. cross-price elasticity of demand).[148] *Times Picayune* first highlighted the import of cross-price demand-elasticity when the Court explained the functional relationship between this concept and market definition. The Court stated:

> For every product, substitutes exist. But a relevant market cannot meaningfully encompass that infinite range. The circle must be drawn narrowly *to exclude* any other product to which, within reasonable variations in price, only a limited number of buyers will turn; in technical terms, products whose "cross-elasticities of demand" are small.[149]

Continental Can,[150] *United Brands*,[151] and *United States v Eastman Kodak*—seminal European cases on market definition and a Second Circuit US Court of Appeals case respectively—exemplify the central role cross-price elasticity plays in market definition. They therefore demonstrate how consumer switching incentives can be a function of antitrust enforcement scope.

In *Continental Can*, the European Commission decided that Continental Can, a manufacturer of metal containers, had infringed Article 102 Treaty on the Functioning of the European Union (hereafter "TFEU").[152] Continental can argued that the Commission incorrectly relied only on market shares in inferring market power and pointed out that identifying market power depends on

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customers would switch to readily available substitutes or to suppliers located elsewhere in response to a hypothetical small…but permanent relative price increase in the products and areas being considered. If substitution were enough to make the price increase unprofitable because of the resulting loss of sales, additional substitutes and areas are included in the relevant market').

[147] See Chapter 2, Part I.

[148] cf Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 398 et seq ('Since cross elasticities of demand relate to the closeness of substitutes, it is only natural to think that cross elasticities of demand can play a useful role in market [definition and delineation]' but in fact opining that what matters is own-price elasticity).

[149] *Times Picayune Pub Co v United States*, 345 US 594, 612, footnote 31 (1953). See also Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 398–399.

[150] Case 6/72 *Continental Can v Commission* [1973] E.C.R. 215.

[151] Case 27/76 *United Brands v Commission* [1978] ECR 207.

[152] Consolidated Version of the Treaty on the Functioning of the European Union [2008] OJ C115, Art 102.

defining the relevant market correctly.[153] The Court of Justice of the European Union (hereafter "CJEU") held against the Commission for failing to undertake appropriate market definition analysis. It stated in a now famous excerpt:

> the definition of the relevant market is of essential significance, for the possibilities of competition can only be judged in relation to those characteristics of the products in question by virtue of which those products are particularly apt to satisfy an inelastic need and are only to a limited extent interchangeable with other products.[154]

Here, the Commission had assumed a relevant market that was too narrow[155] – meaning that after Continental Can's acquisition of another firm, consumers' 'functionally interchangeable'[156] substitutes were assumed away, which meant the Commission attributed high levels of market power to Continental Can. Specifically, the Commission did not satisfactorily explain why the market for meat cans, the market for seafood cans, the market for metal closures in food packaging, and the 'general market for light containers' were all separate markets rather than one single potential market.[157] The Court held that for products to constitute a 'distinct' and standalone market, they would have to be 'individualized' from consumption and production perspectives.[158] Indeed, the Court highlighted that the Commission decision actually seemed to implicitly admit and concede

[153] Case 6/72 *Continental Can v Commission* [1973] E.C.R. 215, page 225.
[154] Case 6/72 *Continental Can v Commission* [1973] E.C.R. 215, para 32 (emphasis added).
[155] See Whish and Bailey, *Competition Law* (n 52) 30.
[156] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1024 (describing how a 'fundamental' premise of antitrust economics is the assumption that 'an increase in the price of a firm's product will trigger a substitution effect as some consumers shift their purchases towards functionally interchangeable products (substitutes)'); Baker, 'Market Definition: An Analytical Overview' (n 123) 132 ('U.S. courts have long emphasized that markets should be defined with respect to the economic force of demand (buyer) substitution. Accordingly, courts look to the *buyer's view* of which products…would be acceptable alternatives').
[157] Case 6/72 *Continental Can v Commission* [1973] E.C.R. 215, para 33 ('The decision does not…give any details of how these…markets differ from each other, and must therefore be considered separately').
[158] Case 6/72 *Continental Can v Commission* [1973] E.C.R. 215, para 33 ('In order to be regarded as constituting a distinct market, the products in question must be individualized, not only by the mere fact that they are used for packing certain products, but by particular characteristics of production which make them *specifically suitable* for this purpose').

that such products belonged to a much wider market from demand-substitution perspectives,[159] which cut against the Commission's argument of "constrained interchangeability".

Continental Can, therefore, demonstrates how product heterogeneity—derived from consumption tastes and preferences and in contrast to perfect competition's assumption of product homogeneity—can be a function of market power. In particular, the Court seemed to stress that the three markets the Commission inferred market power from—the market for meat cans, the market for seafood cans, and the market for metal closures in food packaging—were not sufficiently "individualised" (that is, sufficiently heterogeneous and differentiated) so as to confer market power.[160] To be sure, most products can command negligible degrees of market power because of product heterogeneity, i.e. they may be sufficiently differentiated across a variety of tangible and intangible parameters so that they hold *some* power over *certain* consumers. A consumer, therefore, is unlikely to possess the perfect incentive to switch to a substitute because that substitute will not be exactly identical. However in *Continental Can* the Court's view was that the available substitutes were "good enough", such that the Commission erred in *not* assuming in its market definition assessment that a price rise in one metal can would have induced a consumer to switch to another. In short, the relevant product market was wider precisely because consumers *would have* had incentives to switch to alternatives in the event of price rises. Indeed, had the *Continental Can* Court concluded that the three markets at issue had non-replicable features and were each characterised by

[159] Case 6/72 *Continental Can v Commission* [1973] E.C.R. 215, para 34 ('[T]he decision, when examining the possibilities of competition by substitutes, *does not…confine itself* to the three relevant "markets", but deals with the market for light metal containers for other purposes as well…') (emphasis added).

[160] See Charles Mueller, 'Sources of Monopoly Power: A Phenomenon Called "Product Differentiation"' (1968) 18 American University Law Review 1 (describing how monopolisation can be accomplished through product differentiation, i.e. 'the distinguishing of *substitute products* from one another (by advertising and the like) and thus the creation, in the minds of buyers of that product, of a conviction that it is superior to other products of the same general class, a conviction that permits it to command a supercompetitive price, one that exceeds the price being charged by other sellers for products that are in fact of comparable quality'). cf Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 33–36 (arguing that product differentiation should be outside the scope of the sources of market power that antitrust should concern itself with).

very high degrees of heterogeneity, it would have arrived at the more narrow market definition (and greater market power) that the Commission did.

United Brands demonstrates the corollary—how high degrees of product heterogeneity (that is, idiosyncratically special characteristics)—can indeed result in narrow market definitions and, therefore, wider notions of market power. The Commission had held United Brands to be dominant in the market for bananas. United Brands argued that the market definition put forward by the Commission was too narrow – that in fact the relevant market was the fruit market generally (e.g. bananas, apples, pears, oranges) because consumers viewed bananas as 'reasonably interchangeable' with other fruits.[161] In contrast, the Commission argued that bananas possessed very idiosyncratic features (e.g. available all-year round, no seeds, easy to handle, and easy to eat) and that these distinctive characteristics rendered bananas only partly interchangeable with other fruits from consumption perspectives.[162] The CJEU upheld the Commission's rationale underpinning its narrow market definition. Specifically, the Court held that bananas constituted a standalone product market because of their special features and that the substantial number of consumers who possessed a continuous need for bananas were '*not* noticeably or even appreciably enticed away from [their] consumption…by the arrival of other fresh fruit on the market'.[163]

Thus, consumers did not seem to view other fruits as viable substitutes and therefore possessed little incentive to switch to other fruits because these alternatives lacked the idiosyncratic utility that specific consumers valued in bananas.[164] This resulted in the narrow market definition

[161] Case 27/76 *United Brands v Commission* [1978] ECR 207, pages 224–225.
[162] Case 27/76 *United Brands v Commission* [1978] ECR 207, pages 225–226.
[163] Case 27/76 *United Brands v Commission* [1978] ECR 207, paras 31–35; Case 27/76 *United Brands v Commission* [1978] ECR 207, para 35 (concluding that '[t]the banana market is a market which is sufficiently distinct from the other fresh fruit markets').
[164] Case 27/76 *United Brands v Commission* [1978] ECR 207, para 30 ('This small degree of substitutability is accounted for by the specific features of the banana…'); Case 27/76 *United Brands v Commission* [1978] ECR 207, para 31 ('The banana has certain characteristics, appearance, taste, softness, seedlessness, easy handling, a constant level of

that contributed to the Court's finding of market power[165] and thereby illustrates how a narrow conception of consumer switching can be a function of wide antitrust enforcement scope.

In *United States v Eastman Kodak*—a Second Circuit US Court of Appeals case[166]— Kodak wanted previous consent decrees terminated so as to expand its competitive autonomy in the market for colour print film. Market power was the central issue and the District Court held that although the quality differences between Kodak and several other rivals were negligible,[167] there existed intense consumer preferences towards Kodak as it was '*perceived* to be superior to other films in the market'.[168] This was a decree termination proceeding so Kodak bore the burden of proof on the market power question.[169] Kodak argued that its cross-price demand elasticity was high—that there were good substitutes for Kodak film and consumers were willing to realise these[170]—and therefore demonstrated a lack of market power. Specifically, expert evidence revealed that if Kodak raised price by five percent, ten percent of sales would be lost,[171] meaning its own-price elasticity was 2.[172] These demand elasticity analyses—both own-price and cross-price—led the District Court to conclude Kodak lacked market power.[173] On appeal, the Second Circuit rejected the government's argument of product differentiation – that demand elasticities, as the District Court held, were a

production which enable it to satisfy the constant needs of an important section of the population consisting of the very old, the young and the sick').

[165] Case 27/76 *United Brands v Commission* [1978] ECR 207, paras 97–129 (accounting for competitive pressures *only* from banana rivals and not from rivals of fresh fruit generally).

[166] *United States v Eastman Kodak*, 63 F3d 95 (2d Cir 1995).

[167] *United States v Eastman Kodak*, 853 F Supp 1454, 1462 (WDNY 1994) (experts testifying that 'there were no significant quality differences between Kodak's film and any of its top three competitors Fuji, Konica, and Agfa').

[168] *United States v Eastman Kodak*, 853 F Supp 1454, 1475 (WDNY 1994) (50% of consumers would purchase only Kodak film whilst 40% would prefer Kodak film but would be willing to buy another brand) (emphasis added).

[169] *United States v Eastman Kodak*, 853 F Supp 1454, 1464 (WDNY 1994), citing *Rufo v Inmates of Suffolk County Jail*, 502 US 367, 383 ('[A] a party seeking modification of a consent decree bears the burden of establishing that a significant change in circumstances warrants revision of the decree').

[170] *United States v Eastman Kodak*, 853 F Supp 1454, 1465 et seq (WDNY 1994).

[171] *United States v Eastman Kodak*, 853 F Supp 1454, 1473 (WDNY 1994).

[172] See also Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 383.

[173] *United States v Eastman Kodak*, 853 F Supp 1454, 1473 (WDNY 1994) (concluding Kodak lacked market power because it lacked the ability to raise price or exclude competition).

constraint on Kodak's differentiation[174] and so Kodak film was *not* sufficiently differentiated to confer the kind of market power that antitrust should concern itself with.[175]

These cases are of course not just isolated instances demonstrating the relationship between switching incentives and antitrust enforcement scope; other cases also highlight this interconnection.[176] The foregoing cases do illuminate, however, how a disbelief in a consumer's incentive to switch to what may be ostensibly substitutable products can be a function of antitrust enforcement scope because if a product has a good degree of homogeneity—that is, functional interchangeability—with another product, a rise in the price of the latter can trigger consumer incentives to switch to the former.

b. Switching abilities

Sometimes it is not contested that certain products are substitutes, in which case those products will form a part of the same relevant product market for antitrust enforcement purposes. Yet even so, sometimes a disbelief in the imperfect ability of consumers to switch to those alternative substitutes has been a determinant of market definition and therefore market power[177] – with such an inability usually arising from endogenous consumer factors. As Bennett et al contend:

> the demand side is…crucial – if consumers are less engaged in the buying process, then firms may find it harder to win market share by providing what consumers most want. This will, in turn, reduce the incentives of firms to work towards that end,

[174] *United States v Eastman Kodak*, 63 F3d 95, 109 (2d Cir 1995) ('[T]he contention that Kodak film is differentiated from the film sold by its rivals is directly contradicted by the district court's findings with respect to the elasticites of supply and demand for film').
[175] See Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 384.
[176] See eg Case 322/81 *Michelin I* [1983] ECR 3461 (where the Court concluded that car and van tyres were *not* interchangeable with heavy-vehicle tyres because of a lack of interchangeability and thus arrived at a narrow market definition).
[177] See US DOJ, 'Horizontal Merger Guidelines' (n 124) 7 <https://www.justice.gov/atr/horizontal-merger-guidelines-08192010> accessed 28 June 2022 ('Market definition focuses solely on demand substitution factors, i.e. on customers' *ability* and willingness to substitute away from one product to another in response to a price increase or a corresponding non-price change such as a reduction in product quality or service') (emphasis added).

> competition will be weakened, and less consumer benefit will be delivered by the market.[178]

Note however that this discussion is somewhat different to the discussions in the previous sub-section: in the latter, the boundaries of the relevant product market are being debated, and when it is resolved it will have been the result of analyses dissecting consumers' *willingness* to switch to certain products; in the former, a relevant product market has been determined, yet consumers' *abilities* to switch may be curtailed.

Microsoft,[179] *Cisco Systems*,[180] and *Google (Android)*[181] are illustrative on this point. In *Microsoft*, the Commission had found that Microsoft abused its dominant position in the market for operating systems by tying its media streaming application—Windows Media Player (hereafter "WMP")—to the operating system.[182] A key part of the Court's reasoning in finding anticompetitive foreclosure was the fact that if WMP came pre-installed on the Windows operating system, consumers would be less likely to download and install competing media players. In short, the default option of WMP rendered consumers "sticky", which apparently detracted from their ability to switch to substitute media players.

Although framed by both the Court and scholars as a disincentive to switch,[183] it is perhaps more accurate to describe it as an imperfect ability. In particular, the resources consumers would have had to expend in installing a substitute media player cut against their perfect ability to do so

[178] Bennett et al, 'What Does Behavioural Economics Mean for Competition Policy' (n 33) 115 (emphasis added).
[179] Case T-201/04 *Microsoft* [2007] ECR II-3601.
[180] Case T-79/12 *Cisco Systems, Inc. and Messagenet SpA v European Commission* EU:T:2013:635.
[181] (Case AT 40099) Commission Decision C(2018) 4761 final.
[182] *Microsoft* (Case COMP/C-3/37.792) Commission Decision C(2004)900 final.
[183] See eg Maurice Stucke, 'The Implications of Behavioral Antitrust' (2012) University of Tennessee Legal Studies Research Paper No 192, 4 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2109713> accessed 31 May 2020. See also Case T-201/04 *Microsoft* [2007] ECR II-3601, para 1054 ('[T]he practice allowed Microsoft to obtain an unparalleled advantage with respect to the distribution of its product and to ensure the ubiquity of Windows Media Player on client PCs throughout the world, thus providing a *disincentive* for users to make use of third-party media players…') (emphasis added).

seamlessly and instantaneously. Indeed, the facts revealed that actually other media players may have been "superior" to Microsoft's and were at the very least equal in quality,[184] so the fact that consumers were not switching was less about their incentive (this may indeed have existed) and more about their ability. Specifically, this inability to perfectly realise media player substitutes arose partly because of transaction costs associated with downloading internet applications.[185] As the Commission highlighted in its decision, due to download complexity, incomplete download efforts, and lack of broadband ubiquity, 'the inconvenience of downloading a media player is in Microsoft's own view a real issue, at least in Europe'.[186] Thus, at least in the Commission's view, the anticompetitive foreclosure effect manifested because of its disbelief in consumers' abilities to switch to competing media players, thereby rendering the former a product of the latter. Perhaps taking a liberal interpretation of the word "easily", Bennett et al conclude that rational choice theory, where consumers are endowed with Spock-like abilities in our perfectly competitive world,[187] would have been unconcerned with the setting of Windows Media Player as the default 'since consumers were easily able to download other media players for free, and at only a minimal cost to them in terms of time.'[188] However, 'behavioural economics suggests that even *small* switching costs can have *significant* effects on consumer behaviour…[which can,] in turn, make foreclosure more likely to occur through tying and bundling'.[189] Indeed, the Commission and Court were evidently not persuaded by the prospect of perfect consumer rationality.

[184] Case T-201/04 *Microsoft* [2007] ECR II-3601, para 1057 ('It follows from information communicated by Microsoft itself…that the significant growth in the use of Windows Media Player *has not* come about because that player is of better quality than competing players or because those media players, and particularly RealPlayer, have certain defects') (emphasis added).
[185] See Stucke, 'The Implications of Behavioral Antitrust' (n 183) 5, footnote 17.
[186] *Microsoft* (Case COMP/C-3/37.79) Commission Decision C(2004)900 final, paras 866–867.
[187] Eric D Beinhocker, *The Origin of Wealth: Evolution, Complexity, and the Radical Remaking of Economics* (Harvard Business School Press 2006) 116 ('Spock, the Vulcan in the *Star Trek* series, portrayed a perfectly rational being. Spock could remember the number π to fifty decimal places and perform incredibly complex calculations, all while under enemy phaser fire and without the slightest trace of emotion. Spock is a good example of [*Homo economicus*]').
[188] Bennett et al, 'What Does Behavioural Economics Mean for Competition Policy' (n 33) 121.
[189] ibid 121 (emphasis added). See also Stucke, 'The Implications of Behavioral Antitrust' (n 183) 5 ('One could strain under neoclassical economic theory to find coercion').

In *Cisco Systems*,[190] Cisco challenged the Commission's decision permitting Microsoft's acquisition of Skype. However, a key part of the Court's reasoning in upholding the Commission's decision was the ease with which consumers could download competing communications technologies. Specifically, the Court held that compared to the *Microsoft* case above,[191] there were no 'technical or economic' barriers to switching or indeed to 'using several communications programs at the same time'.[192] The Court further held that should Skype's video messaging services cease to be offered free of charge, this would induce a substitution-effect amongst consumers who would presumably switch operators, thereby exerting a competitive constraint.[193] This reasoning contributed to the Court's conclusion in assessing competitive harm that Cisco 'failed to demonstrate how the concentration might harm competition on the consumer communications market'.[194] Thus, the Court's belief in the consumer's ability to switch products was a function of antitrust enforcement scope.

In *Google (Android)*, in contrast, the European Commission demonstrated less belief in a consumer's capacity to exert their competitive constraints. The Commission held that Google abused its dominant position in the market for licensable smart mobile operating systems by conditioning original equipment phone manufacturers (hereafter "OEMs") to pre-install Google Search as the default search engine and Google Chrome as the default web browser lest those OEMs not receive Google Play—a "must have" app—in the Android operating system. The Commission concluded that this tying arrangement generated an anticompetitive foreclosure effect because despite consumers being able to download and install rival web browsers and search engines,[195] the

[190] Case T-79/12 *Cisco Systems, Inc. and Messagenet SpA v European Commission* EU:T:2013:635.
[191] Case T-201/04 *Microsoft* [2007] ECR II-3601.
[192] Case T-79/12 *Cisco Systems, Inc. and Messagenet SpA v European Commission* EU:T:2013:635, paras 79–80.
[193] Case T-79/12 *Cisco Systems, Inc. and Messagenet SpA v European Commission* EU:T:2013:635, para 88 ('Consumers expect [these] services to be provided for free and the applicants have failed to demonstrate how the concentration might enable Skype to change those market conditions without consumers switching operators').
[194] Case T-79/12 *Cisco Systems, Inc. and Messagenet SpA v European Commission* EU:T:2013:635, para 94.
[195] *Google (Android)* (Case AT 40099) Commission Decision C(2018) 4761 final.

Commission disbelieved that they were capable of doing so. Specifically, the Commission reasoned that such pre-installation strategies rendered consumers "sticky" – that is, 'can increase significantly on a lasting basis the usage of the service provided by an app [because] users that find apps pre-installed and presented to them on their smart mobile devices are likely to "stick" to those apps'.[196] Thus, the Commission's disbelief in a consumer's ability to find and use substitutes was a function of its finding of anti-competitive foreclosure – a condition that must be met for an Article 102 TFEU tying claim.[197] Indeed, had the Commission displayed more faith in a consumer's capacity to switch, it would have been bound to find that the foreclosure effect was much less severe because consumers could exert competitive pressure on Google Search and Google Chrome by switching easily to rival search engines and web browsers.

In sum, demand-substitutability can be a function of antitrust enforcement scope – specifically, a determinant of market power. We saw this on two levels: at the "outer boundary" of antitrust analysis in defining the relevant market[198] and at the "inner boundary" in assessing foreclosure effects. Antitrust enforcement scope, consequently, can be a product of one's disbelief in both consumers' willingness to switch to other products and also their capacities to exercise their competitive constraints, i.e. their incentives and abilities to realise outside options. This variable however—whether you believe consumers are willing and able to exert competitive pressures (that

[196] *Google (Android)* (Case AT 40099) Commission Decision C(2018) 4761 final, para 781. See also ibid, para 782 ('Users are unlikely to look for, download, and use alternative apps, at least when the app that is pre-installed, premium placed and/or set as default already delivers the required functionality to a satisfactory level'). See also for browser pre-installation *Google (Android)* (Case AT 40099) Commission Decision C(2018) 4761 final, paras 900 et seq. (demonstrating through evidence the significance of the default option on diluting consumers' capacities to switch).
[197] Case T-201/04 *Microsoft* [2007] ECR II-3601, para 867 ('[T]he Court observes that, while it is true that neither [Article 102 TFEU (d)] nor [Article 102 TFEU] more generally as a whole contains any reference to the anti-competitive effect of bundling, the fact remains that, in principle, conduct will be regarded as abusive only if it is capable of restricting competition'). See also Case T-203/01 *Michelin v Commission* EU:T:2003:250, para 237 ('[C]onduct will be regarded as abusive [under Article 102 TFEU] only if it restricts competition').
[198] Baker, 'Market Definition: An Analytical Overview' (n 123) 173 (concluding that '[m]arket definition is the primary method by which antitrust analysis accounts for the economic force of demand substitution in evaluating the competitive effects of firm conduct').

is, whether a market failure arises and, if so, whether it can be self-corrected from the demand-side)—is just one determinant of the appropriate scope of antitrust intervention. This is because even if you do not believe in a market's demand-side self-correcting capacities (and therefore prefer *more* (not *less*) antitrust enforcement),[199] there is the additional consideration of what deviations from perfect competition should warrant antitrust scrutiny. An additional parameter, then, by which to measure the appropriate scope of antitrust enforcement is the degree to which deviations from perfection render antitrust cost-justified. We turn to examine this issue with a view to enhancing our understanding about deviations from perfect competition and the normative limits of antitrust enforcement.

II. SWITCHING AS A FUNCTION OF MARKET POWER – LEGAL CONCEPT

The legal concept of market power is one that has generated an important debate. As indicated at this Chapter's outset, a nuanced but no less significant question has been whether certain kinds of market power are the kinds that warrant antitrust scrutiny.[200] Ambiguity exists as to when deviations from perfect competition should confer antitrust market power (although some scholars have attempted to delineate criteria for identifying the latter).[201] For instance, scholars argue that something more is required than a simple deviation from perfect competition because antitrust can be a costly regulatory tool and an inclusion of every deviation from perfection would result in an undue expansion of antitrust enforcement.[202] As Arthur explains, '[t]he real question is legal, not

[199] See Introduction.
[200] See eg Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43); Hay, 'Market Power in Antitrust' (n 127); Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (n 140); Mark Lemley and Mark McKenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' (2012) 100 Georgetown Law Journal 2055.
[201] See eg Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43).
[202] See eg Areeda et al, *Antitrust Analysis: Problems, Texts, and Case* (n 56) 484 ('Nearly any departure from perfect competition implies some market power. Thus, whenever the antitrust laws require a showing of market power, the courts must make a judgment of degree'); Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power'(n 43); Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (n 44) 304 et seq. (discussing the concept of "relational market power" as it relates to franchise agreements and concluding that 'calling this kind of control "market power" is not merely legally incorrect, it is also extremely dangerous as a policy matter. It threatens to

economic: does the defendant possess the kind of and degree of market power that antitrust law is intended to regulate?'[203]

The reason for reticence in expanding the market power concept too broadly for antitrust enforcement purposes is because if market power is taken to mean simply the ability to price above marginal cost, then almost all firms possess *some* degree of market power: their demand curves will not resemble the stylised world of perfect competition—where price equals marginal cost and the demand curve is horizontal[204]—but rather will be at least somewhat downward sloping.[205] Thus, even trivial consumer weaknesses, for example—that is, even small departures from perfect consumer decision-making—could generate some market power, but whether they generate "antitrust" market power[206] is what is at stake.

This section briefly sketches the academic discourse on when market power should be "antitrust" market power – highlighting how such discourse has largely stemmed from, and been motivated by, demand-side imperfections. The section subsequently describes criteria for what constitutes "antitrust" market power.

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turn antitrust into an engine for the resolution of all kinds of disputes over long-term contracts, or worse yet, to use antitrust as a device for protecting people from their own carelessness in bargaining').

[203] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 25.

[204] Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 370 ('The competitive firm maximizes profit just as the monopolist, but it faces a different demand curve. The competitive firm is a price taker; it can sell at the market price all it can produce, but it cannot affect that price by changing its output. Thus, the competitive firm faces an *infinitely elastic* demand curve throughout the relevant range, i.e., a demand curve that is a horizontal line') (emphasis added).

[205] See Hay, 'Market Power in Antitrust' (n 127) 812–814 (comparing various definitions of market power and concluding that they are 'not very useful for antitrust purposes' because defining market power as "the ability to raise price above competitive levels" will apply to '*any* firm facing a downward sloping demand curve, no matter how slight the slope (i.e. no matter how elastic the demand curve') (emphasis in original). See also Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 370 ('A firm lacks market power if it faces an infinitely elastic demand curve, and a firm possesses market power if it faces a downward sloping demand curve'); ibid 371 ('[T]he vast majority of firms *have at least a little* market power. In particular, every seller of a product that is differentiated with respect to any relevant dimension almost certainly has some market power') (emphasis added); Landes and Posner, 'Market Power in Antitrust Cases' (n 52) 939 ('Under perfect competition, price equals marginal cost, so if a firm's price is above its marginal cost, the implication is that the firm does not face perfect competition, i.e., that it has at least some market power').

[206] Hay, 'Market Power in Antitrust' (n 127) 814 ('[M]arket power for antitrust purposes should refer to a situation in which a firm or group of firms is able to profitably maintain prices *significantly* above the competitive level for a *sustained* period of time, thereby earning supranormal economic profit') (emphasis in original). See also Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (n 140) 71 et seq.

a. Expansions of "antitrust" market power – demand-side triggers of scholarly anxiety

i. Kodak

Perhaps the most potent trigger of scholarly anxiety regarding perceived undue "antitrust" market power expansions is the US Supreme Court's *Kodak* case,[207] discussed in Chapter 1.[208] Various commentaries took issue with *Kodak*—the crux of which concerned consumers' capacities to exercise their competitive constraints—because commentators viewed it as a case concerning a kind of market power that did not deserve to come within the circumference of "antitrust" market power.

For example, Arthur argued that '[t]he market power which results from…non-structural, market imperfections, such as those identified in *Kodak*, is fundamentally different in both degree and kind, and thus not sufficiently substantial to justify antitrust regulation'.[209] Klein, reasoning in a similar vein about the potential undue expansion of antitrust liability arising from *Kodak*, concluded that '[o]pening up an antitrust investigation to a study of buyers' expectations and giving weight to survey evidence opens a Pandora's Box that makes it essentially impossible for sellers to protect themselves against antitrust liability'.[210] Other scholars reached similar conclusions – that *Kodak* was a case risking an adventurous expansion of the concept of market power for antitrust enforcement purposes.[211]

ii. Product differentiation

[207] *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451 (1992).
[208] See Chapter 1, Part II.
[209] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 6.
[210] Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (n 140) 87 (concluding that '[a]sking transactors what they thought their contract terms meant and what risks they believed they assumed seems clearly to be a question for contract law rather than for antitrust').
[211] See eg Michael S Jacobs, 'Market Power Through Imperfect Information: The Staggering Implications of Eastman Kodak Co. v. Image Technical Services and a Modest Proposal for Limiting Them' (1993) 52 Maryland Law Review 336, 373 ('*Kodak* is arguably the most important antitrust decision of the past twenty years. Unfortunately, it is a disaster. By changing the traditional approach to market power analysis and discarding the market share proxy in cases involving markets with significant information gaps, the Supreme Court has effectively decided *every* firm may possess market power, regardless of its market share') (emphasis added).

Product heterogeneity[212] is another demand-side example that has generated scholarly concerns about undue expansions of "antitrust" market power.[213] Scholars in this setting argue against the inclusion of product differentiation as a source of "antitrust" market power for several reasons – for example such market power is derived not from a lack of competition but by successfully winning the hearts and minds of consumers,[214] or how sellers of such differentiated products are actually subject to 'reasonably close substitutes' and are social-welfare enhancing.[215] Others are more persuaded by product differentiation's capacity to confer significant market power – both generally[216] and more specifically in intellectual-property contexts.[217]

iii. Consumer information failures

Another demand-side imperfection contributing to scholarly anxiety about "antitrust" market power expanding too broadly is consumers' lack of omniscience. These kinds of market imperfections, scholars contend, are matters for contract law—not antitrust law—and thus should be outside the boundary of what might constitute "antitrust" market power.[218] Indeed, perhaps a vindication of

[212] See eg Charles Mueller, 'Sources of Monopoly Power: A Phenomenon Called "Product Differentiation"' (1968) 18 American University Law Review 1 (describing how monopolisation *can be* accomplished through product differentiation, i.e. 'the distinguishing of *substitute products* from one another (by advertising and the like) and thus the creation, *in the minds of buyers* of that product, of a conviction that it is superior to other products of the same general class, a conviction that permits it to command a supercompetitive price, one that exceeds the price being charged by other sellers for products that are in fact of comparable quality') (emphasis added).

[213] See eg Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 33–36 (arguing that product differentiation should be outside the scope of the sources of market power that antitrust should concern itself with); Hay, 'Market Power in Antitrust' (n 127) 814–816.

[214] Hay, 'Market Power in Antitrust' (n 127) 815 (using an example of a restaurant that has successfully differentiated itself from competitor restaurants through 'endogenous product differentiation' and how, consequently, such 'success does not signify the kind of market power the antitrust laws ought to be concerned about').

[215] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 33–34.

[216] See eg Mueller, 'Sources of Monopoly Power: A Phenomenon Called "Product Differentiation"' (n 160) 14–22 (describing the correlation between product differentiation and market concentration and concluding 'the important cases of monopoly power, those in which the power to price above the competitive level is present in genuinely significant amounts, arise primarily out of a phenomenon called "product differentiation"').

[217] Lemley and Mckenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' (n 200) (showing that product differentiation can confer "significant" market power); P Sean Morris, 'Trademarks as Sources of Market Power: Drugs, Beers and Product Differentiation' 35 (2017) Journal of Law and Commerce 163.

[218] See eg Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (n 140) 90 (citing *Jefferson Parish*—a case about consumer information failures—and arguing 'it is important to remember that the perfectly competitive model is merely an abstract economic construct, not a criterion for governmental intervention in the marketplace. In particular, it makes no sense to assume that *any* deviations from the unrealistic assumptions of the perfectly competitive model represent "imperfections" that should be eliminated as a way to increase competition and reduce market power');

these views was *Jefferson Parish* – where we saw in Chapter 1 the US Supreme Court's reluctance to entertain such information failures for antitrust purposes.[219]

In sum, it can be gleaned that for the most part scholarly concerns about the concept of "antitrust" market power expanding too broadly have largely been products of demand-side market failures. On some levels, this should not be too surprising, given the generally accepted adage that "antitrust deals with the supply-side and consumer protection with the demand-side".[220] To be sure, this is not a reason for *why* the law has bifurcated in this manner; it tells us only that the law is generally divided as such but nothing about why it *should* be this way. We will return to this question in Chapter 7, where we will normatively analyse the consumer protection/antitrust boundary from the underexplored perspective of moral hazard.[221] For now, it is sufficient to note the separation.

b. "Antitrust" market power

Whilst we have highlighted the demand-side as the primary driver of scholarly anxieties about potentially risky expansions of the "antitrust" market power concept, we have yet to articulate the reasons for why such anxiety exists. Why is it that scholars get worried, for example, that some kinds of deviations (most often demand-side deviations) from perfect competition might generate an

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Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (n 44) 306 (discussing franchisor-franchisee relationships and '[t]he wrong, if there is one, lies in the *franchisees' failure* to study contracts carefully before they enter into them, or perhaps in the franchisor's improper use of form franchise agreements that take advantage of less experienced business persons. But in that case any remedy should lie in *contract law*, not in the law of monopolies') (emphasis added).

[219] See Chapter 1, Part II.

[220] See eg Averitt and Lande, 'Consumer Sovereignty: A Unified Theory of Antitrust and Consumer Protection Law' (n 135) 714; Averitt and Lande, 'Using the "Consumer Choice" Approach to Antitrust Law' (n 132) 181 (distinguishing between antitrust's focus on the supply-side and consumer protection's focus on the demand-side); Samuel I Becher and Oren Bar-Gill, 'Consumer Protection' (2012) Harvard Public Law Working Paper No 18—42, 49 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3194411&download=yes> accessed 14 August 2021 ('[I]n many consumer markets the assumptions of complete information and rationality do not hold. Market failures result in inefficiency and harm to consumers. In these conditions legal intervention may well be considered. This is the *domain of* consumer protection law') (emphasis added).

[221] See Chapter 7, Part II.

undue expansion of "antitrust" market power? As Werden asserts, 'market power may not be of antitrust significance unless present in a degree sufficient to allow a firm to earn more than just a competitive return on investment, i.e., to earn monopoly profits'.[222]

When scholarly anxiety has arisen about undue expansions of "antitrust" market power, the recurring reason seems to be an aversion towards the use of perfect competition as the normative benchmark for antitrust enforcement.[223] As Klein argues, 'defining "market power" in terms of deviations from the perfectly competitive model is not useful [for antitrust purposes]'.[224] These scholars demand something more for a deviation to qualify as "antitrust" market power – or what some have termed "structural" market power.[225] This is different to apparently "non-structural" market power, which is 'so different in both kind and degree that it cannot justify antitrust intervention'.[226]

The following paragraphs, first, elaborate on the shortcomings of perfect competition as a fulcrum for antitrust analysis and elucidate why it has generated scholarly worries. Second, the section differentiates between structural and non-structural market power, argues that the former is what should trigger antitrust scrutiny, and that perfect competition deviations falling within the latter should be excluded.

i. Pervasive market power

Some scholars have derided the perfectly competitive model as a tool for antitrust analysis – one main reason being that it is an abstract model, which by virtue of this abstraction means that it will

[222] Werden, 'Demand Elasticities in Antitrust Analysis' (n 123) 372.
[223] See eg Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43).
[224] Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (n 140) 71–72.
[225] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43).
[226] ibid 20.

misrepresent industry structures in reality. This is because the economist defines market power as 'the absence of perfect competition'.[227]

The reason for why this definition triggers anxiety in scholars is not difficult to see: reality is almost always devoid of perfection, so almost all firms will be able to price above marginal cost. Otherwise put, almost all firms possess some market power because almost all firms face downward sloping demand curves.[228] Consequently, using such a benchmark—that is, the spectrum of perfect competition on one extreme and monopoly on the other—will attribute market power to almost all firms in the economy but will fail 'to recognize that firms may have negatively sloped demands and individual pricing power for reasons that have nothing to do with monopoly'.[229]

So if antitrust intervention is to be warranted, the story goes, the deviation from perfect competition must be sufficiently substantial and durable.[230] Thus, whilst 'most firms have some market power in the strict economic sense, most firms do not have market power in the sense relevant to antitrust because "when courts find a firm has market power, they must mean *a substantial amount* of market power"'.[231] Indeed, the *fact* of market power is very different to and 'must be distinguished from the *amount* of market power'.[232] This capacity to characterise market

[227] Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (n 140) 71.
[228] ibid 72 ('[M]ost firms in the real world have negatively sloped demands and, therefore, the ability to price discriminate. One would not want to refer to the pervasive examples of price discrimination in the real world as implying that "market power" or "monopoly power" in any relevant economic or policy sense also is pervasive'). See also Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 33–36.
[229] Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (n 140) 74.
[230] ibid 73 ('Although all firms deviate from the perfectly competitive model, one should define the degree of *antitrust market power* possessed by a firm in terms of the *degree of* deviation from the perfectly competitive model or the *degree of* the firm's ability to price above its marginal cost') (emphasis added).
[231] ibid.
[232] Landes and Posner, 'Market Power in Antitrust Cases' (n 52) 939 (emphasis added); Carlton and Perloff, *Modern Industrial Organization* (n 134) 738.

power as a matter of degree allows the use of this definition—that is, pricing above marginal cost—for antitrust enforcement purposes.[233]

ii. Structural vs. non-structural market power

The next step in understanding the concept of "antitrust" market power is to make a distinction between a firm's capacity to control its own price and to control the market price. Scholars contend that it is a firm's capacity to control *market* conditions—that is, aggregate demand—rather than its own price that justifies a charge of "monopoly power".[234] As Klein contends, '[i]t is only useful when a firm [has] significant impact in this generic market…that the firm can usefully be said to have market power'.[235] Some scholars have termed this capacity to control market conditions as "structural" market power. Arthur, for example, maintains that it is structural market power that antitrust should concern itself with and defines this as a 'uniform' form of market power that affects 'all buyers alike' where '[e]ach *must* pay the seller's price or do without the good…'[236]

Consumer information failures, for instance—a deviation from perfect competition—may enable 'some sellers to price above cost', but it is too limited in scope to affect 'the *entire* market'.[237] Arthur makes the subtle but important point that these failures do not render an 'individual buyer *helpless* before the seller, even in the short-run, if he is willing to shop'.[238] A car

[233] Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (n 140) 73–74. See also Landes and Posner, 'Market Power in Antitrust Cases' (n 52) 939 ('When the deviation of price from marginal cost is trivial…there is no occasion for antitrust concern…').
[234] Klein, 'Market Power in Antitrust: Economic Analysis After Kodak' (n 140) 76 ('Instead of using the perfectly competitive model to define the degree of antitrust market power possessed by a firm in terms of the effects of changes in the firm's prices on the demand for the firm's services, i.e. in terms of the firm's *own* elasticity of demand, it is more useful to define the extent of a firm's antitrust market power in terms of whether changes in the firm's prices have any significant effect on market quantities and prices').
[235] ibid 78.
[236] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 37 (emphasis added).
[237] ibid.
[238] ibid 37, footnote 172 (emphasis added).

dealer's price discretion for example can be limited by buyers if those buyers are willing and able to shop around different dealers or procure data on market prices more generally.[239]

Thus, whilst 'information gaps produce *some degree* of market power, that power is not substantial and can be easily overcome by buyers' efforts'.[240] This is what scholars mean when they refer to non-structural market power. It is market power that does not allow a firm to do damage to the *entire* market[241] for a sustainable period of time.

iii. Structural market power criteria

In order for antitrust enforcement to be justified, the market power that a deviation from perfection competition confers on a firm must be sufficiently substantial in degree, duration, scope, and source.

As to *degree*, a firm must not merely be able to price above marginal cost (almost all firms can do this, as noted above) but rather be able to raise price 'significantly above cost'.[242] Landes and Posner recognise this point when they define "monopoly power" as 'a high degree of market power'[243] and recognise that for a monopolist 'price will be *substantially* above the competitive price' so long as 'his other customers do not regard other products as good substitutes…'[244]

Regarding *duration*, short-run market power is of no antitrust concern if the long run can "arrive speedily"[245] and penetrate the firm's customer base. An ability to protect 'excess profits

[239] Ibid 37–38 ('By incurring these [search] costs, buyers can remove the market imperfection and create competition').
[240] ibid 37–38.
[241] See Margherita Colangelo and Mariateresa Maggiolino, 'Manipulation of Information as Antitrust Infringement' (2019) 26 Columbia Journal of European Law 63, 70.
[242] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 26.
[243] Landes and Posner, 'Market Power in Antitrust Cases' (n 52) 937.
[244] ibid 971.
[245] Frank Easterbrook, 'The Limits of Antitrust' (1984) 63 Texas Law Review 1, 11 (arguing how the purpose of antitrust is to 'speed up the arrival of the long run (so that firms lose market power faster)').

from erosion',[246] therefore, is what *really* constitutes "antitrust" market power because the long-run will never arrive and we can rely less on the market to correct itself (including from the demand-side). As Schmalensee explains, '[l]ong-run monopoly power that is worth having and that is likely to be an issue in antitrust proceedings must permit a firm or group of firms to protect excess profits from competitive erosion' and '[t]he persistence of substantial excess profits generally indicates the presence of some obstacle to effective competition'.[247]

On *scope*, the market power must be such as to allow a firm to have power over the *entire* market and it would be, as Arthur argues, 'a misnomer to call it market power' if a seller lacks the power 'to control the general market price'.[248] Lawyers, for instance, may have certain loyal customers to whom they can charge higher prices, or some consumers in other markets may lack (subjective) close-substitutes. Consequently, '[i]f price discrimination is possible, a monopolist or cartel could raise prices significantly to that subgroup, even though a *great mass of buyers* is protected *by their ability to switch to substitutes* in the event of a *general* price increase'.[249]

Finally, the *source* of power must be derived from artificial sources.[250] This makes sense because, as we noted above,[251] monopoly itself is not illegal but rather must be accompanied by abusive anticompetitive conduct that falls outside the scope of "competition on the merits" if it is to trigger antitrust scrutiny. Fisher, Elzinga, Demsetz, and Hay all emphasise this point.[252]

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[246] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 27–28.
[247] Richard Schmalensee, 'On the Use of Economic Models in Antitrust: The *Realmon* Case' (1979) 127 University of Pennsylvania Law Review 994, 1008.
[248] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 29.
[249] ibid (emphasis added).
[250] See ibid 30–31.
[251] See Chapter 1, Part I.
[252] See Franklin Fisher, 'Diagnosing Monopoly' in John Monz (ed), *Industrial Organization, Economics and the Law: Collected Papers of Franklin M. Fisher* (1991); Kenneth Elzinga, 'Unmasking Monopoly: Four Types of Economic Evidence' in Robert J Larner and James W Meehan Jr (eds), *Economics and Antitrust Policy* (1989) 14; Hay, 'Market Power in Antitrust' (n 127) 815–816; Harold Demsetz, 'Barriers to Entry' (1982) 72 American Economic Review 47, 49.

CONCLUSION

Not every deviation from perfect competition justifiably triggers antitrust scrutiny. Antitrust enforcement scope—both at the market definition and market power levels of analysis—can of course be a product of consumers' incentives and abilities to switch between products respectively. But often demand-side deviations have been criticised as genuine antitrust issues because they do not seem to be empowering a firm to control aggregate demand, i.e. conferring "antitrust" market power. Thus, it may be argued that demand-side deviations from perfect competition should perhaps, as a starting point, be treated with scepticism from an antitrust enforcement perspective.

3 – COGNITIVE FORECLOSURE AS ANTITRUST HARM IN DIGITAL PLATFORM MARKETS

You've been living in a dream world, Neo[253]

The Matrix

There are only two industries that refer to their customers as users, one is…IT, the other is the illegal drugs trade…[254]

Edward Tufte

You're manipulating the situation that leaves no one a way out…[255]

The Gilmore Girls

INTRODUCTION

Despite demand-side market failures generating debates about whether such market failures are genuine antitrust issues, the notion that "antitrust" market power and its abuse may manifest from the demand-side is not new.[256] Indeed, some of the most notable loyalty rebate[257] and tying[258] cases

[253] IMDB, 'The Matrix' *IMDB* (11 June 1999) <https://www.imdb.com/title/tt0133093/> accessed 22 September 2020.
[254] See Kayla Heffernan, 'Who Treats Their Users Better – Tech or Drug Dealers?' *Medium* (28 June 2019) <https://medium.com/@kaylajheffernan/who-treats-their-users-better-tech-or-drug-dealers-211f220d8b11> accessed 26 October 2020.
[255] IMDB, 'Gilmore Girls' *IMDB* (2000–2007) <https://www.imdb.com/title/tt0238784/> accessed 22 September 2020.
[256] Office of Fair Trading (hereafter "OFT"), 'Switching Costs' (Part One: Economic Models and Policy Implications, Economic Discussion Paper 5, April 2003) 2 < https://webarchive.nationalarchives.gov.uk/20140402181326/http://www.oft.gov.uk/shared_oft/reports/comp_policy/oft655.pdf> accessed 15 May 2020 (describing how switching costs can 'raise barriers to entry' and how '[b[y raising barriers to entry, such switching costs can distort the competitive process when practiced by firms with market power'). See also Chapter 2, Part I (describing switching as a function of antitrust enforcement scope).
[257] See eg Case 85/76 *Hoffman La-Roche v Commission* [1979] ECR 461; Case 322/81 *Michelin I* [1983] ECR 3461; Case T-203/01 *Michelin II* [2003] ECR II-4071; Case T-286/09 *Intel v Commission* EU:T:2014:547; Case C-413/14 *Intel v. Commission* EU:C:2017:632; Case T-286/09 RENV *Intel v Commission* EU:T:2022:19. See also Alexander Morell, Andreas Glöckner and Emanuel Towfigh, 'Sticky Rebates: Loyalty Rebates Impede Rational Switching of Consumers' (2015) 11 Journal of Competition Law & Economics 431, 431 (describing how '[c]ompetition policy often relies on the assumption of a rational consumer' and how 'Cumulative Prospect Theory…predicts that loyalty rebates could harm consumers by impeding rational switching from an incumbent to an outside option')
[258] Bennett et al, 'What Does Behavioural Economics Mean for Competition Policy' (n 33) 121 ('A key piece of evidence in [tying and bundling] foreclosure stor[ies] is whether tying creates a significant switching cost for customers in switching to rival products'); ibid ('In general, one might assume that where customers face only nominal costs to

have hinged on whether consumers' capacities to switch between rivals has been impeded – more specifically, impeded in a manner that empowers the incumbent firm to credibly foreclose competition.[259]

One context in which demand-side market failures are beginning to play a more consistent role in antitrust enforcement is the market for digital platforms.[260] Digital platform markets are beginning to exhibit an emerging demand-side market failure that implicates consumers' behavioural biases and heuristics. As we acknowledged in the Introduction, these concerns are now at the fore of antitrust agencies' and policymakers' agendas worldwide.[261]

BE clearly has significance for antitrust, though we are only now beginning to see some inroads into enforcement as the *Google* cases demonstrate, where the theories of harm are premised on consumers' behavioural shortcomings.[262] Indeed, at the time of writing the United States Department of Justice (hereafter "US DOJ") has instigated a formal complaint against Google part of which is grounded on a behavioural theory of "sticky" consumers who do not change default

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switch products, then tying or bundling is unlikely to be able to foreclose'). See eg Case T-201/04 *Microsoft* [2007] ECR II-3601.

[259] Case T-201/04 *Microsoft* [2007] ECR II-3601, para 1041 ('[I]t is clear that, as the Commission correctly states at recital 845 to the contested decision, "[u]sers who find Windows Media Player pre-installed on their client PCs are indeed in general *less likely to use* alternative media players as they already have an application which delivers media streaming and playback functionality". The Court therefore considers that, in the absence of the bundling, consumers wishing to have a streaming media player would be induced to choose one from among those available on the market') (emphasis added). See also Stucke, 'The Implications of Behavioral Antitrust' (n 183) 4 ('Given the disincentive [of users to use third party media players], the [antitrust] concern was that Microsoft's tying would weaken competition among media players…').

[260] See eg *Google (Android)* (Case AT 40099) Commission Decision C(2018) 4761 final, on appeal Case T-604/18 *Google and Alphabet v Commission*. See also Daniel Rubinfeld and Michal Gal, 'Access Barriers to Big Data' (2017) 59 Arizona Law Review 339, 355 ('Data-driven network effects can create a demand-side technologically-based barrier to entry. If the benefits that individuals receive are positively related to the number of other individuals that utilize or consume a product, the resulting barrier will have an effect that is *similar in its impact* to a more traditional supply-side barrier') (emphasis added).

[261] See Introduction.

[262] See Chapter 3, Part I.

applications on their mobile devices.[263] As Devlin and Jacobs explain after emphasising the importance of the 'substitution effect' for antitrust (which we examined in Chapter 2):[264]

> [w]hat does the behavioural literature say about this, perhaps the *most critical question* in antitrust law? It offers a litany of biases, some of which might add to, while others of which might detract from, the market's tendency to self-correct through prompt consumer substitution.[265]

Despite the significance of substitution for antitrust and the potential BE consequences for this concept, much of the scholarly and regulatory literature has yet to systematically examine the BE implications for antitrust enforcement's two most fundamental doctrinal components: conduct and market power.[266] This seems a strange omission not just because of the ascending inclination to categorise behavioural shortcomings as an emerging form of market failure[267] but also more pertinently because a unilateral antitrust infringement depends on a firm possessing market power

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[263] See US DOJ, 'Justice Department Sues Monopolist Google for Violating Antitrust Laws' *United States Department of Justice* (20 October 2020) <https://www.justice.gov/opa/pr/justice-department-sues-monopolist-google-violating-antitrust-laws> accessed 26 October 2020 ('For a general search engine, by far the most effective means of distribution is to be the preset default general search engine for mobile and computer search access points. Even where users can change the default, they rarely do. This leaves the preset default general search engine with *de facto* exclusivity. As Google itself has recognized, this is particularly true on mobile devices where defaults are *especially sticky*') (emphasis added). See also Lawrence J White, 'U.S. v. Google: A Tough Slog; But Maybe an Intriguing Possibility?' (2021) SSRN Working Paper, 7 < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3775954> accessed 25 March 2022 (describing user inertia as an 'asset' for distributors that Google may be able to take advantage of).

[264] See Chapter 2, Part I. Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1026 (stating that '[s]ubstitution matters enormously to antitrust'); ibid 1025–1026 ('The proposition that consumers will substitute away from more expensive products to lower-priced, substitute goods lies at the heart of antitrust policy' and '[t]he degree to which this proposition holds true in actual markets dictates the degree of appropriate intervention through the competition rules').

[265] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1027.

[266] Of course, this is not to say that scholars have not somewhat acknowledged BE's implications in these respects—that consumers can be manipulated to frustrate switching—and have even provided some illustrations. Their discussions and analyses are limited, however. See eg Stucke, 'The Implications of Behavioral Antitrust' (n 183) 2–7 (using *Microsoft* as an example to demonstrate the power of defaults and, as such, the status quo bias); Maurice E Stucke, 'Behavioral Antitrust and Monopolization' (2012) 8 Journal of Competition Law & Economics 545, 560–567 (using *Microsoft* as an example to illustrate the status quo bias implications for the foreclosure effect in tying analysis). The omission is more severe as it relates to the BE deviation from perfect competition and hence its capacity to generate "antitrust" market power. This point has not yet even been identified in the literature. See Introduction; Chapter 2, Part II (describing the legal phenomenon of "antitrust" market power).

[267] See eg Oren Bar-Gill, 'The Behavioral Economics of Consumer Contracts' (2008) 92 Minnesota Law Review 749 (using the term "behavioral market failure"); Jason Shogren and Laura Taylor, 'On Behavioral-Environmental Economics' (2008) 2 Review of Environmental Economics and Policy 26; Jason Shogren, 'Behavioral Environmental Economics: Money Pumps & Nudges' (2012) 37 Journal of Agricultural and Resource Economics 349; Cass Sunstein, 'The Storrs Lectures: Behavioral Economics and Paternalism' (2013) 122 Yale Law Journal 1826, 1826 (referring to behavioural mistakes as 'behavioral market failures'); Ryan Bubb and Richard Pildes, 'How Behavioral Economics trims its Sails and Why' (2014) 127 Harvard Law Review 1593 (using the term 'behavioral market failures').

(which we now know from Chapter 2 means "substantial" and "sustainable" market power) and engaging in anticompetitive conduct.[268] Consequently, there seems to be a need to more comprehensively assess (1) the extent to which firms can generate demand-side foreclosure through manipulation of consumer biases and whether such conduct is anticompetitive and (2) whether behavioural shortcomings as a deviation from perfect competition are "substantial" and "sustainable" enough to constitute "antitrust" market power.[269]

These two parameters—manipulative conduct and irrationally-generated market power—are both emerging as significant antitrust concerns in the digital sphere and relevant considerations of competition appraisal, as demonstrated by recent digital market regulatory and policy investigations and reports.[270] Further, consumers can (unknowingly) contribute to creating market power

[268] In the EU, the conduct must be outside the scope of "competition on the merits". See European Commission, 'Guidance on the Commission's Enforcement Priorities in Applying [Article 102 TFEU] to abusive exclusionary conduct by dominant undertakings' (n 129) para 6 ('The emphasis of the Commission's enforcement activity in relation to exclusionary conduct is on safeguarding the competitive process in the internal market and ensuring that undertakings which hold a dominant position do not exclude their competitors by other means than *competing on the merits* of the products or services they provide') (emphasis added); Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, para 1070 and the case-law cited ('It must be borne in mind…that [Article 102 TFEU] is intended to prohibit a dominant undertaking from strengthening its position by recourse to means other than those based on competition on the merits'); Case C-280/08 *Deutsche Telekom v Commission* [2010] ECR I-9555, para 177 (holding that Article 102 TFEU prohibits a dominant firm from strengthening its dominant position 'by using methods other than those which come within the scope of competition on the merits'); Case C-52/09 *TeliaSonera* [2011] ECR I-527, para 43 (explaining that excluding competitors through distortive competitive practices would not be competition 'solely on the respective merits of the undertakings concerned'); Case C-457/10 P *AstraZeneca v Commission* EU:C:2012:172, para 75 ('[Article 102 TFEU] prohibits a dominant undertaking from eliminating a competitor and thereby strengthening its position by using methods other than those which come within the scope of competition on the merits'); Case C-413/14 *Intel v Commission* EU:C:2017:632, para 136 ('Article 102 TFEU prohibits methods other than those that are part of competition on the merits'). For the US, see *Verizon Communications v Law Offices of Curtis Trinko* 540 US 398 (2004) (describing 'wilful' conduct as necessary in addition to monopoly power for a finding of section 2 Sherman Act liability'); *Verizon Communications v Law Offices of Curtis Trinko* 540 US 398 (2004) ('To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive *conduct*') (emphasis in original).

[269] On the concept of "antitrust" market power, see Chapter 2, Part II.

[270] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 176 (describing how foreclosure can manifest when platforms exploit consumers' behavioral biases 'to keep consumers *attached* to their platforms and make switching to alternatives more difficult. These tactics generally make consumers less receptive to competitive alternatives – they lower contestability – and thus raise entry barriers') (emphasis added); US House of Representatives, 'Investigation of Competition in Digital Markets' (Subcommittee on Antitrust, Commercial and Administrative Law of the Committee on the Judiciary, Majority Staff Report and Recommendations 2020) 53 <https://judiciary.house.gov/issues/issue/?IssueID=14921> accessed 04 May 2021 (describing how Google at the start of the Covid-19 pandemic tried to manipulate users 'into using its Google Meet videoconferencing tool instead of upstart competitor Zoom'). See also Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (n 3) 22 ('Digital markets also have features that heighten concentration' like 'limitations to switching and multihoming including behavioural factors…').

themselves by failing to take actions 'that may look like poor choices if those consumers like to choose among options and experience competition' in digital markets.[271] Moreover, the revelation that these platforms have continuous and ubiquitous insight into our daily lives and may shape through Big Data analytics our opinions and decision-making processes[272] arguably highlights on its own accord that a world of cognitive foreclosure may very well be becoming a reality.

Against this backdrop, this Chapter unfolds as follows. Part I examines the development of foreclosure cases and illustrates how the advent of technology has led to a new wave of more pernicious foreclosure capacities – that is, the two-pronged attack of BE and technology in cognitively foreclosing competition. It will be shown in particular how, as the demand-side becomes increasingly implicated in firms' foreclosure efforts, the perniciousness of the foreclosure effect also increases. Part II illuminates a consumer's heightened propensity to be manipulated in the digital platform world due to heuristic responses "predominating"[273] in this environment coupled with amplified abilities and incentives of digital platforms to manipulate consumers' cognitive

[271] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 41; ibid ('Market power is, ironically, generated by the very consumers who are harmed by it. Consumers do not replace the default apps on their phones, do not scroll down to see more results, agree to settings chosen by the service…[c]onsumers make these "mistakes" because of inherent behavioral biases such as discounting the future too much and being too optimistic'); Crémer et al, 'Competition Policy for the Digital Era' (n 2) 4 ('The assessment of market power has to be case specific, and it must take into account insights drawn from behavioural economics about the *strength of* consumers' biases towards default options and short-term gratification') (emphasis added); ACCC, 'Digital Platforms Inquiry' (n 8) 110 ('One of the ACCC's key findings [in its Market Power chapter] is that Google has *substantial market power* in the supply of search services and in the supply of search advertising. The ACCC identified consumer inertia as a barrier to expansion and considered that that customer inertia is reinforced by a default bias that exists with Google Search being the default search engine on a number of internet browsers, and Google Chrome being the default internet browser on a number of operating systems'); ACM, 'Behavioural Economics and Competition Policy' (n 24) 12 (describing how the imperfect rationality of a consumer with respect to a product's entire cost (including add-ons) may confer on suppliers 'pockets of market power').

[272] For an illuminating Netflix documentary, see Devika Girish, '"The Social Dilemma" Review: Unplug and Run' *New York Times* (09 September 2020) <https://www.nytimes.com/2020/09/09/movies/the-social-dilemma-review.html> accessed 24 September 2020 ('[C]onscientious defectors from [social media companies] explain that the perniciousness of [these companies] is a feature, not a bug'). See also Chapter 3, Part II; Chapter 6, Part II (describing the significance and power of Big Data).

[273] Eldar Shafir and Robyn LeBoeuf, 'Rationality' (2002) 53 Annual Review of Psychology 491, 500 (describing literature that differentiates between the "dual mode" theory of thinking – 'all of which posit at least two basic modes of processing – one in which heuristic responses *predominate* and another in which more deliberate strategies take over') (emphasis added). See also Paul Slovic et al, 'Rational Actors or Rational Fools: Implications of the Affect Heuristic for Behavioral Economics' (2002) 31 Journal of Socio-Economics 329, 329 (describing 'two fundamental modes of thinking' – one is '[t]he experiential mode, [which] is intuitive, automatic, natural, and based upon images to which positive and affective feelings have been attached through learning and experience. The other mode is analytical, deliberative, and reason based').

shortcomings. This section thus builds on existing literature, which acknowledged for the most part only the potential for manipulation but refrained from assessing the potential's seriousness for competition purposes. Part III demonstrates specific ways a dominant digital firm could cognitively foreclose competition and thereby strengthen its market power by "shaping demand"[274] through behaviourally manipulative conduct. Part IV offers a constraint on the potential for cognitive foreclosure to become a genuine antitrust concern by assessing the magnitude of the BE deviation from perfect competition. Indeed, even though there may exist powerfully pernicious ways to cognitively foreclose competition, a pre-requisite for antitrust enforcement is "antitrust" market power, as we saw in Chapter 2. Thus, the deviation will need to be "substantial" and "sustainable" such that consumers over time cannot defeat their cognitive shortcomings and correct these behavioural market failures themselves.

I. "ANTITRUST FORECLOSURE" RETROSPECTIVE – A PERNICIOUS EVOLUTION

That exclusionary practices generate controversy in antitrust enforcement is not new; indeed "antitrust foreclosure" has always been considered an amorphous concept, amorphous because of the difficulty in distinguishing practices that exclude rivals due to genuine efficiency from practices that artificially exclude.[275] The question has even been asked whether "exclusionary antirust" exists

[274] Colangelo and Maggiolino, 'Manipulation of Information as Antitrust Infringement' (n 241) 64; ibid 90 ('[T]here is room to believe that what renders…information unduly persuasive is the supposed ability of enterprises to recognize the cognitive limits of each and every individual and thereby exploit it'); ibid 89 (contending that 'unduly persuasive information…seems to be at the crux of the data economy' and that this 'category' of information derives its persuasiveness from the 'ability of firms to profile consumers such that their preferences are known and their *cognitive limits* exploited') (emphasis added). Note that when the demand-side—the source of behavioural market failures—has been raised as an antitrust issue, antitrust analysis has usually been limited to scenarios of an *already-dominant* firm that is seeking to solidify its market power, see eg Max Huffman, 'Bridging the Divide? Theories for Integrating Competition Law and Consumer Protection' (2010) 6 European Competition Journal 7, 12–13 (describing how monopoly '*maintenance* through deception is realistic' and should 'therefore offer a basis for an abuse of dominance liability') (emphasis added); Michael A Carrier and Rebecca Tushnet, 'An Antitrust Framework for False Advertising' (2021) 106 Iowa Law Review 1841, 1851 ('By engaging in deception that resembles exclusionary conduct, a company—in particular, a monopolist—could *entrench* its position in the market') (emphasis added); Maurice E Stucke, 'How Do (and Should) Competition Authorities Treat a Dominant Firm's Deception?' (2010) 63 SMU Law Review 1069 (limiting the analysis to a monopolist's use of deception to significantly maintain its market power).

[275] Posner, 'Exclusionary Practices and the Antitrust Laws' (n 7) 534 ('The most difficult question raised by the exclusionary practices is not whether such practices exist, which is the focus of the debate between the Chicago School and its opponents, but whether they are sufficiently dangerous to justify extremely costly enforcement efforts, costly

at all.[276] This elusiveness is reflected, for instance, in the lack of a dividing line that differentiates exclusion with redeeming value from exclusion with little or no redeeming value, as evidenced by case-law and antitrust agency enforcement guidance.[277] For example, different criteria and conditions apply to different forms of foreclosure—like price-based exclusionary conduct[278] and exclusive dealing (which can include rebates)[279]—and firms can raise different kinds of objective necessity and efficiency defences.[280]

If antitrust foreclosure, then, has always been an elusive concept, this malleability will perhaps not be helped by two parallel but now-converging exclusionary phenomena:

(1) digital technologies and online platforms that are equipped to add only more obscurity given the potential for more subtle exclusionary capabilities;[281] and

(2) behavioural biases and heuristics that can be manipulated[282] to ensure "sticky" consumers and induce a more nuanced form of demand-side foreclosure.

As Stylianou acknowledges, '[a]s technology changes, and enables additional and different designs, so does the competitive fabric of the industry' and thus '[t]echnology may create new *methods* of exclusion in digital markets'.[283]

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because of the difficulty of distinguishing between exclusionary practices and practices that promote efficiency'); Bork, *The Antitrust Paradox: A Policy at War With Itself* (n 7) 137 ('The problem is to know what exclusion is improper'); Easterbrook, 'The Chicago School of Antitrust and Exclusionary Conduct' (n 72) 442 ('The big problem with the law of exclusionary practices is that all competitors [necessarily] seek to undercut and exclude rivals'). See also Posner, *Antitrust Law* (n 123) 193 (introducing the law of "exclusionary practices" and commenting that 'a serious problem' generated by these practices 'is that a practice may be at once exclusionary and efficient'). See also Chapter 5, Part I.

[276] Eleanor Fox, 'What is Harm to Competition? Exclusionary Practices and Anticompetitive Effect' (2002) 70 Antitrust Law Journal 371 (asking whether antitrust addresses 'more' than straightforward exploitative practices, i.e. 'is there an 'exclusionary-practices violation[?]').

[277] In the EU, the European Commission provides guidance on "anti-competitive foreclosure". See European Commission, 'Guidance on the Commission's Enforcement Priorities in Applying [Article 102 TFEU] to abusive exclusionary conduct by dominant undertakings' (n 129) paras 19–26.

[278] ibid paras 23–27.

[279] ibid paras 32–46.

[280] ibid paras 28–31.

[281] Gregory Day and Abbey Stemler, 'Are Dark Patterns Anticompetitive?' (2020) 72 Alabama Law Review 1, 15 ('Problems arise when technology – rather than catering to a user's stated or unstated preferences causes users to engage in behaviors against their best interests. The manipulation is indeed *subtle*') (emphasis added). See eg Chapter 3, Part III.

[282] See eg Huffman, 'Marrying Neo-Chicago With behavioral Antitrust' (n 33) 129–130.

As the following sections delineate, '[these] phenomenon[a] [reflect] an evolution of exclusion cases from straightforward exclusion, through unilateral refusals to deal…to less transparent techniques'.[284] The following paragraphs thus seek to trace the development of "antitrust foreclosure" as one evolving from transparent, to less transparent, to obscure. It will become clear that as the demand-side becomes more implicated and targeted via firms' efforts to foreclose, the exclusionary intent and effect become less conspicuous. As we will see, technology, fused with BE, may be providing a powerful combination for an emerging, more pernicious "antitrust foreclosure" that can stifle competition from the demand-side.

a. Transparent exclusion

Some of the early refusal-to-deal/license cases (hereafter "refusal case") demonstrated straightforward forms of foreclosure, where evidence adduced to allege foreclosure was "readily available" and illuminating. In *Commercial Solvents*, for instance, Commercial Solvents ceased to supply an upstream input—aminobutanol—to a downstream drugs manufacturer, Zoja, in the latter's production of a tuberculosis drug, ethambutanol. The European Commission held this to be abusively anticompetitive.[285]

This was a clear-cut case of exclusion because if the aminobutanol supplies stopped— and documentary evidence revealed that they had[286]—Zoja would be forced to exit the downstream

[283] Stylianou, 'Exclusion in Digital Markets' (n 9) 187 (emphasis in original). Ezrachi and Stucke have also made similar comments in the context of collusive behavior. See Ariel Ezrachi and Maurice Stucke, 'Artificial Intelligence and Collusion: When Computers Inhibit Competition' 2017 (2017) University of Illinois Law Review 1775.
[284] Mark Patterson, 'Algorithmic Opacity and Exclusion in Antitrust Law' (2018) 5 Italian Antitrust Review 23, 23.
[285] Joined Cases 6 and 7-73 *Commercial Solvents v Commission* [1974] ECR 00223, page 233 ('The Commission states that in the present case the buyer (Zoja) depends on the availability of…aminobutanol [and cutting off its supply] would inevitably result in Zoja disappearing from the market').
[286] Joined Cases 6 and 7-73 *Commercial Solvents v Commission* [1974] ECR 00223, para 24.

market.[287] Zoja's exit—that is, the foreclosure effect of the conduct—was also certain because of Commercial Solvents' dominance in the raw material market (Zoja had nowhere else to go).[288]

Magill is another refusal case and further illustrates the transparent nature of such an abuse. Here television stations possessed television programme information that Magill wanted access to so as to be able to produce a fully comprehensive weekly television guide. The television stations refused to license the information to Magill. The Court held this was anti-competitively harming consumers because such conduct was preventing 'the appearance of a new product, a comprehensive weekly guide to television programmes, which the appellants did not offer and for which there was a potential consumer demand'.[289]

Both the anticompetitive conduct and the foreclosure effect—which manifested from the supply-side—were easily identifiable. For instance, the television stations had actively obtained an injunction to prevent the publication of such a guide[290] and grounded their refusal on intellectual property arguments.[291] Further, Magill was demonstrably foreclosed from the market due to the television programme information being clearly indispensable and unobtainable anywhere else. As the Court explained, 'the appellants…were, by force of circumstance, the *only* sources of the basic information on programme scheduling which is the indispensable raw material for compiling a weekly television guide…'[292]

[287] Joined Cases 6 and 7-73 *Commercial Solvents v Commission* [1974] ECR 00223, para 25.
[288] Joined Cases 6 and 7-73 *Commercial Solvents v Commission* [1974] ECR 00223, para 18 ('[T]hat CSC had a dominant position on the world market in the production and sale of the raw material in question has been sufficiently established in law').
[289] Joined Cases C-241/91 P and C-242/91 P *Magill* [1995] ECR-00743, para 54.
[290] Joined Cases C-241/91 P and C-242/91 P *Magill* [1995] ECR-00743, para 10.
[291] Joined Cases C-241/91 P and C-242/91 P *Magill* [1995] ECR-00743, para 51.
[292] Joined Cases C-241/91 P and C-242/91 P *Magill* [1995] ECR-00743, para 53 (emphasis added).

Both these seminal refusal cases exemplify the ease with which such an abuse can be identified when the foreclosure manifests from the supply-side. Indeed, the demonstrable nature of the conduct and the foreclosure effect seems to be a theme running across brick-and-mortar refusal-to-deal cases generally – with perhaps the more recent *Baltic Rail* case[293] being the most pointed example where cutting away 19 kilometres of railroad track has been described as 'the most straightforward abuse case ever'.[294] *Otter Tail*[295] and *Aspen Skiing*[296] are equally illuminating—where, respectively, the refusal to transmit electricity through power lines to potential rivals and a ski slope operator's refusal to continue to make available on favourable terms a ski slope with a rival ski slope operator—with both showcasing obvious forms of foreclosure.[297] As Patterson notes, '[when] a dominant firm refused to deal with a competitor…there was no difficulty in presenting evidence of the conduct at issue'.[298]

[293] *Baltic Rail* (Case AT 39813) Commission Decision C(2017) Final 6544; Case T-814/17 *Lietuvos Geležinkeliai AB v European Commission* [2020] EU:T:2020:545 (upholding the European Commission decision).
[294] Pablo Ibanez Colomo, 'Lithuanian Railways: The Most Straightforward Abuse Case Ever?' *Chillin' Competition* (05 October 2017) <https://chillingcompetition.com/2017/10/05/lithuanian-railways-the-most-straightforward-abuse-case-ever/> accessed 26 October 2020. See also Pablo Ibanez Colomo, 'GC Judgment in Case T-814/17, Lithuanian Railways – Part I: Object and Indispensability' (*Chillin' Competition* 01 December 2020) <https://chillingcompetition.com/2020/12/01/gc-judgment-in-case-t%E2%80%91814-17-lithuanian-railways-part-i-object-and-indispensability/> accessed 03 May 2021 ('[It] is perhaps the most blatant abuse that the European Commission has ever considered').
[295] *Otter Tail Power Co v United States*, 410 US 366 (1973).
[296] *Aspen Skiing Co v Aspen Highlands Skiing Corp*, 472 US 585 (1985).
[297] In *Aspen Skiing* for instance, evidence that was particularly illustrative was Ski Co's national advertising campaign that implied only three (not four) mountains were available at the ski resort coupled with the fact that the 4-mountain ski ticket was replaced with a 3-mountain ticket. *Aspen Skiing Co v Aspen Highlands Skiing Corp* 472 US 585, 593 (1985). Further, the evidence demonstrated that consumers were being adversely affected by the removal of the 4-mountain ticket because the record showed they preferred four mountains to three. *Aspen Skiing Co v Aspen Highlands Skiing Corp* 472 US 585, 606 (1985). The foreclosure effect on Highlands was also readily apparent. *Aspen Skiing Co v Aspen Highlands Skiing Corp* 472 US 585, 607–608 (1985) ('The adverse impact of Ski Co.'s pattern of conduct on Highlands is not disputed in this Court. Expert testimony described the extent of its pecuniary injury. The evidence concerning its attempt to develop a substitute product either by buying Ski Co.'s daily tickets in bulk, or by marketing its own Adventure Pack, demonstrates that it tried to protect itself from the loss of its share of the patrons of the all-Aspen ticket. The development of a new distribution system for providing the experience that skiers had learned to expect in Aspen proved to be prohibitively expensive. As a result, Highlands' share of the relevant market steadily declined after the 4-area ticket was terminated'). In *Otter Tail*, prospective municipal electricity suppliers were foreclosed from entering various municipal markets because they needed access to electricity transmission lines. Otter Tail owned the only transmission lines available and refused to grant access. *Otter Tail Power Co v United States*, 410 US 366, 370–371 (1973).
[298] Patterson, 'Algorithmic Opacity and Exclusion in Antitrust Law' (n 284) 23.

b. Less transparent exclusion

The 'means of exclusion' arguably became 'subtler' with rebate structures,[299] which was a form of foreclosure focusing more on distorting the demand-side of markets. Indeed, one reason why foreclosure through rebates may be viewed as less transparent than the supply-side refusal cases is that the foreclosure effect manifests from the demand-side – that is, consumers *may* feel induced by the rebate to continue to purchase their supplies from the discounting firm and therefore become locked in.[300] We will speak more descriptively about the demand-side and the more nuanced foreclosure effect in these contexts in Chapter 6 but for now,[301] it is sufficient to note the dependent "extra step" involved (consumers falling foul to, rather than countenancing, the conduct's intended effect) in demand-side foreclosure as compared with orthodox supply-side output restrictions.[302] The aforementioned degree of pressure from rebates on the consumer is largest for exclusivity rebates because here the consumer *must* purchase from the discounting firm in order to receive the discount. What will become clear, however, is that firms have engaged more structurally subtle techniques for inducing the consumer to continually purchase and artificially restrict its supplier choice.

Michelin I[303] is a prime example of a more covert rebate scheme. The Commission held that Michelin abused its dominant position in the heavy-duty vehicle replacement tyre market because it offered rebates to tyre dealers if the dealers reached specific sales targets. More obscurely, the discount system offered an

> annual variable discount a proportion of which was paid initially every month and then every four months in the form of an advance of the annual discount. The

[299] ibid.
[300] Gianluca Faella, 'The Antitrust Assessment of Loyalty Discounts and Rebates' (2008) 4 Journal of Competition Law & Economics 375, 377 ('When applied retroactively to the entire amount of purchases realized by a customer during a certain reference period (so-called all-units discounts), loyalty discounts may determine a kind of lock-in effect, in that they generate switching costs for buyers').
[301] See eg Chapter 6, Part I.
[302] See Reflections.
[303] Case 322/81 *Michelin I* [1983] ECR 3461.

> percentage of this variable annual discount was determined according to the dealer's turnover in Michelin heavy-vehicle, van and car tyres in the previous year, with no distinction of category, on the basis of a progressive discount scale [but which was ultimately abandoned]. The advance on the annual discount was less, generally by 4% but sometimes by more, than the percentage laid down by the scale.[304]

As if the substance of this scheme could not be any less transparent, the scheme could only be successfully triggered 'if the dealer achieved during the year in question a sales target which was expressed as a number of heavy-vehicle tyres sold and was fixed or agreed at the beginning of the year'.[305] Adding to this obscurity was the fact that the schemes remained unpublished by Michelin, there was 'no written confirmation' after the discussions about targets at each year's beginning, and documentary evidence apparently amounted to written notes 'taken or exchanged [during the discussions]'.[306]

The Court's reasoning about the foreclosure effect, which manifested from the demand-side, is also telling with respect to exactly how the exclusion of rivals was being induced in an obscure fashion. Specifically, the Court held that discount systems which grant discounts

> according to the quantities sold during a relatively long reference period have the inherent effect, at the end of that period, of *increasing pressure* on the buyer to reach the purchase figure needed to obtain the discount or to avoid suffering the expected loss for the entire period.[307]

The Court held that in this case even small variations in the discount rate had the capacity to affect the entire year's profit, which could potentially 'put dealers under appreciable pressure'.[308] Indeed, it is perhaps also telling that some scholars have relied on BE—a much more complex account of human behaviour—to explain this "pressure" of reaching a future goal to derive benefits

[304] Case 322/81 *Michelin I* [1983] ECR 3461, para 66.
[305] Case 322/81 *Michelin I* [1983] ECR 3461, para 67.
[306] Case 322/81 *Michelin I* [1983] ECR 3461, para 69.
[307] Case 322/81 *Michelin I* [1983] ECR 3461, para 81 (emphasis added).
[308] Case 322/81 *Michelin I* [1983] ECR 3461, para 81.

for a preceding reference period in order to illuminate just why it is that a foreclosure effect may result.[309] In particular, 'goals shift reference points upwards so that foregoing the rebate is perceived as a loss', making consumers 'more reluctant to switch to a different supplier due to loss aversion…'[310] The European Commission has referred to this as the suction effect – a further attestation of the nuanced and more covert way rebates may generate foreclosure from the demand-side.[311]

Michelin I is not a standalone example of complicated rebate schemes with subtle but powerful demand-side foreclosure tendencies. Other cases demonstrate the sophisticated and intricate nature of these kinds of exclusionary behaviours and the delicate way in which foreclosure manifests, particularly in the context of bundled discounts, where the discount is aggregated across the conditional purchase of various products[312] and contestable and incontestable demand become intermingled. Hovenkamp and Hovenkamp have described such practices and their competitive

[309] Morell et al, 'Sticky Rebates: Loyalty Rebates Impede Rational Switching of Consumers' (n 257) 431 ('[Cumulative Prospect Theory] predicts that loyalty rebates could harm consumers by impeding rational switching from an incumbent to an outside option (for example, a market entrant)').
[310] ibid 432. On the concept of loss aversion, see Chapter 3, Part III.
[311] See European Commission, 'DG Competition Discussion Paper on the Application of [Article 102 TFEU] to Exclusionary Abuses' (Discussion Paper, Brussels 2005), para 153 ('The strength of the inducement to purchase more from the dominant supplier, i.e. the loyalty enhancing effect, will depend on amongst other things on the level of the threshold. The higher the rebate percentage and the higher the amount that needs to be purchased before the rebate kicks in, the stronger the inducement just below the threshold. The fact that exceeding the threshold will not only reduce the price for all purchases above the threshold, but also for all previous purchases during the reference period, will create a so-called "suction" effect'). Seminal cases have highlighted this "suction" effect. See eg Case T-219/99 *British Airways v Commission* [2003] ECR II-5917, paras 272–273 (discussing the 'fidelity-building' nature of the rebate schemes because of their 'disproportionate' financial penalties that would have been suffered for failure to purchase 'at the margin'); Case T-203/01 *Michelin II* [2003] EU:T:2003:250, paras 87–88 (illustrating how additional marginal sales can generate 'greater' incentives to purchase 'where the discounts are calculated on total turnover achieved during a certain period than where they are calculated only tranche by tranche. The longer the reference period, the more loyalty-inducing the quantity rebate system').
[312] Phillip Areeda and Herbert Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application* (4th edn, Volume XI, Wolters Kluwer 2018) ¶1807, 145. ('Some decisions involve situations where the defendant aggregates the discount across two or more related products, while the defendant produces only one or a subset of these products'). See also Herbert Hovenkamp and Erik Hovenkamp, 'Complex Bundled Discounts and Antitrust Policy' (2009) 57 Buffalo Law Review 1227, 1229 (providing an illustration of the potential foreclosure effect arising from bundled discounting).

assessments as 'complex',[313] particularly because as both bundled goods and bundled quantity change, 'then the bundle's impact on rivals may change' and so 'the competitive effects of similar-appearing bundles can, in fact, be strikingly different'.[314]

In *LePage's v 3M*, for example, retailers could earn discounts on their 3M transparent tape purchases if they successfully met certain purchase targets across a variety of 3M product lines.[315] This fusion of contestable and incontestable demand had the perniciously powerful effect of foreclosing LePage's from the tape market because 'it created a substantial incentive for each customer to meet the targets across *all* [3M] product lines to maximize its [3M] rebates'.[316] The decision has been subjected to academic criticism with the exclusionary effect being described as 'unclear' – a signal, perhaps, of the less than obvious nature of such foreclosure.[317]

Similarly (and perhaps more pointedly) in *Eisai v Sanofi-Aventis*,[318] the foreclosure arguments advanced demonstrate the abstruse but powerful nature of rebate foreclosure. Sanofi had initiated a loyalty scheme whereby hospitals would gain discounts on Sanofi's deep vein thrombosis anticoagulant drug—Lovenox—based on the amount purchased. Below 75 percent of a hospital's total anticoagulant purchases resulted in a 1 percent discount; above 75 percent was much larger – anywhere between 9 and 30 percent,[319] so at the margin there were substantial gains to be made. No

[313] Hovenkamp and Hovenkamp, 'Complex Bundled Discounts and Antitrust Policy' (n 312) 1237 ('The competitive effects of bundled discounts are more difficult to assess when we consider bundles that are more complex than simply 1 unit of product A and 1 unit of product B').
[314] ibid 1238.
[315] *LePage's Inc. v 3M* 324 F3d 141, 144 (3d Cir 2003) (describing 3M's 'multi-tiered "bundled rebate" structure, which offered higher rebates when customers purchased products in a number of 3M's different product lines').
[316] *LePage's Inc. v 3M* 324 F3d 141, 154 (3d Cir 2003) (emphasis added); ibid ('The size of the rebate was linked to the number of product lines in which targets were met, and the number of targets met by the buyer determined the rebate it would receive on *all* of its purchases') (emphasis added).
[317] Joanna Warren, 'Comment: *LePage's v. 3M*: An Antitrust Analysis of Loyalty Rebates' (2004) 79 New York University Law Review 1605, 1619; ibid 1632 (concluding that 'the antitrust implications of loyalty rebates remain unclear. While the recent *LePage's* decision took an aggressive stance against what it found to be exclusionary conduct in violation of section 2 of the Sherman Act, the subsequent response by the legal and business communities highlights the uncertainty facing market leaders over when their pricing decisions will be subject to antitrust scrutiny').
[318] *Eisai, Inc. v Sanofi Aventis US, LLC.* 821 F3d 394 (3d Cir 2016).
[319] *Eisai, Inc. v Sanofi Aventis US, LLC.* 821 F3d 394, 400 (3d Cir 2016).

contractual obligation existed to purchase from Sanofi nor was there an indication that supply would be cut off if customers did not purchase from Sanofi. Rather, Eisai sought to highlight the foreclosure effect in a more subtle way – specifically, it maintained that there existed a bundling of both contestable and incontestable demand.[320]

Lovenox had idiosyncratic uses in heart failure treatment, so hospitals always needed *some* Lovenox (the incontestable portion of their demand). However, the discounts on this portion were dependent upon contestable demand purchases of Lovenox, meaning hospitals would have had magnified incentives to purchase Lovenox.[321] In effect, Eisai argued that in contrast to *LePage's*, Sanofi was bundling different kinds of *demand* on the *same* product rather than different products[322] (illustrating an even higher level of obscurity). Although the Court rejected this claim, they did so on the basis of a lack of factual evidence and seemed to accept that such a nuanced theory of harm was demonstrable in the abstract.[323] Therefore, it narrowed its reasoning to the facts before it and seemed to abstain from any general conclusions about such a subtle form of foreclosure. Indeed, *SmithKline Corp v Eli Lilly & Co*,[324] which concededly came well before both of the foregoing cases, did condemn bundled discounting as an anticompetitive practice.

c. Obscure exclusion

That the move from brick-and-mortar markets to digital technology markets could expand the opportunities for exclusion and generate much more pernicious forms of antitrust foreclosure should be apparent given consumers' exacerbated susceptibility to manipulation in the online world –

[320] *Eisai, Inc. v Sanofi Aventis US, LLC.* 821 F3d 394, 401 (3d Cir 2016).
[321] *Eisai, Inc. v Sanofi Aventis US, LLC.* 821 F3d 394, 404–406 (3d Cir 2016).
[322] *Eisai, Inc. v Sanofi Aventis US, LLC.* 821 F3d 394, 405 (3d Cir 2016) ('Significantly, Eisai does not claim that Sanofi conditioned discounts on purchases across various product lines, but on different types of demand for the same product').
[323] *Eisai, Inc. v Sanofi Aventis US, LLC.* 821 F3d 394, 406 (3d Cir 2016).
[324] *SmithKline Corp v Eli Lilly & Co*, 427 F Supp 1089 (United States District Court, Eastern District of Pennsylvania 1976).

particularly the fact that a digital firm retains continuous and ubiquitous control over the product and a consumer's interaction with it.[325] Indeed, the US Congress recently noted subtle but powerful attempts by Google to foreclose rival Zoom in online videoconferencing markets through methods designed to 'manipulate users into using…Google Meet'.[326] Relatedly, and as stated at this Chapter's outset, consumer biases are being increasingly recognised in antitrust circles as particularly ripe for manipulation in digital platform contexts.[327] Indeed, the Digital Services Act includes a direct prohibition on one such method for taking advantage of consumers' behavioural biases: Dark Patterns. This category of prohibition is yet to be populated with detail but the direction from a competition perspective is clear by banning conduct that would 'manipulate users into choices they do not intend to make'.[328]

Some of the seminal digital antitrust cases to date, like *Microsoft* and *Google Search (Shopping)*, seem to attest to this notion that as technology has advanced alongside parallel advancements in BE insights, foreclosure can be generated from the demand-side in much more obscure ways.

In *Microsoft*,[329] the Commission found that Microsoft abused its dominant position in the market for operating systems by tying its media streaming application—Windows Media Player

[325] See Chapter 3, Part II. See also Stylianou, 'Exclusion in Digital Markets' (n 9). See also Chapter 6, Part II (illustrating the significance of continuous and ubiquitous control for digital platform market rivalry).
[326] US House of Representatives, 'Investigation of Competition in Digital Markets' (n 270) 53 ('As Zoom emerged as the market leader during the early stages of the [Covid-19] pandemic, Google introduced a new widget for Meet inside Gmail. A similar message could be found inside Google calendar, which prompted users to "Add Google Meet videoconferencing" to their appointments').
[327] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 176 (describing how foreclosure can manifest when platforms exploit consumers' behavioral biases 'to keep consumers *attached* to their platforms and make switching to alternatives more difficult. These tactics generally make consumers less receptive to competitive alternatives – they lower contestability – and thus raise entry barriers') (emphasis added); Cecilia Cheng, 'Competition for Defaults: The Fight for Virtual Shelf Space' (2018) Working Paper, 36 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3220267> accessed 22 October 2020. See eg Chapter 3, Part III (illustrating this proposition through the specific example of Dark Patterns).
[328] European Commission, 'Questions and Answers: Digital Services Act' *Europa* (20 May 2022) <https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_2348> accessed 20 June 2022.
[329] Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601.

(hereafter "WMP")—to the operating system. Both BE and technology played key roles in the foreclosure analysis.

As to BE, although Microsoft argued that other, competing media players could be installed on the Windows operating system,[330] the Court was swayed by the power of pre-installation—that is, WMP being the default media player—to foreclose competition.[331] Specifically, whilst 'downloading is in itself a technically inexpensive way of distributing media players vendors must deploy major resources to overcome end-users' *inertia* and persuade them to ignore the pre-installation of [Windows Media Player]'.[332] This inability to perfectly realise media player substitutes arose partly because of transaction costs associated with downloading internet applications.[333] As the Commission highlighted in its decision, due to download complexity, incomplete download efforts, and lack of broadband ubiquity, 'the inconvenience of downloading a media player is in Microsoft's own view a real issue, at least in Europe'.[334]

This concern about "default power" is markedly reflected in the recent US Congress Report on the *Investigation of Competition in Digital Markets*.[335] In the context of online search, for instance, the Subcommittee identified '[a] third barrier to competition' whereby Google 'established

[330] Case T-201/04 *Microsoft v Commission* [2007] ECR II-360, para 993 ('[T]he inclusion of media functionality does not interfere with the functioning of third-party media players. It is thus technically possible – and indeed common practice – for a Windows-based client PC to run one or more third-party media players in addition to the media functionality in Windows').
[331] Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, paras 1049 et seq.
[332] Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, para 1052 (emphasis added).
[333] See Stucke, 'The Implications of Behavioral Antitrust' (n 183) 5, footnote 17.
[334] *Microsoft* (Case Comp/C-3/37.792) Commission Decision C(2004)900 Final, para 867; Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, para 1050. See also Stucke 'The Implications of Behavioral Antitrust' (n 183) 4 ('Given the disincentive [of users to use third party media players], the [antitrust] concern was that Microsoft's tying would weaken competition among media players…'); Andreas Heinemann, 'Behavioral Antitrust – A More "Realistic Approach" to Competition Law' (2015) European Perspectives on Behavioural Law and Economics, 16 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2644380> accessed 23 September 2020 ('The European Commission…did not rely on rational, but on actual behavior of consumers. Its line of argumentation *can best be explained by behavioural economics*, for example by the influence of default settings on human behavior') (emphasis added).
[335] US House of Representatives, 'Investigation of Competition in Digital Markets' (n 270).

extensive default positions across both browsers and mobile devices'.[336] In desktop markets, Google is the default on Chrome (which has 51 percent of the US market), Safari (which has 31 percent), and Firefox (5 percent); in total, it is the default search engine for 87 percent of the internet browser market.[337] Although Google has attempted to publicly 'downplay' the power of defaults, Google's internal documents, coupled with the vast sums Google pays device manufacturers to be the default, would seem to evince their 'competitive significance'.[338]

Regarding technology, although rival media players could be installed in addition to Mircrosoft's Windows Media Player, the latter was not capable of being uninstalled entirely, which in the Court's view contributed to the coercive effect.[339] Perhaps more perniciously, however, was that whenever consumers would try to stream a media file on Internet Explorer—Microsoft's web browser—Windows Media Player would override a third-party default media player (if one was set).[340]

In *Google Search (Shopping)*,[341] the Commission held that Google abused its dominant position on the market for general search services by giving more favourable search result positions to its own comparison-shopping service and less visible and vivid search result positions to rival

[336] ibid 81.
[337] ibid.
[338] ibid 82 ('[I]nternal documents show that when Google was still jostling for search market share, Google executives closely tracked search defaults on Microsoft's Internet Explorer and expressed concern that non-Google defaults could impede Google Search. In an internal presentation about Internet Explorer's default search selection, Google recommended that users be given an initial opportunity to select a search engine and that browsers minimize the steps required to change the default search engine'). Illustrative also in this respect is Google's reportedly paying Apple $12 billion in order for Google Search to be Safari's default search engine, which is now being investigated by the US DOJ. See Daisuke Wakabayashi and Jack Nicas, 'Apple, Google and a Deal that Controls the Internet' *New York Times* (25 October 2020) <https://www.nytimes.com/2020/10/25/technology/apple-google-search-antitrust.html> accessed 4 May 2021. See also Chapter 3, Part III.
[339] Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, para 963 ('The coercion thus applied to OEMs is not just contractual in nature, but also technical. In effect, it is common ground that it was not technically possible to uninstall Windows Media Player').
[340] Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, para 974 ('Microsoft devised the mechanism in such a way that Windows Media Player could override the default setting and reappear when the user used Internet Explorer to access media files streamed over the internet').
[341] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, upheld on appeal Case T-612/17 *Google Search (Shopping)* EU:T:2021:763.

comparison shopping services.[342] The EU General Court recently upheld the Commission decision.[343] Again technology and BE contributed to the opaque nature of the exclusion.[344]

Regarding technology, Google's choice of algorithms—the nature of which are confidential as demonstrated by the Commission decision's redactions[345]—was the source of the abusive conduct because it was this selection of algorithms which subjected rival comparison-shopping services to demotion in search results.[346] Note that rivals were subjected to specific "demoting" algorithms but Google was not, despite Google's comparison-shopping services having some of the same characteristics as rivals that led the latter to be demoted.[347] The inability to examine both the "demoting" characteristics and the workings of these algorithms illustrates the pernicious nature of the exclusion (both are largely redacted in the Commission decision).

BE explanations of why "prominence" was so fundamental to the Commission's theory of harm also demonstrate this more obscure form of exclusion. Even though consumers could switch within a few seconds from Google's comparison-shopping service to a rival's comparison-shopping service, consumer inertia and the magnetism of default choices may have cut against this ability.[348]

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[342] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, paras 341–342; *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 344 ('The Commission concludes that notwithstanding Google's arguments to the contrary, Google positions and displays, in its general search results pages, its own comparison shopping service more favourably compared to competing comparison shopping services').
[343] Case T-612/17 *Google Search (Shopping)* EU:T:2021:763.
[344] Patterson, 'Algorithmic Opacity and Exclusion in Antitrust Law' (n 284).
[345] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, paras 349 et seq.
[346] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 344 ('While competing comparison shopping services can appear only as generic search results and are prone to the ranking of their web pages in generic search results on Google's general search results pages being reduced ("demoted") by certain algorithms, Google's own comparison shopping service is prominently positioned, displayed in rich format and is never demoted by these algorithms'); *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, paras 345–352.
[347] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 380 ('Google's own comparison shopping service is not subject to the same ranking mechanisms as competing comparison shopping services, including *adjustment algorithms* such as […] and Panda. This is despite the fact that Google's own comparison shopping service exhibits several of the characteristics that make competing comparison shopping services prone to being demoted by the […] and Panda algorithms') (emphasis added).
[348] See Andreas Heinemann, 'Facts Over Theory: The Contribution of Behavioral Economics to Competition Law' January (2019) Competition Policy International 1, 5; Stucke, 'The Implications of Behavioral Antitrust' (n 183).

Again, the power of the default has been more recently reflected in independent competitor responses to recent investigations – like DuckDuckGo (a search engine) apparently being forced to 'invest in [its own] browser technology' because if it is not set as the default search engine, it faces 'significant business challenges'.[349] But even producing its own browser comes with its own default challenges, 'just one level up' – 'with the device makers requiring millions or billions of dollars to become a default browser on a device'.[350]

In sum, foreclosure cases used to be more transparent in terms of both the exclusionary effect and the excluding firm's intent and motive[351] when the foreclosure manifested from the supply-side. However, technological developments seem to have rendered exclusion much more subtle, especially when viewed in light of BE and its deleterious effect on a market's demand-side disciplining capacities. Traditional foreclosure cases can be viewed as a restriction of supply, which has the *consequence of* affecting demand. For instance when a firm lowers price to predatorily oust a rival, *consumers* then switch away from the rival and towards the price-lowering firm. When a firm refuses to supply an essential input to another firm, the latter cannot then produce the product that *consumers* desire. These paradigmatic foreclosure cases might thus be conceptualised as a form of indirect demand-side foreclosure.

Yet in more ways than one, the centre of gravity as it pertains to foreclosure seems to have shifted, as we move towards more direct but pernicious forms of demand-side "antitrust foreclosure" – that is, the capacity of digital platform firms to manipulatively leverage consumers' cognitive anomalies in the online world and generate more directly distortive forms of demand-side

[349] US House of Representatives, 'Investigation of Competition in Digital Markets' (n 270) 83.
[350] ibid.
[351] Patterson, 'Algorithmic Opacity and Exclusion in Antitrust Law' (n 284) 29–30.

foreclosure.[352] It is conduct targeting behaviour rather than processes. These phenomena would thus seem to confirm early predictions about this powerful combination – that firms of the future would be much more 'empowered' to 'surface and exploit how consumers tend to deviate from rational decisionmaking on a previously unimaginable scale'.[353] The next section showcases that this emerging demand-side phenomenon is one that perhaps deserves to be taken seriously.

II. CONSUMER SUSCEPTIBILITY TO MANIPULATION IN THE DIGITAL PLATFORM WORLD

As digital platforms have grown more powerful alongside technological advances offering additional means to influence behaviour, and as BE is beginning to make inroads into antitrust enforcement, antitrust agencies and policymakers are becoming increasingly mindful of the potential for 'more subtle methods of influence that should cause concern – specifically, actors may engage with market participants on an emotional and cognitive level in order to influence their reasoning and decisions regarding how to act'.[354] Antitrust scholars have to some extent already recognised these implications for antitrust enforcement—that consumer biases may be manipulated to shape demand[355]—but just *how* vulnerable consumers really are to manipulation has been underdeveloped in antitrust conversations.

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[352] Stucke, 'Behavioral Antitrust and Monopolization' (n 183) 560 ('Monopolists can devise…ways to exploit consumers' biases and heuristics…to maintain their monopoly').
[353] Ryan Calo, 'Digital Market Manipulation' (2014) 82 George Washington Law Review 995, 1018.
[354] Colangelo and Maggiolino, 'Manipulation of Information as Antitrust Infringement' (n 241) 64. See eg CMA, 'Online Search Behaviour: Literature Review' (n 36) 4; Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 59 ('Because individuals are subject to behavioral biases, consumers are vulnerable to a platform's exploitative behavior'); Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (n 3) 4 (describing how digital markets are prone to tipping and can be exacerbated by 'behavioural limitations on the part of consumers for whom defaults and prominence are very important'); US House of Representatives, 'Investigation of Competition in Digital Markets' (n 270) 53 (describing the use of 'manipulative design interfaces' as 'pervasive' and that these 'behavioral nudges' are being used to entrench market power and extract user revenue).
[355] See eg Stucke, 'Behavioral Antitrust and Monopolization' (n 183) 560 et seq (contending that a monopolist can 'devise…ways to exploit consumers' biases and heuristics…'); Stucke, 'The Implications of Behavioral Antitrust' (n 183) 37; ibid 26–28; ibid 19 et seq ('We can…see how monopolists can use heuristics and biases (such as the status quo bias) to maintain their monopoly'); Bennett et al, 'What Does Behavioural Economics Mean for Competition Policy' (n 33) 122 ('[T]he fact that firms can make greater profits from more confused consumers may provide firms with an incentive to exacerbate the impact of consumer biases'); Huffman, 'Marrying Neo-Chicago With Behavioral Antitrust' (n 33) 128 et seq.

This section seeks to illuminate the exacerbated manipulability of consumers in the digital platform world,[356] thereby proffering it as one potential context in which cognitive foreclosure—a demand-side market failure—deserves to be taken seriously for antitrust enforcement purposes. Indeed, the online world is perhaps bringing us closer to the scientist's laboratory, where platforms have complete control over decision-making contexts,[357] along with more insightful and personalised consumer information that can be voluminously but covertly collected. This enhanced ability to manipulate, coupled with enhanced incentives,[358] present a powerful combination in a context where cognitive heuristics and biases may "predominate".[359]

a. Amplified heuristics and biases

i. Information overload, information complexity, and attention scarcity

The rise of the internet and digital platforms in particular—which now mediate almost every aspect of our lives pummelling us with notifications, advertisements, news updates, among a plethora of other information—has resulted in an increased demand on our attention and, therefore, our limited cognitive resources.[360] More acutely, digital platform firms now constantly compete for our limited attention in order to sell it to third parties who value that attention.[361]

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[356] Privacy and Surveillance scholars, for instance, have highlighted this manipulability. See eg Tal Zarsky, 'Online Privacy, Tailoring, and Persuasion' in Katherine Strandburg and Daniela Raicu (eds), *Privacy and Technologies of Identity: A Cross-Disciplinary Conversation* (New York Springer 2006); Frank Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information* (Harvard University Press 2015); Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for the Future at the new Frontier of Power* (London: Profile Books 2019). See also Calo, 'Digital Market Manipulation' (n 353).

[357] Jon Hanson and Douglas Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (1999) 74 New York University Law Review 630, 747 ('The behavioralist literature reviewed here makes clear the potential for a new sort of market failure, *market manipulation*: because individuals are subject to a host of nonrational yet systematic cognitive phenomena, any party who has *control over a decisionmaking context* can influence the perceptions of the decisionmaker') (emphasis added). See also Daniel Susser et al, 'Technology, Autonomy and Manipulation' (2019) 8 Internet Policy Review 1, 6 ('[I]t is not difficult to see why information technology is uniquely suited to facilitating manipulative influences…pervasive digital surveillance puts our decision-making vulnerabilities on permanent display'); Daniel Susser et al, 'Online Manipulation: Hidden Influences in a Digital World' (2019) 4 Georgetown Law Technology Review 1, 29 ('[A]s digital technologies are incorporated into all aspects of people's everyday lives, they become increasingly susceptible to [online] manipulation. Widespread digital surveillance means it takes little effort to identify people's vulnerabilities').

[358] See Chapter 3, Part II.

[359] Shafir and LeBoeuf, 'Rationality' (n 273) 500.

[360] Maria Sicilia and Salvador Ruiz, 'The Effects of the Amount of Information on Cognitive Responses in Online Purchasing Tasks' (2010) 9 Electronic Commerce Research and Applications 183, 183 ('Anyone who has spent some

For example, the massive increase in creative content—like Spotify's 70-million song library (with an additional 60,000 songs being 'ingested' every day)[362] or the more than 1 billion hours of YouTube consumed per day[363] (or the 500 hours of content uploaded to YouTube *every minute*)—illustrates the 'magnitude of the increase' in information and, consequently, the significant taxing effect this can have on our cognitive capacities. It is no wonder, then, that 'faced with all this complexity, people try to keep things simple – an effort that in itself is quite complex'.[364] More specifically, consumers may 'deal with scale and complexity using cognitive biases encoded deep in our pre-digital history'.[365]

Indeed Stucke and Ezrachi recently note that too much choice can generate choice overload, which results in an overdose.[366] This subsequently results in confusion and sub-optimal decision-making, rendering us ripe for exploitation.[367] In some instances, the overload is so great that choice

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time on the internet has likely felt overwhelmed with the enormous amount of information available'); Ming-Hui Huang, 'Information Load: Its Relationship to Online Exploratory and Shopping Behavior' (2000) 20 International Journal of Information Management 337, 337; Byung-Kwan Lee and Wei-Na Lee, 'The Effect of Information Overload on Consumer Choice Quality in an On-Line Environment' (2004) 21 Psychology and Marketing 159, 160 ('The information-rich nature of the on-line environment can easily become a trap for information overload to occur…'); Nicholas Lurie, 'Decision Making in Information-Rich Environments: The Role of Information Structure' (2004) 30 Journal of Consumer Research 473. See also John Newman, 'Antitrust in Attention Markets: Objections and Responses' (2020) 59 Santa Clara Law Review 743, 746 ('[A] shift to an information-*rich* society tends to cause a corresponding shift to an attention-*scarce* society') (emphasis in original); Ellen Goodman, 'Media Policy Out of the Box: Content Abundance, Attention Scarcity, and the Failures of Digital Markets' (2004) 19 Berkeley Technology Law Journal 1389, 1392 ('Today, the scarce resource is attention…[t]he spread of digital innovations, in the form of production techniques, and consumer products, has *multiplied content* and freed audiences from network schedules. Consumers now sit in the eye of a storm of bits surging through cable and satellite channels, DVDs, video games, and websites') (emphasis added).

[361] David Evans, 'Attention Rivalry Among Online Platforms' (2013) 9 Journal of Competition Law & Economics 313, 313 ('Many online businesses seek and provide attention. These online attention rivals provide products and features to obtain the attention of consumers and sell some of that attention, through other products and services, to merchants, developers, and others who value it').

[362] Tim Ingham, 'Over 60,000 Tracks are Now Uploaded to Spotify Every Day. That's Nearly One Per Second' *MusicBusinessWorldwide* (24 February 2021) <https://www.musicbusinessworldwide.com/over-60000-tracks-are-now-uploaded-to-spotify-daily-thats-nearly-one-per-second/> accessed 4 May 2021.

[363] Kit Smith, '57 Fascinating and Incredible YouTube Statistics' *Brandwatch* (21 February 2020) <https://www.brandwatch.com/blog/youtube-stats/> accessed 03 October 2020.

[364] Alistair Rennie et al, 'Decoding Decisions: Making Sense of the Messy Middle' (Think With Google 2020) <https://www.thinkwithgoogle.com/intl/en-gb/navigating-purchase-behavior-and-decision-making/> accessed 2 October 2020.

[365] ibid.

[366] Maurice E Stucke and Ariel Ezrachi, *Competition Overdose: How Free Market Mythology Transformed Us From Citizen Kings to Market Servants* (Harper Business 2020) ch 4.

[367] ibid 117.

is foregone altogether. Iyengar and Lepper, for example, find that contrary to 'the popular notion that the more choice, the better', less optionality actually results in more uptake. In one field experiment, jam-tasting booths that contained just 6 jams as opposed to 24 led to 30 percent of consumers actually purchasing jam in the former context and just 3 percent in the latter context.[368] Much of the foregoing should perhaps not be surprising given that the *source* of mental biases and heuristics is the bounded cognitive capacity that all humans face.[369] Indeed, the cognitive cost of a "click" has been quantitatively determined to be around $49 when moving from one web page to

[368] Sheena S Iyengar and Mark R Lepper, 'When Choice is Demotivating: Can One Desire Too Much of a Good Thing?' (2000) 79 Journal of Personality and Social Psychology 995, 997; ibid ('Thus, consumers initially exposed to limited choices proved considerably more likely to purchase the product than consumers who had initially encountered a much larger set of options').

[369] A key tenet that emerges from the BE literature is that *because of* individuals' bounded rationality, they rely on mental shortcuts that are sometimes prone to error. See Jeffrey Rachlinski, 'Heuristics and Biases in the Courts: Ignorance or Adaptation?' (2000) 79 Oregon Law Review 61, 61 ('The human brain is extremely efficient, but it is not a computer. The brain has a limited ability to process information but must manage a complex array of stimuli. In response to its natural constraints the brain uses shortcuts that allow it to perform well under most circumstances. Reliance on these shortcuts, however, leaves people susceptible to all manner of illusions: visual, mnemonic, and judgmental'); Gregory Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (2002) 91 Georgetown Law Journal 67, 70 ('Research from psychology and behavioral economics studies reveals that human judgment and decisionmaking *necessarily rely* on imperfect psychological mechanisms that cause systematic departures from rationality') (emphasis added). See also Daniel Kahneman and Amos Tversky, 'On the Reality of Cognitive Illusions' (1996) 103 Psychological Review 582, 582 ('These heuristics…are often useful but they sometimes lead to characteristic errors or biases…'); Amos Tversky and Daniel Kahneman, 'Judgment Under Uncertainty: Heuristics and Biases' (1974) 185 Science 1124, 1124 ('[P]eople rely on a limited number of heuristic principles which reduce the complex tasks of assessing probabilities and predicting values to simpler judgmental operations'); Christine Jolls et al, 'A Behavioral Approach to Law and Economics' (1998) 50 Stanford Law Review 1471, 1477 ('Bounded rationality…refers to the obvious fact that human cognitive abilities are not infinite…people sometimes respond rationally to their own cognitive limitations…[b]ut even with these remedies, and in some cases because of these remedies, human behavior differs in systematic ways from that predicted by the standard economic model of unbounded rationality. Even when the use of mental shortcuts is rational, it can produce predictable mistakes').

another and around $6.24 when moving position on the '*exact same* webpage',[370] which seems to support earlier arguments in the antitrust debate about "cognitively costly" switching.[371]

Thus, if simply clicking to another web page—an action that can take just seconds—may "cognitively cost" anywhere between $39 and $49, then we should expect to see *more* reliance on mental shortcuts to ameliorate the cognitively taxing effect of searching the internet. As Costa and Halpern note, '[m]any of the failures and distortions in digital markets are behavioural in nature. To govern and regulate better, we must first understand how our behavioural biases manifest and are *amplified* in online environments...'[372]

An illuminating example of how biases may become magnified in the online world (and thereby render consumers more susceptible to manipulation) is the default bias, which is a product of consumer inertia and bounded willpower.[373] Specifically, default positions may apply '*especially forcefully* in the online world' and have an amplified impact on consumer choice as compared to its influence in brick-and-mortar contexts.[374] For example, in defining defaults as the option that is "least costly to discover", Cheng compares attention percentage distribution across several option

[370] Cheng, 'Competition for Defaults: The Fight for Virtual Shelf Space' (n 327) 8 (emphasis added). For quantitative determinations of how "cognitively costly" internet searching is, see Anindya Ghose et al, 'Search Less, Find More? Examining Limited Consumer Search With Social Media and Product Search Engines' (Thirty Third International Conference on Information Systems, Orlando, 2012) 3 <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.656.221> accessed 28 October 2020 ('On average, the effort of continuing to search an extra page on search engines costs $39.15, while the effort of continuing to search an additional screen position on the same page costs $6.24'); Sergei Koulayev, 'Estimating Demand in Online Search Markets, With Application to Hotel Bookings' (2010) Working Paper < http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.457.2714&rep=rep1&type=pdf> accessed 29 October 2020 (estimating the dollar cost of searching an extra page to be around $43.80 in the context of hotel bookings); Erik Brynjolfsson et al, 'A Nearly Perfect Market?' (2010) 8 Quantitative Marketing and Economics 1 (estimating the dollar value to the consumer of scrolling down *the same* web page to a lower location to be around $6.55) (emphasis added).

[371] Adam Candeub, 'Behavioral Economics, Internet Search, and Antitrust' (2014) 9 I/S: Journal of Law and Policy for the Information Society 407, 410 ('[C]ontrary to many assumptions in this debate, *the cognitive cost of the click that initiates a switch to a competing service can be quite high*') (emphasis in original).

[372] Elizabeth Costa and David Halpern, 'The Behavioural Science of Online Harm and Manipulation' (The Behavioural Insights Team 2019) 12 <https://www.bi.team/publications/the-behavioural-science-of-online-harm-and-manipulation-and-what-to-do-about-it/> accessed 02 October 2020 (emphasis added).

[373] This is also called the status quo bias. See Chapter 3, Part III.

[374] Cheng, 'Competition for Defaults: The Fight for Virtual Shelf Space' (n 327) 12 (emphasis added).

positions in (1) brick-and-mortar shelf spaces and (2) virtual shelf-space.[375] In the former context, if a product moved from worst to best shelf space, sales on average could increase by 39 percent.[376] Moreover, a notable result from another study is that no brick-and-mortar shelf—regardless of level—could command more than 30 percent of consumer attention.[377] In stark contrast, in the digital context, an option positioned on the top of Page 2 of Google's Search page, for example, receives just over 1 percent of 'all traffic' whilst the highest ranked position can command almost an average of 35 percent of all clicks.[378] More pointedly, if Google moves an option from rank 1 to 3 *on Page 1* of its search results, traffic to that option can decrease by 50 percent.[379] Additionally, traffic can fall by as much as 85 percent if the option is moved from rank 1 to rank 10 – still on *Page 1* of search results.[380] This demonstrates the disproportionate impact defaults can have on consumer choice in digital markets vis-à-vis their power in brick-and-mortar markets.

The foregoing analyses would seem to signal that in digital platform markets, consumer decision-making can take a dramatic shift from System 2 to System 1—that is, from conscious analytic thinking to automatic, unconscious associative thinking[381]—rendering consumers ripe for manipulation[382] and distracting them from making optimal purchasing decisions. This proposition has seen empirical validation,[383] with Sicilia and Ruiz notably finding that 'too much information causes *more selectivity* and *prejudices* [cognitive] processing'.[384]

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[375] Cheng, 'Competition for Defaults: The Fight for Virtual Shelf Space' (n 327) 23.
[376] Xavier Drèze et al, 'Shelf Management and Space Elasticity' (1994) 70 Journal of Retailing 301. cf Pierre Chandon et al, 'Does In-Store Marketing Work? Effects of the Number and Position of Shelf Facings on Brand Attention and Evaluation at the Point of Purchase' (2009) 73 Journal of Marketing 1 (concluding that the impacts of product position on attention and evaluation are 'mixed').
[377] Denis Drexler and Martin Souček, 'The Level of Shelves and Space Solution as one of the key Factors for Consumer Attention' (2017) 65 Acta Universitatis Agriculturae et Silviculturae Mendilianae Brunensis 1679.
[378] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 457.
[379] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 460.
[380] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 460.
[381] See Daniel Kahneman, *Thinking, Fast and Slow* (Penguin Books 2011) pt I.
[382] Such manipulation can include priming and persuasion. See eg Erin Strahan et al, 'Subliminal Priming and Persuasion: Striking While the Iron is Hot' (2002) 38 Journal of Experimental Psychology 556.
[383] See Lee and Lee, 'The Effect of Information Overload on Consumer Choice Quality in an On-Line Environment' (n 360); Lurie, 'Decision Making in Information-Rich Environments: The Role of Information Structure' (n 360); Hume Winzar and Preben Savik, 'Measuring Information Overload on the World Wide Web' (2002) Winter American

b. Amplified abilities to manipulate

i. Control

Digital platforms' abilities to continuously and ubiquitously control the consumer and the consumer's interaction with its service offers another reason why consumers may be rendered increasingly susceptible to manipulation in the online world and, hence, render cognitive foreclosure a serious demand-side market failure. Not unlike the scientific researcher,[385] digital platforms are uniquely positioned to totally control digital platform 'gestalt'[386] and manipulate platform context and interface,[387] product positions, and information in competitively malicious ways that may lock-in consumers.

This increased ability to manipulate overshadows that same ability in brick-and-mortar markets. Consider the market for retail bicycles. Once a consumer purchases a bicycle, the seller's control over the product becomes extinguished, along with their ability to dictate the consumer's interaction with the product. *Ex-ante* the purchase, the seller had the ability to control the consumer's perception of the product along price-quality parameters; *ex-post*, this control vanishes and the probability that the consumer will purchase again from the same seller becomes independent of that seller's control over the consumer and, crucially, the consumer's interaction with the product. This contrasts significantly with the online world, where platforms continuously and ubiquitously

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Marketing Association 439, 439 ('An online experiment supports previous research on Information Overload. As volume of information, measured by number of brands and range of brand features of an on-line store, increases then *confusion and uncertainty* increase and less information is accessed') (emphasis added); Sicilia and Ruiz, 'The Effects of the Amount of Information on Cognitive Responses in Online Purchasing Tasks' (n 360) 189 ('When the amount of information offered through a website is high, content elaboration clearly diminishes and irrelevant thoughts increase…').

[384] Sicilia and Ruiz, 'The Effects of the Amount of Information on Cognitive Responses in Online Purchasing Tasks' (n 360) 189 (emphasis added).

[385] Hanson and Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (n 357) 724 ('[I]t is the researcher who is in control of the substance, form, and *frame* of the survey' – similar to the platform).

[386] Jon Hanson and Douglas Kysar, 'Taking Behavioralism Seriously: Some Evidence of Market Manipulation' (1999) 74 New York University Law Review 1420, 1446.

[387] See Chapter 3, Part III. This phenomenon is called "atmospherics" – that is, 'the conscious designing of space to create certain effects in buyers'. See Philip Kotler, 'Atmospherics as a Marketing Tool' (1973–1974) 49 Journal of Retailing 48, 50. See also G R Foxall and Ronald Goldsmith, *Consumer Psychology for Marketing* (Routledge, London 1994) 189.

control a user's interaction with the product, their perception of it and, perhaps most significantly for competition purposes, their interactions with same-side and other-side users.[388]

To some extent this concern has already been highlighted in brick-and-mortar markets in the context of anxieties over private labelling and their potential to generate welfare-reducing effects for markets.[389] This is because when a distributor creates a private-label brand to compete with the upstream manufacturer's brand, the former may not only possess incentives to self-preference[390] but also an enhanced ability given that they now control the 'arena' in which competition takes place.[391]

However this concern arguably becomes amplified in digital platform markets because of the ability of a platform to manipulatively steer and control users by nefariously compromising their capacity to make decisions autonomously.[392] As the Stigler committee explains, '[w]hat is noteworthy…is the platform's detailed, minute-by-minute control over their interface. This enables platforms to create a façade of competition, choice, and autonomy when in fact users are being directed with behavioural techniques'.[393] We will examine more extensively the importance of control and its implications for antitrust enforcement in Chapter 6.[394]

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[388] For an explanation of same-side and cross-side network effects and their importance to platform rivalry, see Chapter 6, Part II. See also Amit Goldenberg and James J Gross, 'Digital Emotion Contagion' (2020) 4 Trends in Cognitive Sciences 316, 318 (differentiating between digital and non-digital interactions and how the latter 'are almost always mediated by companies who control and manipulate both the content that users see and how they respond to each other').

[389] See eg Ariel Ezrachi, 'Unchallenged Market Power? The Tale of Supermarkets, Private Labels, and Competition Law' (2010) 33 World Competition 257.

[390] This is not entirely true because a distributor can be competitively constrained by other retailers such that if a retailer does not treat a manufacturer's brand equitably, the manufacturer can shift their distribution to another retailer. See A Fernandez Nogalez and M Gomez Suarez, 'Shelf Space Management of Private Labels: A Case Study in Spanish Retailing' (2005) 12 Journal of Retailing and Consumer Services 205, 214 ('[Retailers] realize that they may lose sales if they do not assign the necessary space to national brands, which also help to enhance store image').

[391] Ariel Ezrachi and Ketan Ahuja, 'Private Labels, Brands and Competition Law Enforcement' in Deven R Desai et al (eds), *Brands, Competition Law and IP* (Cambridge University Press (2015) 179; Ezrachi, 'Unchallenged Market Power? The Tale of Supermarkets, Private Labels, and Competition Law' (n 389) 262 ('Control of the distribution channel, shelf space, promotion, and pricing…empower the retailer in its relationship with the brand manufacturer' and 'such control provides the retailer with a decisive advantage over brand suppliers').

[392] Susser et al, 'Technology, Autonomy and Manipulation' (n 357) 3.

[393] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 60. See also Ariel Ezrachi and Maurice Stucke, *Virtual Competition: The Promise and Perils of the Algorithm-Driven Economy* (Harvard University Press 2016) 27 (referring to the example of the Truman Show to describe how '[n]ew technologies are changing the dynamics of

ii. Big Data

We are familiar with Big Data's capacity to foreclose new entry.[395] Now we highlight its ability to empower platforms to manipulate consumers and impair their decision-making autonomy. Big Data thus offers an additional factor contributing to the increased manipulability of consumers in digital platform contexts and, consequently, the seriousness of the demand-side market failure of cognitive foreclosure. Indeed, if supermarket manipulation was not already a concern for consumer decision-making autonomy because of the ability to 'bias consumer decisions' with 'a battery of behavioural studies and psychological analyses',[396] then the online world would seem to exacerbate this potential through Big Data analytics. As Colangelo and Maggiolini note,

> [i]n the current data economy, some scholars allude to the possibility that companies are able to shape demand by offering false and misleading information, and by distributing unduly persuasive information which exploits cognitive vulnerabilities of individual consumers learned by such companies through past interactions.[397]

This capacity of Big Data to supercharge behavioural manipulation, which some industry executives have likened to possessing 'a spy camera on the production floor',[398] is being recognised not just by scholars[399] but also by international regulators and policymakers.[400]

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competition as we know it and are giving rise to a new environment' and how '[w]e may think that we're ordinary consumers with ordinary lives with unremarkable purchases [but] [w]e have no idea about how, and the extent to which, we are being exploited').

[394] See Chapter 6, Part II.

[395] See Chapter 6, Part II. See also US House of Representatives, 'Investigation of Competition in Digital Markets' (n 270) 42 ('The accumulation of data can serve as another powerful barrier to entry for firms in the digital economy').

[396] Hanson and Kysar, 'Taking Behavioralism Seriously: Some Evidence of Market Manipulation' (n 386) 1450.

[397] Colangelo and Maggiolino, 'Manipulation of Information as Antitrust Infringement' (n 241) 64.

[398] US House of Representatives, 'Investigation of Competition in Digital Markets' (n 270) 43.

[399] See eg Susser et al, 'Online Manipulation: Hidden Influences in a Digital World' (n 357); Zarsky, 'Online Privacy, Tailoring, and Persuasion' (n 356) 219–220; Calo, 'Digital Market Manipulation' (n 353); Karen Yeung, ''Hypernudge': Big Data as a Mode of Regulation by Design' (2017) 20 Information, Communication & Society 118, 118 ('Big Data analytical nudges are extremely powerful and potent due to their networked, continuously updated, dynamic and pervasive nature').

[400] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 60 ('With big data and machine learning, firms are able to understand and manipulate individual preferences at a scale that goes far beyond what is possible in traditional markets. This capability is qualitatively new. The environment is characterized by extreme asymmetries of information and analytical capacity between the platform and the user. This enables firms to charge higher prices…and engage in behavioral discrimination, allowing firms to extract more value from users where they are weak').

Consider in this regard the subtle but powerful nudging of users towards outcomes that are in the nudger's interests, which some have labelled "hypernudging".[401] This conduct seeks to mould and guide user behaviour in algorithmically driven ways 'by offering suggestions to prompt the user to make decisions preferred by [the nudger]'.[402] In this respect, Big Data may empower digital firms to personalise users' choice contexts and 'channel user choices in directions preferred by the choice architect through processes that are subtle, unobtrusive, yet extraordinarily powerful'.[403]

Examples of user profiling demonstrate just how sophisticated Big Data has become and how much digital platforms can know about us.[404] Uber, for instance, has developed technology to discern when a user may be intoxicated by comparing a host of data points against that particular user's "average" data outputs, which may include the way the user is walking (e.g. staggered or straight line) or the angle at which the user is holding their phone.[405] The dating platform Tinder can assign each user a secret internal rating of "desirability" and rank users from most to least desirable to facilitate more optimal matching – all of which stems from a complex algorithm.[406] The couch surfing platform Airbnb can identify a user's trustworthiness and psychopathic proclivities derived

[401] Yeung, '"Hypernudge": Big Data as a Mode of Regulation by Design' (n 399).
[402] ibid 121. See also Evan Selinger and Thomas P Seager, 'Digital Jiminy Crickets' *Slate* (13 July 2012) https://slate.com/technology/2012/07/ethical-decision-making-apps-damage-our-ability-to-make-moral-choices.html> accessed 04 May 2021.
[403] Yeung, '"Hypernudge": Big Data as a Mode of Regulation by Design' (n 399) 121. See also Susser et al, 'Online Manipulation: Hidden Influences in a Digital World' (n 357) 29 ('Digital platforms are the perfect medium through which to leverage [insights into users' vulnerabilities]. And because information technology mediates so many people's lives, there is virtually limitless opportunity to *invisibly influence*') (emphasis added).
[404] Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 19. Note that this point limits itself to highlighting *only* the *sophistication* of Big Data.
[405] Jordan Crook, 'Uber Applies for Patent That Would Detect Drunk Passengers' *TechCrunch* (11 June 2018) <https://techcrunch.com/2018/06/11/uber-applies-for-patent-that-would-detect-drunk-passengers/?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAAFs2ZhCqtnksgdiSs1NP19IgfCRqND7k3cEW2iNlh3KHMgeE6tE9LgqRX6TlrtMLJwrvxrzLK6nZN50J6rM_Co5IRkaaBkp4fpQ4tmEcP1RbZGLCEdq9HQx1m9fEH3_1JnHU9kYY3IP8meHGPR7PdN4kyvwTNPzUw_o8cUiQKePs> accessed 30 October 2020.
[406] Austin Carr, 'I Found Out my Secret Internal Tinder Rating and now I Wish I Hadn't' *FastCompany* (01 November 2016) <https://www.fastcompany.com/3054871/whats-your-tinder-score-inside-the-apps-internal-ranking-system> accessed 30 October 2020.

from multiple data points like the user's social media and lifestyle choices.[407] And the well-known case of Max Schrem, who brought a case against Facebook for disclosure of his personal data based on European law, found that his own Facebook file was 1,200 pages in length,[408] which was at a time when data was tracked "singularly"[409] on Facebook compared to its pluralistic tracking today across 'millions of independently owned websites and mobile applications'[410] that use any of Facebook's plug-ins like the "Like" button. Even "thinking" certain things, like typing words and sentences into a status update field, for instance, but then deleting it is *still* tracked and recorded.[411]

These powerful insights into our psychological make-up showcase the extent to which a platform could calibrate the user experience in tailored ways and leverage such insights to potentially manipulate us into decisions that are in the platform's anti-competitive interests. Of course, this says nothing about the benefits of Big Data and its capacity to enhance product quality; rather, the point is simply that the *sophistication* of Big Data *may* enable a platform to manipulate in much more powerful and tailored ways.

iii. Addiction-induced cognitive impairment

Platforms possess enhanced incentives to catch and retain users' attention for as long as possible,[412] which may generate addiction and, consequently, a significant impairment of cognitive processing

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[407] Whitney Kimball, 'Airbnb's Software Patent Rates Your Psychopathy Based on Your Social Media Activity' *Gizmodo* (07 January 2020) <https://gizmodo.com/airbnbs-software-patent-rates-your-psychopathy-based-on-1840855354> accessed 30 October 2020.

[408] Olivia Solon, 'How Much Data did Facebook Have on one man? 1,200 pages of Data in 57 Categories' *Wired* (28 December 2012) <https://www.wired.co.uk/article/privacy-versus-facebook>accessed 11 May 2021.

[409] See Dina Srinivasan, 'The Antitrust Case Against Facebook: A Monopolist's Journey Towards Pervasive Surveillance in Spite of Consumers' Preference for Privacy' (2019) 16 Berkeley Business Law Journal 39, 41.

[410] ibid. The "Like" button appears on over 1 million websites. See Built With, 'Websites Using Facebook Like Button' *BuiltWith* (09 May 2021) < https://trends.builtwith.com/websitelist/Facebook-Like-Button> accessed 11 May 2021.

[411] See Sauvik Das and Adam Kramer, 'Self-Censorship on Facebook' (AAAI Conference on Weblogs and Social Media, 02 July 2013) <https://research.fb.com/publications/self-censorship-on-facebook/> accessed 11 May 2021. See also Jennifer Golbeck, 'On Second Thought…' *Slate* (13 December 2013) < https://slate.com/technology/2013/12/facebook-self-censorship-what-happens-to-the-posts-you-dont-publish.html> accessed 11 May 2021 ('Unfortunately, the code in your browser that powers Facebook still knows what you typed – even if you decide not to publish it. It turns out that the things you explicitly choose *not* to share aren't entirely private').

[412] See Chapter 3, Part II.

capacity. This reduced user cognition constitutes an additional element that may render consumers increasingly ripe for manipulation in digital platform contexts as they rely more and more on biases and heuristics to guide their decisions.

Neuroscience research reveals, for example,[413] that heightened internet use can lead to reductions in gray matter in users' brains,[414] abnormal sensitivity to reward-like structures which implicates the 'dopaminergic neural system',[415] and increased impulsivity due to concomitant decreases in self-control. Consider that a study of WeChat users, for instance, found that gray matter reduction can lead to users experiencing reward sensitivity,[416] 'suggesting that digital addiction begets more addiction',[417] which, in turn, may subsume users into a perpetual "dream like" state and subject them to a potential host of manipulative strategies.

That online users in the aggregate spend around 950 million hours per day on Facebook platforms may mean that the user "dream" has already begun.[418] Prolonged use of Google platforms may also tend to show this (over a billion hours of YouTube is consumed per day).[419] Consider also

[413] See Sergey Tereshchenko and Edward Kasparov, 'Neurobiological Risk Factors for the Development of Internet Addiction in Adolescents' (2019) 9 Behavioral Sciences 1.
[414] See Kai Yuan et al, 'Cortical Thickness Abnormalities in Late Adolesence With Online Gaming Addiction' (2013) 8 PLOS ONE 1.
[415] Sang Hee Kim et al, 'Reduced Striatal Dopamine D2 Receptors in People With Internet Addiction' (2011) 22 NeuroReport 407, 407. See also Soon-Beom Hong et al, 'Decreased Functional Brain Connectivity in Adolescents With Internet Addiction' 8 (2013) PLOS ONE 1.
[416] Christian Montag et al, 'Internet Communication Disorder and the Structure of the Human Brain: Initial Insights on WeChat Addiction' (2018) 8 Scientific Reports 2155.
[417] See Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 20.
[418] See Adam Levy, 'People Still Spend an Absurd Amount of Time on Facebook' *The Motley Fool* (06 February 2018) <https://www.fool.com/investing/2018/02/06/people-still-spend-an-absurd-amount-of-time-on-fac.aspx> accessed 4 May 2021. The New York Times also noted that we spend more time on Facebook, Instagram, and Messenger—fifty times more, in fact—than on other activities except watching television. See James B Stewart, 'Facebook Has 50 Minutes of Your Time Each Day. It Wants More' *New York Times* (05 May 2016) < https://www.nytimes.com/2016/05/06/business/facebook-bends-the-rules-of-audience-engagement-to-its-advantage.html> accessed 04 May 2021.
[419] Cristos Goodrow, 'You Know What's Cool? A Billion Hours' *YouTube Official Blog* (27 February 2017) <https://blog.youtube/news-and-events/you-know-whats-cool-billion-hours/> accessed 04 May 2021 (as the VP of Engineering at YouTube noted, '[i]f you were to sit and watch a billion hours of YouTube, it would take you over 100,000 years').

that we spend on average somewhere between 3.5 and 4.5 hours per day on our mobile phones;[420] indeed, one study administering a self-assessment questionnaire about internet addiction revealed almost half of those sampled agreed or strongly agreed with the statement "I am addicted to the internet".[421] It is therefore perhaps unsurprising that psychologists have coined the term "nomophobia" (fear of no mobile phone), with some campaigning for the phobia to be added to the America Psychiatric Association's DSM-5 – the manual for diagnosing and taxonomising mental health disorders.[422]

Further evidencing the notion that the "dream" may have already begun for online users are the behavioural manifestations of the above addictions. Systematic usage, anxiety, 'ringxiety (i.e. repeatedly checking one's phone for messages, sometimes leading to phantom ring tones)', 'constant availability, preference for mobile communication over face to face communication, and financial problems'[423] are all symptomatic of addiction. Given that attention capture and retention is a digital platform's primordial concern,[424] we may very well be moving towards the world of cognitive foreclosure hinted to at this Chapter's outset.

[420] Rani Molla, 'Tech Companies Tried to Help us Spend Less Time on our Phones. It Didn't Work.' *Vox* (06 January 2020) <https://www.vox.com/recode/2020/1/6/21048116/tech-companies-time-well-spent-mobile-phone-usage-data> accessed 11 May 2021.
[421] Xavier Carbonell et al, 'Problematic Use of the Internet and Smartphones in University Students: 2006–2017' (2018) 15 International Journal of Environmental Research and Public Health 1, 5.
[422] Daria J Kuss and Mark D Griffiths, 'Social Networking Sites and Addiction: Ten Lessons Learned' (2017) 14 International Journal of Environmental Research and Public Health 1, 9. See also American Psychiatric Association, 'Diagnostic and Statistical Manual of Mental Disorders (DSM-5)' *American Psychiatric Association* <https://www.psychiatry.org/psychiatrists/practice/dsm> accessed 11 May 2021.
[423] Kuss and Griffiths, 'Social Networking Sites and Addiction: Ten Lessons Learned' (n 422) 9.
[424] Stucke and Ezrachi, *Competition Overdose: How Free Market Mythology Transformed Us From Citizen Kings to Market Servants* (n 366) 197 ('Many app developers compete so hard to addict us, because the longer we spend on their apps—the more "eyeball time" we put in—the more personal data they can extract from us and the more money they can make by selling access to that data to advertisers').

c. Amplified incentives to manipulate

Along with amplified manipulation abilities, digital platform firms also possess intensified incentives to engage in user manipulation due to competitive pressures, the potential ease of user switching, and inclinations to engage in more pernicious forms of self-preferencing.

i. Competitive pressures

One reason why firms generally may possess magnified incentives to manipulate consumers' behavioural shortcomings is that cognitive biases can 'present profit-maximizing opportunities' that firms '*must* take advantage of in order to stay apace with competition'.[425] This incentive seems all the more real and amplified in digital platform markets where, as illustrated above, cognitive biases become magnified[426] and, therefore, become more ripe for manipulation. We may thus encounter instances of "races to the bottom"; as one firm begins engaging in these manipulative tactics, others may feel the need to do so as well.

Studies demonstrate that it is at the very least unclear[427] whether competition will eradicate consumer biases and in several instances show that more rivalry may even exacerbate incentives to manipulate. Perhaps most importantly, some studies reveal that when faced with a decision to compete *or* manipulate, firms will usually manipulate.[428] As the OFT concludes after a review of various studies across a variety of industries:

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[425] Hanson and Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (n 357) 726 (emphasis in original).
[426] See Chapter 3, Part II.
[427] OFT, 'Consumer Behavioural Biases in Competition: A Survey' (Final Report, May 2011) 68 <https://londoneconomics.co.uk/wp-content/uploads/2012/06/Consumer-behavioural-biases-in-competition-OFT1.pdf> accessed 19 October 2021 ('The most striking result of the literature so far is that increasing competition through fostering entry of more firms may not on its own *always* improve outcomes for consumers' and '[i]n the presence of [cognitively biased consumers] it is no longer clear that firms *necessarily* have an incentive to compete by offering better deals. Rather, they can focus on exploiting biased consumers who are very likely to purchase from them regardless of price and quality') (emphasis added).
[428] See eg Ioana Chioveanu and Jidong Zhou, 'Price Competition With Consumer Confusion' (2013) 59 Management Science 2450; Bruce Carlin, 'Strategic Price Complexity in Retail Financial Markets' (2009) 91 Journal of Financial Economics 278.

> [t]he broad picture in the class of models reviewed in this part is that firms will employ strategies that are carefully tailored to the consumers' biases. They will exploit imperfect recall of prices and will tailor the price framing such that in equilibrium consumers' problems in making accurate judgements about price differences will come into play.[429]

We could expect to see similar outcomes in digital platform markets given the ease with which technology giants like Google, Amazon, Facebook, and Apple possess total control over consumers' interactions with, and perceptions of, their products and services.[430] Not only this but the value chains derived from the competitive structure of platforms' business models also support this trend. Greater user retention and influence are the drivers behind the ability to harvest data and manipulate. More users means more data, which increases quality, which leads to more users.[431]

ii. (Almost) perfect switching and multi-homing

The notion that competition is just a "click away" in the online world may further amplify digital platforms' incentives to manipulate consumers and generate lock-in. To be sure, although this strand of argument—that competition is almost perfect due to consumers' almost instantaneous ability to switch between rivals—has been disputed, its prospect can still be real.

In the search engine context, for example, Edlin and Harris contend that '[a]cross search engines, there are virtually zero transactions switching costs' and proffer evidence to demonstrate that 'users not only frequently switch search engines *between* search sessions, they often switch *during* a search session'. Moreover, users can switch back and forth between different search engines "costlessly", i.e. '"switch-back-costs" are low'.[432]

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[429] OFT, 'Consumer Behavioural Biases in Competition: A Survey' (n 427) 43.
[430] See Chapter 3, Part II.
[431] See Chapter 6, Part II.
[432] Aaron Edlin and Robert Harris, 'The Role of Switching Costs in Antitrust Analysis: A Comparison of Microsoft and Google' (2013) 15 Yale Journal of Law and Technology 169, 196.

Empirical evidence seems to align with these claims. One study, for example, found that users switch between search engines 'often' – both 'within' and 'between' search sessions. Specifically,

> [o]f the 14.2 million users in [one study's] log sample, 10.3 million (72.6%) used more than one engine in the six-month duration of the logs, 7.1 million (50.0%) switched engines within a search engine at least once, and 9.6 million (67.6%) used different search engines for different sessions (i.e. engaged in between-session switching).[433]

Further, 4.4% of the log sample left a search engine for another and returned to the former.[434] Other studies found similar evidence of easy and frequent switching.[435]

Aside from this apparent easy ability to switch, the incentive to switch might be also bolstered by the fact that services are usually free. As Evans explains, '[s]ince the platforms are free [consumers] can use as many as they want and switch their attention depending upon the relative attractiveness to spending time on one or the other'.[436]

Consider finally the prospect of multi-homing as an additional incentive for platforms to manipulate users and prevent switching. Multi-homing is the capacity of users to use multiple services that serve the same purpose[437] and, therefore, prevent one service from dominating the market. Multi-homing contains at the very least great potential for making 'effective

[433] Ryan White and Susan Dumais, 'Characterizing and Predicting Search Engine Switching Behavior' (CIKM '09: Proceedings of the ACM Conference on Information and Knowledge Management, November 2009) 89.
[434] ibid.
[435] See eg Doug Downey, Susan Dumais and Eric Horvitz, 'Models of Searching and Browsing: Languages, Studies, and Applications' (IJCAI '07: Proceedings of the 20th International Joint Conference on Artificial Intelligence, January 2007); Qi Guo et al, 'Why Searchers Switch: Understanding and Predicting Engine Switching Rationales' (Proceeding of the 34th International ACM SIGIR Conference on Research and Development in Information Retrieval, July 2011).
[436] David Evans, 'Multisided Platforms, Dynamic Competition, and the Assessment of Market Power for Internet-Based Firms' (2016) Coase-Sandor Institute for Law and Economics Working Paper No 753, 21–22 < https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2468&context=law_and_economics> accessed 26 July 2022.
[437] Stylianou, 'Exclusion in Digital Markets'(n 9) 223 (defining multi-homing as 'the ability of an actor to subscribe to multiple systems at the same time').

exclusion…more difficult'.[438] This is because it can amplify the (potential) connectivity of industry actors by opening up 'alternative paths'.[439] Examples include app developers developing apps for several mobile operating systems, consumers being able to use both Wi-Fi and cellular data on their mobiles, and OEMs allowing their devices to be compatible with more than one mobile operating system (e.g. HTC phones can run Windows or Android). As Stylianou explains, '[t]he more extensive multihoming is in every level of the value chain the less power is concentrated in each link, and the easier it becomes for market players to connect to each other'.[440] Although barriers to multi-homing may arise in the form of lack of data portability or a tying of services,[441] the rate at which users multi-home seems to be high – at least for the most popular apps.[442] There would therefore seem to be an incentive for a platform to reduce multi-homing and induce users to concentrate their attention on its own service rather than distribute it across several services.

iii. Pernicious self-preferencing

A more nuanced reason as to why digital platforms may gravitate towards more subtle forms of exclusion in the form of cognitive foreclosure is that a more overt form of exclusion—that is, excluding rivals on the *intra*-platform level—would not seem to be in a platform's interests. This is because platforms need to maintain the perceived quality of their platforms in the first instance and not act in ways that would cause consumers to switch away. Otherwise put, platform markets are two-sided markets and the demand by one side (say, advertisers) is *dependent upon* the demand of the other (consumers). Examples include shopping malls (an increase in shops increases consumer

[438] ibid 224.
[439] ibid.
[440] ibid. See also Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (n 3) 36 (describing how multi-homing – the ability to use similar products simultaneously – may '[ensure] that there is more than one credible route to market for independent online businesses, and as a result the bargaining power of individual platform companies is reduced').
[441] Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (n 3) 36 (describing tying as firms 'by design' precluding interoperability between services).
[442] Sami Hyrynsalmi, Arho Suominen and Matti Mäntymäki, 'The Influence of Developer Multi-Homing on Competition Between Software Ecoystems' (2015) 111 The Journal of Systems and Software 119, 126 (describing very high rates of multi-homing for the 'most popular' applications and the application developers).

demand) and computer hardware (a decrease in consumer demand would lead software developers to produce less applications for that hardware).[443] In short, a platform is not incentivised to foreclose rival applications from its platform because doing so will lower the platform's overall value; '[t]o the contrary…a platform monopolist has an incentive to innovate and push for improvements in its system—including better applications—in order to profit from a more valuable platform'. A platform may even choose not to enter (or exit if it is already present) downstream as a way of signalling to downstream application developers its desire for efficient applications competition.[444]

Google Android exemplifies this latter point and discredits interventionists' arguments that Google's agreements with original equipment manufacturers (hereafter "OEMs") for the latter to pre-install Google Search constitutes a tying violation.[445] Tying is when a seller conditions the sale of one product with market power upon the purchase of another product.[446] Market power in the tying product is essential because '[o]therwise, the buyer can simply purchase a substitute for the tying product without the tied product'.[447] Thus, Google Android is allegedly the tying product with market power and Google Search is the tied product, which Google supposedly forces OEMs to pre-install.

But the two-sided nature of Google Android illuminates the fallacy of this tying theory because Google has an incentive not to exclude complementary applications.[448] Google is not

[443] Oz Shy, 'A Short Survey of Network Economics' (2010) FRB of Boston Working Paper No 10-3, 24 (illustrating two-sided market theory through examples) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1600783> accessed 27 December 2019.
[444] Joseph Farrell and Philip Weiser, 'Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age' (2003) 17 Harvard Journal of Law & Technology 85, 103–104 (Platforms may stay out of (or exit) downstream applications markets 'as a means of ensuring efficient competition in that market' and 'be a good steward of the applications sector for its platform').
[445] Robert Bork and Gregory Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google' (2012) 8 Journal of Competition Law & Economics 663, 699.
[446] ibid.
[447] ibid.
[448] Farrell and Weiser, 'Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age' (n 444) 100 ('[P]latform providers who integrate into applications development

incentivised to exclude competing search applications because the value of its Google Android mobile operating system would decrease for consumers—who 'have demand for unlimited applications'[449]—which in turn would decrease their demand. Application developers, 'who want the most consumers to use their applications',[450] would consequently reduce their supply of apps for Android (because they wouldn't produce apps for a mobile operating system that hardly any consumers demand).[451] OEMs, in turn, would switch away from Android towards operating systems that app developers switch to. OEMs would produce fewer Android devices, which would reduce 'Google's firm value'.[452]

From a more nuanced perspective, however, it could be argued that this 'complementary demand' between consumers and app developers does not so much as disincentivise Google from foreclosing applications on Android, as some scholars maintain;[453] rather, it simply reduces the *total* amount of ways a platform *should* foreclose competition. Otherwise put, in a scenario where a platform is also a rival on its own platform, the incentive to self-preference still remains but the *methods* a platform chooses in this regard would have to be much more subtle than simply not allowing rivals onto its platform because, as the above analysis has shown, a platform has incentives to make its platform as open as possible so as to maximise consumer demand. Thus, a platform will have incentives to exclude in much more subtle ways – one of which may be to take advantage of consumers' cognitive shortcomings and generate foreclosure from the demand-side.

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often take pains "not to compete with customers" so as to minimize any ill effects of integration on independent applications').

[449] Bork and Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google' (n 445) 699.

[450] ibid.

[451] ibid ('If Google were to exclude applications from Android…it would reduce consumer choice and degrade the quality of Android. Consumers would lose demand for Android. As a result, developers of new applications would begin to supply their applications on a different platform').

[452] ibid.

[453] ibid 700; Farrell and Weiser, 'Modularity, Vertical Integration, and Open Access Policies: Towards a Convergence of Antitrust and Regulation in the Internet Age' (n 444) 101 ('[I]n choosing how to…deal with developers, [a monopoly firm] has a clear incentive to choose the pattern that will best provide it or its customers with applications').

The Commission's reasoning in *Google Android*[454] and also the more recent US DOJ *Google* case[455] would seem to attest to this narrative given that the theories adopted in these cases are grounded, at least partially, on BE. Comments about the "abnormal" nature of such self-preferencing conduct in *Google Search (Shopping)* would also seem to be vindicating in this respect, as they highlight the Court's confusion about Google—a platform subject to network effects—engaging in ostensibly self-defeating behaviour.[456] The traditional strand of debate about a platform's "inter-related" demand and how this cuts against exclusionary incentives, therefore, may need to be reconceived: it is not that the platform does not have *incentives* to exclude (these still exist) but rather the *method* through which the platform excludes will need to be more subtle—perhaps perniciously so in the form of self-preferencing—given that its total value as a platform correlates with the number of options that platform provides to users (e.g. in the form of applications like different search engines or in the form of sellers in an online marketplace).

In sum, digital platform markets seem to be manifesting as structurally unique business models that can empower platforms to manipulate consumers on a scale that is simultaneously powerful and pernicious. The 'digital firehose of information'[457]—which may induce greater consumer reliance on heuristics and biases due to information overload—coupled with amplified abilities and incentives to manipulate presents a newly emerging phenomenon whereby firms become uniquely positioned to cognitively foreclose competition. The basic takeaway is that rather than competing "on the merits" or via 'superior skill, foresight and industry',[458] digital platform firms seem

[454] *Google Android* (Case AT 40099) Commission Decision C(2018) 4761 Final.
[455] US DOJ, 'Justice Department Sues Monopolist Google for Violating Antitrust Laws' (n 263).
[456] Case T-612/17 *Google Search (Shopping)* EU:T:2021:763, paras 176, 178 and 179.
[457] Newman, 'Antitrust in Attention Markets: Objections and Responses' (n 360) 748.
[458] *United States v Alcoa*, 148 F2d 416, 430 (2d Cir 1945).

distinctly positioned to leverage their market power[459] in behaviourally manipulative ways and 'keep competition at bay'.[460] What these "behaviourally manipulative" methods could look like is now examined.

III. BEHAVIOURAL FRUSTRATION OF CONSUMER SWITCHING AT *INTER*- AND *INTRA*- PLATFORM LEVELS

Hanson and Kysar described manipulation susceptibility due to cognitive biases as 'the single most significant implication to be drawn from behavioural research…'[461] As noted at the previous section's outset, the potential for digital platform firms to manipulate consumer behavioural biases and "shape demand" is starting to be recognised across scholarship and regulation and the foregoing sections highlighted that it may be a more pernicious form of demand-side foreclosure that should be taken seriously for competition purposes. Indeed, controlled experimental studies have documented instances where manipulative partitioned- and/or drip-pricing strategies, for example, which take advantage of a consumer's bounded rationality, may have induced a consumer to purchase in erroneous or welfare-reducing ways.[462]

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[459] Note that the leverage in this regard is different to traditional leverage theories, where, for example, in the case of tying a firm may use its high market share in one market to gain a competitive advantage in another, complementary product market. For cognitive foreclosure purposes, the leverage would be with respect to dominant digital platforms' access to voluminous personal data, which may be relied upon to manipulate. On Big Data, see Chapter 6, Part II.

[460] Cheng, 'Competition for Defaults: The Fight for Virtual Shelf Space' (n 327) 4.

[461] Hanson and Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (n 357). Note, however, that Hanson and Kysar's analysis was in the context of products liability law.

[462] CMA, 'Online Search Behaviour: Literature Review' (n 354) 4. For experimental work, see eg OFT, 'Partitioned Pricing Research: A Behavioural Experiment' (Office of Fair Trading 2013) <https://londoneconomics.co.uk/blog/publication/partitioned-pricing-research-behavioural-experiment/> accessed 13 October 2020 (finding that the way 'prices are framed does matter for consumer decision making and welfare. In particular, we find evidence that consumers reduce search effort under most price frames we investigate and that under some of the price frames they also make more mistakes in search and purchasing behavior as compared to straight unit pricing…'); Shell Santana et al, 'Consumer Reactions to Drip Pricing' (2020) 39 Marketing Science 188 (finding that '[a]cross six studies…when optional surcharges are dripped (versus revealed upfront) consumers are more likely to initially select a lower based priced option which, after surcharges are included, is often more expensive than the alternative'); Stephen Huck and Brian Wallace, 'The Impact of Price Frames on Consumer Decision Making: Experimental Evidence' 2 <https://www.ucl.ac.uk/~uctpbwa/papers/price-framing.pdf> accessed 13 October 2020 (finding that 'all frames deviating from the [linear] benchmark have some negative impact on consumer decision making. The most striking result concerns drip pricing', which extinguished '22% of consumer surplus'). For more critical accounts, see Gorkan Ahmetoglu et al, 'Pricing Practices: A Critical Review of Their Effects on Consumer Perceptions and Behaviour' (2014) 21 Journal of Retailing and Consumer Services 696, 696 ('Overall, the current

This emerging form of potentially anti-competitive conduct—one with powerful capacities in the online world, as shown above—clearly has implications for antitrust enforcement if, for example, the position of a search result, the framing of price, quality, and website attributes, the introduction of irrelevant third options, or misrepresenting the previous demand for a product (that is, taking advantage of the "bandwagon" effect)[463] can induce a consumer to purchase when they *otherwise* would not. The realisation of alternative substitutes becomes foreclosed and competition intensity becomes softened, with the result being a potential solidifying of market power. These latter phenomena, coupled with significantly increased abilities to manipulate a consumer's willingness-to-pay, may be moving us closer to a world where competition no longer can just be anti-competitively foreclosed through more explicit means like refusals to deal but instead through a much subtler, much more pernicious method that cognitively forecloses competition.

This new form of potentially "bad conduct"—a pre-requisite for showing a unilateral antitrust infringement[464]—may be the most potent form of nefarious exclusion in a world that is 'increasingly structured by information technology [and] removed from view – a world of screens people look through…'[465] Indeed, '[a] determined manipulator could perhaps not dream up a better infrastructure through which to carry out his plans'.[466] This section thus seeks to demonstrate the various ways digital platform firms could manipulate cognitive biases to maintain market power by frustrating a consumer's *incentive* and *ability* to switch. The section therefore seeks to reveal the

review indicates that sellers are able to influence perceptions and purchase decisions of consumers based on the manner in which prices are displayed').

[463] Colangelo and Maggiolino, 'Manipulation of Information as Antitrust Infringement' (n 241) 90 ('[A]n advertiser, knowing that a consumer is very keen to buy skis and prone to being influenced by someone else's choices (bandwagon bias), might market that consumer a brand of skis by stressing that the vast majority of clients favored it over others in order to persuade him/her to purchase it').

[464] For the EU, see Case C-413/14 *Intel v Commission* EU:C:2017:632, para 136 ('Article 102 TFEU prohibits methods other than those that are part of competition on the merits'). For the US, see *Spectrum Sports, Inc v McQuillan* 506 US 447, 458 (1993) (defining abusive conduct as conduct 'that unfairly tends to destroy competition'); *Berkey Photo, Inc v Eastman Kodak Co* 603 F2d 263, 265 (2d Cir 1979) (defining abusive conduct as 'conduct directed at smothering competition'). See also Herbert Hovenkamp, *Federal Antitrust Policy: The Law of Competition and its Practice* (2nd edn, Hornbook Series 1999) 273 ('[I]llegal monopolization still requires monopoly power *plus* some form of anticompetitive conduct').

[465] Susser et al, 'Online Manipulation: Hidden Influences in a Digital World' (n 357) 34.

[466] ibid.

methods through which this can be achieved – that is, the specific BE phenomenon being manipulated and how it may be leveraged in order to 'prolong' monopoly power.[467]

The analysis is undertaken at two distinct levels – on the *inter*-platform level and *intra*-platform level. The reasons for demarcating the analysis like this are twofold: The first is that digital platform markets are replicating the aforementioned concerns about private-label brands and the conflicts-of-interest that such dynamics can generate,[468] which provides a justification for the *intra*-platform demarcation where a platform may be incentivised to self-preference. Indeed, platforms can 'create private-label brands'[469] for downstream applications, which contrasts with pre-2005 market realities where search engines, for instance, did not create their own content/services outside of "Search".[470] However today's market realities look very different, where platforms generate their own-brand content like "Maps" or "comparison-shopping services", which then get baked into general Search results but displayed more saliently. Enforcement actions to date have largely percolated around these concerns of "self-preferencing" and own-content bias—several of which are underpinned with BE-orientated theories of harm—rather than the upstream *inter*-platform effects.[471]

The second reason, which supplies a justification for *inter*-platform foreclosure analyses, is that *inter*-platform competition is still a significant issue in a market that is dominated by just a few large tech companies who hold very large shares of their respective markets and where the prospect

[467] This concept of foreclosure is widely shared. See eg Hovenkamp, *Federal Antitrust Policy: The Law of Competition and its Practice* (4th edn 2011) 302–303.
[468] See Chapter 3, Part II.
[469] Cheng, 'Competition for Defaults: The Fight for Virtual Shelf Space' (n 327) 22.
[470] Marina Lao, '"Neutral" Search as a Basis for Antitrust Action?' Harvard Journal of Law & Technology (2013) Occasional Paper Series, 10 <https://jolt.law.harvard.edu/assets/misc/Lao.pdf> accessed 02 November 2020 ('Prior to 2005, the lines between search and web content were clear. The role of general search engines, which then did not create web content or provide other services, was simply to generate a list of the most useful websites – the "ten blue links" – in response to search queries'). See also US House of Representatives, 'Investigation of Competition in Digital Markets' (n 270) 282 et seq (discussing Amazon and how '[b]y virtue of its role as an intermediary in the marketplace, Amazon can give itself favourable treatment relative to competing sellers').
[471] See eg Chapter 3, Part I.

of new entry has been cast in doubt by various regulatory and policy reports in 2019 in particular.[472] Indeed, if cognitive foreclosure is as real a spectre as this Chapter has so far proffered it to be, then the intensity of *inter*-platform competition is just as in doubt as *intra*-platform competition given the necessity of prospective platform entrants to gain a critical volume of users by prompting them to switch *en-masse*.[473] The suggestion, of course, is not that behavioural manipulation is the only source of foreclosure; rather, it may serve to solidify and entrench market power that is already present due to other environmental factors like network effects and data access.[474]

a. Scrambling switching incentives

i. Framing effects

Framing effects in BE have come to be known for the proposition that 'context matters in decision making'.[475] In contrast to rational choice theory, which says that the *way* a choice is framed should not affect the choice outcome, experimental studies have showcased anomalous deviations demonstrating that, in fact, the *way* a choice is framed can affect choice outcomes.[476] In short, an actor's preferences between, say, A and B should be 'invariant' to the way in which A and B are presented[477] (provided the actual outcome of A and the actual outcome of B remain the same).

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[472] See Introduction.
[473] See Chapter 6, Part II.
[474] See ibid.
[475] Russell Korobkin and Thomas Ulen, 'Law and Behavioral Science: Removing the Rationality Assumption From Law and Economics' (2000) 88 California Law Review 1051, 1103.
[476] See Christine Jolls, 'Behavioral Economic Analysis of Redistributive Legal Rules' (1998) 51 Vanderbilt Law Review 1653, 1669 (noting that '[s]tandard economic theory predicts no difference' between the outcomes in Kahneman and Tversky's theatre ticket example). In the theatre ticket example, Tversky and Kahneman asked respondents to consider two scenarios: (1) they are traveling to a play where tickets cost $10 and on the way realize that they have lost $10 from their wallet. Would they still purchase the ticket? (2) they are traveling to a play and realize they have lost the ticket, which costs $10. Would they purchase another ticket? Standard economic theory predicts respondents will answer both scenarios identically – comparing the marginal benefit of attending with the marginal cost. Kahneman and Tversky find that in contradiction to rational choice theory—which 'requires that the preference between options should not reverse with changes of frame'—in this demonstration and several others 'seemingly inconsequential changes in the formulation of choice problems caused significant shifts of preference'. See Amos Tversky and Daniel Kahneman, 'The Framing of Decisions and the Psychology of Choice' (1981) 211 Science 453.
[477] Korobkin and Ulen, 'Law and Behavioral Science: Removing the Rationality Assumption From Law and Economics' (n 475) 1103.

This proposition—that consumer preferences can be shaped and manipulated[478]—may have potential implications for antitrust foreclosure analysis in the context of digital platforms in particular, where the platform has continuous and ubiquitous control over user interfaces and the information therein.[479] The implications may be two-fold: a platform may be endowed with the capacity to frustrate switching incentives to a rival platform and retain user attention, which is the scarce commodity that all the fighting is about in the online world[480] ("*Inter*-platform" competition); and a platform may be able to frustrate switching to a rival that competes on the platform when the platform is vertically-integrated ("*Intra*-platform" competition).

1. Emotional losses

Inter-platform: One framing method through which a platform could render consumers "sticky" and thus degrade the intensity of rivalry *between* platforms is to frame the "platform exit" as a loss that cannot be recovered by switching to a new platform. This takes advantage of one of the most established behavioural biases: loss aversion. This bias proposes that humans tend towards feeling the pain of a loss much more than they feel the pleasure of a gain.[481] For instance $+100 may be accorded less value than $-100.[482]

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[478] See eg Derek E Bambauer, 'Shopping Badly: Cognitive Biases, Communications, and the Fallacy of the Marketplace of Ideas' (2006) 77 University of Colorado Law Review 649, 698 ('The point is not merely that we evaluate the same purchase, or its monetary equivalent, depending on context. It is also that we're vulnerable to strategic behavior by those with influence over our information environment').

[479] See Chapter 3, Part II; Bambauer, 'Shopping Badly: Cognitive Biases, Communications, and the Fallacy of the Marketplace of Ideas' (n 478) 698.

[480] See Tim Wu, *The Attention Merchants: The Epic Struggle to Get Inside Our Heads* (London: Atlantic Books 2017). See also Newman, 'Antitrust in Attention Markets: Objections and Responses' (n 360); Evans, 'Attention Rivalry Among Online Platforms' (n 361) 313; Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 8 ('[A] platform's success depends on its ability to draw and maintain attention').

[481] Daniel Kahneman and Amos Tversky, 'Prospect Theory: An Analysis of Decision Under Risk' (1979) 47 Econometrica 263, 263 ('The value function [of prospect theory] is normally concave for gains, commonly convex for losses, and is generally steeper for losses than for gains'); Daniel Kahneman et al, 'Anomalies: The Endowment Effect, Loss Aversion and Status Quo Bias' (1991) 5 193, 199 (describing how a 'central result [of the risky choice studies] is that changes that make things worse (losses) loom larger than improvements or gains').

[482] Nicholas C Barberis, 'Thirty Years of Prospect Theory in Economics: A Review and Assessment' (2013) 27 Journal of Economic Perspectives 173, 175 ('[T]he horizontal axis represents the dollar gain or loss x, and the vertical axis [represents] the value $v(x)$ assigned to that gain or loss. Notice that the value placed on a $100 gain, $v(100)$, is smaller in absolute magnitude than $v(-100)$, the value placed on a $100 loss'); ibid ('[T]he pain of losing $100 far outweighs the pleasure of winning $110').

For example, a social networking platform like Facebook could highlight the friends a user will lose contact with if they exit the platform[483] or the secret chat groups they were part of, with one user describing it as 'a pure masterclass in emotional manipulation'.[484] Additional losses might include friends' birthday reminders (and therefore the emotional pleasure of wishing a friend "happy birthday"), music concerts that you will not be reminded of (and so may miss out on), the uploaded photos of nights out with friends – along with the ensuing thread of comments full of jokes, laugh emojis, and heart emojis that signal everybody's enjoyment with those nights out.

In short, a social networking site like Facebook 'and its ilk [may be] as close to a community as many of us are likely to get'.[485] Nefariously highlighting all of this on the "exit" page could thread on a user's incentive to leave the platform and manipulate them into staying at the exact point in time that they are about to exert their competitive constraint. The emotional sting of having to incur all of the above "losses" may prove too overwhelming and render the user "sticky". Indeed, recent research has highlighted the primordial role of FOMO ("Fear Of Missing Out") in perpetuating social media use,[486] defined as 'a pervasive apprehension that others might be having rewarding experiences from which one is absent'.[487] FOMO is therefore 'the desire to stay

[483] One user reported that she was met by the message 'Not so fast! Look who you will miss out on keeping in touch with'. See Tanya Sweeney, 'Thinking of Leaving Facebook? Not So Fast' *The Irish Times* (20 March 2018) <https://www.irishtimes.com/life-and-style/people/thinking-of-leaving-facebook-not-so-fast-1.3433938> accessed 15 October 2020.
[484] ibid.
[485] ibid.
[486] Kuss and Griffiths, 'Social Networking Sites and Addiction: Ten Lessons Learned' (n 422) 8 ('Recent research has suggested that high engagement in social networking is partially due to what has been named the "fear of missing out" (FOMO)'). See also Ursula Oberst et al, 'Negative Consequences from Heavy Social Networking in Adolescents: The Mediating Role of Fear of Missing Out' (2016) 55 Journal of Adolescence 1; Sarah L Buglass et al, 'Motivators of Online Vulnerability: The Impact of Social Network Site Use and FOMO' (2017) 66 Computers in Human Behavior 248.
[487] Andrew K Przybylski et al, 'Motivational, Emotional, and Behavioral Correlates of Fear of Missing Out' (2013) 29 Computers in Human Behavior 1841, 1841.

continually connected with what others are doing'.[488] Some research links FOMO to social media addiction.[489]

Consequently, that Facebook may have become so culturally embedded into our lives may mean recent #DeleteFacebook campaigns arguably fail 'to take into account both Facebook's position in modern society and the *stakes involved* for anyone who chooses to leave a network that has spent more than a decade trying to make leaving it impossible'.[490] For instance, many third-party apps and websites actually require you to have a Facebook account, meaning that in deleting Facebook 'you could immediately lose access to some parts of the internet'. One of the most emotional aspects of our lives—dating and mating—is noteworthy because many online dating apps (including Tinder until recently) actually required a Facebook account for their use.[491] Google is similar given that it 'arguably shares much of the internet's infrastructure with Facebook'.[492] As such, there would seem to exist a potential plethora of emotional losses a platform could highlight to deter switching away from its service, despite the fact that a user has already decided they prefer to leave.

2. Willingness-to-pay as a function of switching incentives

A consumer's willingness-to-purchase is the maximum amount a consumer would be willing to pay for a good or service and can be manipulated through framing effects. Consider two goods – *Product X* and *Product Y* both of which are *perfectly* substitutable but the former costs £5 and the latter costs £4. Assume also that the most the consumer is willing to pay for this particular product is

[488] ibid (emphasis added).
[489] See Jamal Al-Menayes, 'The Fear of Missing Out Scale: Validation of the Arabic Version and Correlation With Social Media Addiction' (2016) 6 International Journal of Applied Psychology 41.
[490] Aja Romano, 'How Facebook Made It Impossible to Leave Facebook' *Vox* (20 December 2018) <https://www.vox.com/culture/2018/3/22/17146776/delete-facebook-how-to-quit-difficult> accessed 05 May 2021 (emphasis added).
[491] ibid ('[M]any…dating apps still require you to have Facebook in order to create accounts. If you don't realize that before you delete Facebook, you could be totally cut off from anyone you may have met through these apps').
[492] ibid.

£5, at which point (or rather, slightly above this point) the consumer is no longer willing to purchase *Product X* and will seek out cheaper alternatives like *Product Y*. Otherwise put, the consumer's incentive to switch—that is, the substitution-effect—becomes triggered exactly at the point the consumer sees a product they desire but which is priced at more than their willingness-to-pay, thus rendering the former a product of the latter. That this willingness-to-pay can be shaped, distorted, and manipulated—that is, that a firm may be able to 'elevate consumer willingness to pay' by manipulating the view that consumers have of a product's benefits'[493] and price—will now be illuminated.

Intra-platform: An incumbent firm like Amazon is illustrative. Amazon is both a marketplace *and* a competitor in that marketplace. Amazon has over 100 private-label brands 'that operate in dozens of markets on its site, including food and beverage, automotive, clothing, and electronics'.[494] In light of the pernicious self-preferencing incentives highlighted above,[495] Amazon may possess inclinations to frame their prices and terms in ways that 'to a rational actor…would correspond with a monopoly price, but that appear competitive to consumers whose supply of relevant information is constrained by bounded rationality'.[496] As such, a consumer's incentive to switch may remain *dormant* as they become cognitively manipulated towards potentially 'undesirable levels of consumption'[497] of one brand at the expense of rivals.

Indeed, the phenomenon of partition and/or drip pricing—where price is *framed* fragmentarily and porously rather than collectively and solidly—are classic examples of tactics that

[493] Hanson and Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (n 357) 725 (positing that manufacturers may be able to mould a consumer's willingness-to-pay and, consequently, induce 'undesirable levels of consumption').
[494] Kevin Lamb, 'All you Need to Know About Amazon's Private Label Brands' *Pattern* (28 September 2020) <https://pattern.com/blog/all-you-need-to-know-about-amazons-private-label-brands/> accessed 02 November 2020.
[495] See Chapter 3, Part II.
[496] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1028–1029.
[497] Hanson and Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (n 357) 725.

can render switching incentives dormant because they can cause us to behave '*as if* [a product's] price is lower than it is'.[498] Likewise, the phenomenon of anchoring[499] can similarly influence a consumer's willingness-to-pay (or more worryingly a judge's willingness-to-sentence, leading them to 'unintentionally play dice with criminal sentences').[500]

A revealing example of how incentives to switch may remain dormant because prices "seem lower than they actually are" may be found in Las Vegas casino resorts.[501] For example, the FTC found that when booking the Luxe Resort & Casino on an Online Travel Agent (hereafter "OTA"), resort fee disclosures were excluded from the first page consumers see, the hotel comparison page – described as 'a significant omission' because consumers use this page 'to comparison shop'.[502] When the resort fee is disclosed for the first time, it is partitioned 'separately' from the hotel room rate and is 'in a smaller, paler font than the room rate'.[503] Several other instances of framing, dripping, and partitioning resort fees were also identified by the FTC – like stating "hotel fee not included" beside the room rate and positioning it much further down the screen or requiring clicking on a hyperlink before revealing the resort fee, which even then was listed at the bottom of 'a day-by-day itemization of room charges'.[504] Whilst some models suggest no consumer harm would result

[498] Federal Trade Commission, 'A Conference on the Economics of Drip Pricing' (Washington DC, Opening Remarks by Conference Organiser Mary Sullivan, May 2012) <https://www.ftc.gov/news-events/events-calendar/2012/05/economics-drip-pricing> accessed 05 May 2021 (emphasis added).
[499] Daniel Kahneman, 'Reference Points, Anchors, Norms, and Mixed Feelings' (1992) 51 Organizational Behavior and Human Decision Processes 296, 308 (explaining anchoring effects as 'cases in which a stimulus or a message that is clearly designated as irrelevant and uninformative nevertheless increases the normality of a possible outcome').
[500] See eg Birte Englich et al, 'Playing Dice With Criminal Sentences, The Influence of Irrelevant Anchors on Experts' Judicial Decision Making' (2006) 32 Personality and Social Psychology Bulletin 188, 199. In this experiment, 42 experienced judges and prosecutors were asked whether in a hypothetical rape case the sentence would be lower than 1 year or lower than 3 years (low and high anchors respectively). Subjects who had been exposed to the high anchor 'gave considerably higher sentences' (Mean = 33.38 months) than subjects exposed to the low anchor (Mean = 25.43 months).
[501] Stucke and Ezrachi, *Competition Overdose: How Free Market Mythology Transformed Us From Citizen Kings to Market Servants* (n 366) 82 et seq.
[502] Mary W Sullivan, 'Economic Issues: Economic Analysis of Hotel Resort Fees' (Federal Trade Commission, January 2017) 7 <https://www.ftc.gov/reports/economic-analysis-hotel-resort-fees> accessed 05 May 2021.
[503] ibid.
[504] ibid 7–8.

from framing prices in "dripped" and/or "partitioned" ways, they are based on the assumption of rationality and also several models suggest the opposite.[505]

Two pernicious methods of price framing—price-ordering and product-line pricing—could be used in order to capitalise on a consumer's bounded rationality, distort their perceptions of product value and, consequently, manipulate their willingness-to-pay.[506]

As to price-ordering, a platform interested in self-preferencing may present their prices and terms in descending order (from highest to lowest) which, according to one study, will elevate the consumer's willingness-to-pay.[507] For example, the aforementioned study demonstrated that when pen prices were shown in descending order (highest to lowest), subjects exhibited higher reservation prices and purchased *more* pens compared to the subjects who were exposed to the prices in ascending order. The former subjects were also more likely to have perceived their 'final purchase price [as] good value'.[508]

Regarding product line pricing, it has been shown that the introduction of a higher-priced product amongst two other products can increase a consumer's willingness-to-pay because it makes 'the remaining products in the line appear less expensive'.[509] For example, one study of microwave brands comprising Emerson and Panasonic found that when the product line was changed from

[505] Glenn Ellison and Sara F Ellison, 'Search, Obfuscation, and Price Elasticities on the Internet' (2009) 77 Econometrica 427; Xavier Gabaix and David Laibson, 'Shrouded Attributes, Consumer Myopia and Information Suppression in Competitive Markets' (2006) 121 Quarterly Journal of Economics 505 (finding that in some instances firms will "shroud" price information to take advantage of myopic consumers); Federal Trade Commission, 'A Conference on the Economics of Drip Pricing' (n 498). cf Paul R Milgrom, 'Good News and Bad News: Representation Theorems and Applications' (1981) 12 The Bell Journal of Economics 380; Sanford J Grossman, 'The Informational Role of Warranties and Private Disclosure About Product Quality' (1981) 24 Journal of Law and Economics 461.
[506] Gerald Smith and Thomas Nagle, 'Frames of Reference and Buyers' Perception of Value' (1995) 38 California Management Review 98, 98 (describing how "framing" research has illuminated the potential to influence consumer perceptions of what they 'perceive' they will pay and what they 'perceive' they will get in return).
[507] ibid 106, *citing* Ellen Garbanino and Sionm, 'Effects of price History and Price Change Awareness on Sales and Perceptions' (Behavioral Perspectives on Pricing Conference, Marketing Science Institute: Cambridge, MA, April 1995).
[508] ibid.
[509] ibid.

Emerson v. Panasonic I to Emerson v. Panasonic I v. Panasonic II (a premium-priced microwave) this 'had a significant effect on choices'.[510] Specifically, Panasonic's share increased from 43 percent to 73 percent. More notably, the introduction of the premium-priced model significantly increased sales of Panasonic I and, moreover, Emerson lost 30 percent market share.[511]

Such manipulative strategies could empower a self-preferencing firm to enhance 'buyers' perceptions of lower-priced products' and, more significantly, influence 'low-end buyers to trade up to higher-priced models'.[512] As such, willingness-to-pay becomes manipulated – inducing a consumer to purchase a higher-priced product when they *otherwise* would have purchased a cheaper alternative.[513] Consumer choice can therefore be a product of behavioural manipulation, where incentives to switch become distorted, consumers purchase when they *otherwise* would have switched, and real competition becomes diluted. This may be particularly true in *intra*-platform online contexts where platforms possess magnified abilities to 'increase the likelihood of purchase by *carefully controlling* the context in which the purchase price is presented',[514] with the result being a vertically-integrated retailer like Amazon 'tilting the online marketplace in its own favor'.[515]

[510] ibid.
[511] Ibid 106–107.
[512] ibid 107.
[513] ibid ('low-end sellers should be just as concerned with competitive entry at premium-price positions as they are with threats from potential discount competitors. Why? Because the addition of new premium products raises buyers' reference prices, making mid-price positions more acceptable. Indeed, buyers may now become suspicious of the quality of low-end products. They may reason that they cannot afford premium-priced models, but are not willing to risk getting poor quality at the low end. They thus opt for mid-priced products instead').
[514] Hanson and Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (n 357) 734 (emphasis added). See Chapter 3, Part II.
[515] Mary Hanbury, 'Elizabeth Warren Doubles Down on Amazon for "Crushing" Small Businesses' *Business Insider* (24 April 2019) <https://www.businessinsider.com/elizabeth-warren-slams-amazon-for-crushing-small-businesses-2019-4?r=US&IR=T> accessed 02 November 2020.

b. Stifling switching abilities

i. Willpower and rationality as a function of switching abilities

That economic actors are bounded in their willpower is a cornerstone of BE.[516] Smokers, for instance, may prefer not to smoke but struggle to quit despite such an action being in their long-term interests. Unsafe sex also exemplifies our weaknesses as human beings – we realise *ex ante* that protected sex will be safer but in the "heat of the moment" fall prey to visceral urges.[517] We also suffer from inertia and may fail to take optimal decisions and stick with defaults when changing the default would improve our welfare.[518] Bounded willpower, then, can be conceived of in two distinct ways: addiction and lethargy. This bifurcated conception is pertinent for illuminating how platforms can leverage these insights to foreclose competition at both the *inter*-platform level ("addiction") and *intra*-platform level ("inertia").

Whilst addiction-induced behaviour has not made inroads into antitrust analysis to date (though we are about to see how it can amount to a perniciously powerful mode of foreclosure at the *inter*-platform level), the power of inertia has been demonstrated in *Google Search (Shopping)*[519] and *Google Android*,[520] as well as the seminal *Microsoft* case.[521] In these cases, the *intra*-platform foreclosure effect can be said to have manifested because of consumer inertia. For example, in *Google Search (Shopping)*, the Commission essentially held that positioning a search result on page four of Google Search will disadvantage that result vis-à-vis other results because, as per the

[516] See Jolls et al, 'A Behavioral Approach to Law and Economics' (n 369) 1479 ('[Bounded willpower] refers to the fact that human beings often take actions that they know to be in conflict with their own long-term interests').
[517] See George Loewenstein, 'Out of Control: Visceral Influences on Behavior' (1996) 65 Organizational Behavior and Human Decision Processes 272.
[518] Christopher Anderson, 'The Psychology of Doing Nothing: Forms of Decision Avoidance Result From Reason and Emotion' (2003) 29 Psychological Bulletin 139, 140 ('[H]humans generally prefer no change…no action…and delay…'). For the status quo bias, see William Samuelson and Richard Zeckhauser, 'Status Quo Bias in Decision Making' (1988) 1 Journal of Risk and Uncertainty 7. On inertia, see O Tykocinski, 'Inaction Inertia: Foregoing Future Benefits as a Result of an Initial Failure to Act' (1995) 68 Journal of Personality and Social Psychology 793.
[519] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, upheld on appeal Case T-612/17 *Google Search (Shopping)* EU:T:2021:763.
[520] *Google Android* (Case AT 40099) Commission Decision C(2018) 4761 Final, on appeal Case T-604/18 *Google and Alphabet v Commission*.
[521] Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601.

evidence, consumers 'click far more often on results that are more visible, i.e. the results appearing higher up in Google's search results'.[522] References to lethargic consumers were even more explicit in the theories of harm in *Google Android*[523] and *Microsoft*.[524] The main take-away from these cases is that consumer willpower is finite and, consequently, capacities to switch can be products of this willpower. Thus, '[t]he online market setting…highlights important questions about when firms are [not] competing on the basis of their "superior skill, foresight and industry", but instead are using their market power to leverage consumer inertia and foreclose their competitors'.[525]

Bounded rationality, of course, is another key tenet of BE with its contradictions of rational choice theory. We already saw how imperfect rationality can influence switching analysis in *Kodak* and *Jefferson Parish* in Chapter 1.[526] That consumer rationality is therefore bounded—that is, imperfect—raises the spectre that such cognitive limitations can be manipulated, as regulators are more and more acknowledging.[527]

[522] See European Commission, 'Antitrust: Commission Fines Google €2.42 Billion for Abusing Dominance as Search Engine by Giving Illegal Advantage to Own Comparison Shopping Service' *European Commission* (27 June 2017) <https://ec.europa.eu/commission/presscorner/detail/en/IP_17_1784> accessed 22 October 2020.
[523] *Google Android* (Case AT 40099) Commission Decision C(2018) 4761 Final, para 781. See also ibid para 782 ('Users are unlikely to look for, download, and use alternative apps, at least when the app that is pre-installed, premium placed and/or set as default already delivers the required functionality to a satisfactory level'). See also for browser pre-installation ibid paras 900 et seq. (demonstrating through evidence the significance of the default option on diluting consumers' capacities to switch).
[524] Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601, para 1052 ('As the Commission asserts as recital 870 to the contested decision, while downloading is in itself a technically inexpensive way of distributing media players, vendors must deploy major resources to "overcome end-users' inertia and persuade them to ignore the pre-installation of [Windows Media Player]"').
[525] Cheng, 'Competition for Defaults: The Fight for Virtual Shelf Space' (n 327) 36.
[526] See Chapter 1, Part II.
[527] OFT, 'Consumer Behavioural Biases in Competition: A Survey' (n 427) 7 ('[C]onsumers that have difficulty judging quality can mistake inferior goods for superior goods. In these situations firms can focus on exploiting biased consumers who are likely to purchase from them regardless of price and quality'); ibid 8 (describing how consumers' 'cognitive limitations' can 'generate incentives for firms to present information, for example, about prices, in convoluted ways').

1. Perpetuating addiction-induced attention

Inter-platform: As noted earlier, attention is a platform's lifeblood.[528] Advertisers pay more for attention the more users provide attention; that is, '[t]he value of advertising increases in concert with the number of users engaged on the platform as well as time spent on it'.[529] We thus concluded that platforms possess very strong incentives to catch, maintain, and retain a user's attention.

Let us now examine some of the pernicious methods that platforms use to achieve attention-retention that may leave us trapped in a self-perpetuating cycle of addiction, which could prevent our attention from wandering to other platform rivals. As Day and Stemler note: 'Key to attracting and maintaining attention is the self-sustaining "Attention Cycle" designed to increase the amount of time spent on the platform'.[530] Whilst platforms may initially grab a user's attention through benign (or even pro-competitive) means like offering services for free,[531] the ensuing behavioural strategies that manipulate our bounded willpower and rationality and induce addiction may be viewed as subtle forms of foreclosure designed to lock-in users and prevent rivals from access.[532] Indeed, platforms are perfectly poised through their continuous and ubiquitous control over platform interfaces and platform users to 'best stimulate the release of neurochemicals essential to addiction'.[533] Some have described this as an "upregulating" of user emotions, resulting in increased

[528] See Chapter 3, Part II.
[529] Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 8. See also Max Eddy, 'How Companies Turn Your Data Into Money' *PCMag* (10 October 2018) <https://uk.pcmag.com/privacy/117876/how-companies-turn-your-data-into-money> accessed 20 October 2020. See also Chapter 6, Part II.
[530] Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 10. See also David Evans, 'Attention Platforms, the Value of Content, and Public Policy' (2019) 54 Review of Industrial Organization 775.
[531] cf John Newman, 'The Myth of Free' (2018) 86 George Washington Law Review 513 (taking issue with the word "free").
[532] Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 11 ('The issue here is that strategies to [keep and increase] attention may violate a user's expectation of privacy, as platforms may…manipulate physiological reactions to create addiction').
[533] ibid 12. See also Claudia Dreifus, 'Why Can't We Look Away From Our Screens' *New York Times* (6 March 2017) <https://www.nytimes.com/2017/03/06/science/technology-addiction-irresistible-by-adam-alter.html> accessed 20 October 2020. See also Chapter 3, Part II.

'frequency and intensity of user exposure to emotions', which in turn leads to increased engagement – a kind of emotional contagion that in online contexts becomes amplified.[534]

Gamification is one such method. This entails offering prizes in order to keep users engaged and induce 'compulsive game-playing'. Uber is a case in point, where drivers are told about number of trips, money received, and their ratings.[535] The dopamine releases can induce drivers to keep "playing".

Other platforms use similar dopamine-orientated methods for keeping users "hooked" and siloing their attention. For instance, Twitter's opening blue screen that looks like it is loading is in fact 'building anticipation'[536] for tweets.[537] Likewise Instagram's push notifications tell you when a Facebook friend has joined Instagram, a friend's story has been uploaded, or if a friend is filming live video. These are Instagram's default settings and turning them off will involve much willpower as you search through the maze of Instagram settings.[538] Perhaps tellingly, some State Attorneys General have recently announced an investigation into Instagram regarding techniques allegedly used to increase both the frequency and duration young users spend online.[539] Additionally, Facebook's "Like" feature and "pull-to-refresh" News Feed generate cognitive merry-go-rounds similar to gambling addiction.[540] More pointedly, neuroscience research demonstrates the powerful

[534] See Goldenberg and Gross, 'Digital Emotion Contagion' (n 388) 318 et seq.
[535] Noam Scheiber, 'How Uber Uses Psychological Tricks to Push Its Drivers' Buttons' (2 April 2017) *New York Times* <https://www.nytimes.com/interactive/2017/04/02/technology/uber-drivers-psychological-tricks.html?mtrref=www.google.com&gwh=D0732E4E4FAE43A84F7B76086A4B79D4&gwt=pay&assetType=REGIWALL> accessed 20 October 2020.
[536] Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 12.
[537] Avery Hartmans, 'These Are the Sneaky Ways Apps Like Instagram, Facebook, Tinder Lure you in and get you Addicted' *Business Insider* (17 February 2018) <https://www.businessinsider.com/how-app-developers-keep-us-addicted-to-our-smartphones-2018-1?r=US&IR=T> accessed 20 October 2020.
[538] ibid.
[539] Cecilia Kang and Mike Isaac, 'State Attorneys General Open an Inquiry Into Instagram's Impact on Teens' *New York Times* (18 November 2021) <https://www.nytimes.com/2021/11/18/technology/meta-instagram-investigation-teens.html> accessed 22 November 2021.
[540] Catherine Price, 'Trapped – The Secret Ways Social Media is Built to be Addictive (and what you can do to fight back)' *Science Focus* (29 October 2018) <https://www.sciencefocus.com/future-technology/trapped-the-secret-ways-social-media-is-built-to-be-addictive-and-what-you-can-do-to-fight-back/> accessed 20 October 2020 ('[Social media

effect push notifications can have on our attention and leave us wanting more.[541] Other addiction-inducing methods include the recurring ellipses on an iPhone that signal a user is typing, scrolling news feeds that never end,[542] autoplay (Netflix and YouTube automatically transitioning you to the next video), and Snapchat's streak.[543]

In short, '[b]y facilitating a feedback loop, the release of dopamine causes users to return to the app more frequently'.[544] One report leveraging insights from a former Google product manager and also a co-founder of the company "Dopamine Labs", for instance, actually attested to Intsagram's systematic withholding of "Like" notifications so as to generate more elongated "hits" of dopamine.[545] Further, Instagram is empowered through Big Data analytics to actually tailor reward schedules to individual users and notify each user at the point at which the 'algorithms predict the greatest influence on that user's attention'.[546]

Structuring platforms in this way—both its architecture and content release—through subtle use of "dopamine-like" reward systems has in many ways 'tapped into a *bottomless font* of social feedback'[547] – with the result being our attentions becoming monopolised by a few large digital

companies] build features into their apps that manipulate our brain chemistry. These tricks are borrowed straight from casinos and slot machines, which are widely considered to be some of the most addictive machines ever invented').

[541] See Mijung Kim, 'The Effects of External Cues on Media Habit and Use: Push Notification Alerts and Mobile Application Usage Habits' (PhD dissertation, Michigan State University PhD Dissertation 2014). See also Seul-Kee Kim et al, 'An Analysis of the Effects of Smartphone Push Notifications on Task Performance With Regard to Smartphone Overusage Using ERP' (2016) 2016 Computational Intelligence and Neuroscience 1.

[542] Nitasha Tiku, 'The Wired Guide to Internet Addiction' *Wired* (18 April 2018) <https://www.wired.com/story/wired-guide-to-internet-addiction/> accessed 20 October 2020.

[543] Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 13.

[544] ibid 12–13. See also Julian Morgans, 'Your Addiction to Social Media is no Accident' *Vice* (18 May 2017) <https://www.vice.com/en/article/vv5jkb/the-secret-ways-social-media-is-built-for-addiction> accessed 10 October 2021.

[545] Anderson Cooper, 'What is "Brain Hacking"? Tech Insiders on why you Should Care' *CBS News* (09 April 2017) <https://www.cbsnews.com/news/brain-hacking-tech-insiders-60-minutes/> accessed 20 October 2020 (Ramsay Brown—co-founder of Dopamine Labs—describing how '[t]hey're holding some of them back for you to let you know later in a big burst. Like, hey, here's the 30 likes we didn't mention from a little while ago').

[546] ibid. See also Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 13.

[547] Adam Alter, *Irresistible: Why We Can't Stop Checking, Scrolling, Clicking and Watching* (London: The Bodley Head 2017).

platform firms and platform competition becoming cognitively foreclosed. As one viral blogger commented:

> [I]t's easy to get into a dopamine induced loop. Dopamine starts you seeking, then you get rewarded for the seeking which makes you seek more. It becomes harder and harder to stop looking at email or stop checking your phone to see if you have a new notification. You can see how the scroll wheel was so pinnacle to Facebook's success. This too is how social media has millions hooked.[548]

Former high-level tech-company employees have also recently explicitly attested to this culture of trying to achieve addiction-based usage.[549]

2. Defaults and inertia

Intra-platform: We have already seen the amplified power of defaults in digital markets and their disproportionate impact on consumer choice vis-à-vis brick-and-mortar markets.[550] Besides the *Google* and *Microsoft* cases discussed above,[551] we are now seeing a more global influence of defaults on enforcement actions. The US DOJ and eleven state Attorneys General have recently initiated a complaint against Google for abusing its monopoly power in the markets for online search and search advertising. One component of the complaint is that Google paid computer and mobile device manufacturers to be the default search engine on their devices and, perhaps more malevolently, forbade the pre-installation of competing search services.[552] As the DOJ argues in its complaint, even when consumers can change the default, 'they rarely do'.[553]

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[548] Reece Robertson, 'Why You're Addicted to Social Media – Dopamine, Technology, and Inequality' *Medium* (19 December 2017) <https://medium.com/@Reece_Robertson/why-youre-addicted-to-social-media-dopamine-technology-inequality-c2cca07ed3ee> accessed 20 October 2020. See also Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 13–14 ('[s]o by randomizing pleasure in a manner causing the release [of] dopamine, a platform can create dependency and, thus, *boost the amount of attention spent on it*') (emphasis added).
[549] Girish, '"The Social Dilemma" Review: Unplug and Run' (n 272).
[550] See Chapter 3, Part II
[551] See Chapter 3, Part III.
[552] US DOJ, 'Justice Department Sues Monopolist Google for Violating Antitrust Laws' (n 263).
[553] Complaint, *United States of America and 11 States v Google LLC*, No 1:20-cv-03010 (District Court for the District of Columbia, Oct 20, 2020) 3.

The powerfully magnetising effect of defaults is further reflected in the huge sums platforms are apparently willing to pay to become the default. For instance, some estimates show that Google paid Apple somewhere between $8 billion and $12 billion per year just to be the default search engine on Apple devices.[554] As Cheng asserts:

> [t]hat platforms are willing to pay to become the default…suggests there is considerable value to becoming the default provider. Firms recognise that in the same way users may not necessarily choose the most relevant links on a results webpage, users may not immediately switch to the search engine that most suits their preferences.[555]

Besides platforms coercing or buying their way into "default monopolies", a potent context in which defaults may be implemented particularly perniciously is a platform that is a vertically-integrated marketplace with private-label brands on that marketplace. Such a platform can exhibit self-preferencing and own-content bias by setting its own products and content as the default at the expense of rivals. For example, a third-party seller of "pillow pets" (stuffed animals resembling NFL football mascots) soon had to contend with Amazon selling a private-label version. Amazon afforded its own "pillow pets" preferential treatment by giving them featured placement on its website. Subsequently, sales of the third-party's "pillow pets" dropped from 100 per day to 20 per day.[556]

Another example is Amazon's apparent efforts to restrict rival access to sponsored ad placement and favour its own products in this respect. Some rivals were apparently disallowed from purchasing "Amazon.com search advertising" – 'ads that present products *at the top of* the search

[554] Chris Smith, 'Search on iPhone Costs Google $8–12 Billion a Year' *BGR* (26 October 2020) < https://bgr.com/2020/10/26/google-apple-iphone-search-deal-doj-antitrust-case/> accessed 04 November 2020.
[555] Cheng, 'Competition for Defaults: The Fight for Virtual Shelf Space' (n 327) 28.
[556] Greg Bensinger, 'Competing With Amazon on Amazon' *Wall Street Journal* (27 June 2012) <https://www.wsj.com/articles/SB10001424052702304441404577482902055882264> accessed 04 November 2020.

results when consumers enter specific search terms or a product name'.[557] Indeed, one competitor of voice-enabled devices vividly captured the foreclosure concerns one might have with such conduct by pointing to the confusion and deception this may instil in consumers who are met with 'ads promoting Amazon products even when they *specifically search* for a competitor's product on Amazon.com'.[558] These examples thus serve to illustrate how a platform may take advantage of default effects and cognitively foreclose competition at the *intra*-platform level.

3. Dark patterns

Dark patterns offer another potentially pernicious and emerging method for tech giants to exploit consumer biases and induce them into decisions that they otherwise would not have made under conditions of perfect rationality.[559] For example, Apple's iOS 6 included an Identifier for Advertisers (IDFA) where each devices' 'unique identifier' was used to 'track browsing activity', which we now know is valuable to advertisers who can utilise these data sets to be more nimble and tailored in their advertising efforts. Disabling this feature, however, is a classic example of how "System 1" thinking can be hijacked to induce users into sub-optimal decisions. The disable setting was not located in "Privacy" settings (as one might intuitively think) but rather was located under "General", and then the sub-setting labelled "About", and then a further sub-setting labelled "Advertising". Even when one reached the setting the wording was "framed"[560] in a manner that again sought to take advantage of users' cognitive shortcomings, i.e. "Limit Ad Tracking – Off".

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[557] US House of Representatives, 'Investigation of Competition in Digital Markets' (n 270) 285.
[558] ibid.
[559] Harry Brignull, 'Dark Patterns: Inside the Interfaces Designed to Trick You' *The Verge* (29 August 2013) <https://www.theverge.com/2013/8/29/4640308/dark-patterns-inside-the-interfaces-designed-to-trick-you> accessed 26 October 2020 (describing dark patterns as user interfaces 'carefully crafted to trick users into doing things they might not otherwise do'). ibid (describing how dark patterns are 'carefully crafted with a solid understanding of human psychology…'). See also Ram Sagar, 'Confirm-shaming, Privacy Zuckering & Sneak Adding: E-Tailers are Using These Dark Patterns to Make you buy Junk' *AnalysticsIndiaMag* (16 October 2019) <https://analyticsindiamag.com/confirm-shaming-privacy-zuckering-sneak-adding-e-tailers-dark-patterns-machine-learning/> accessed 26 October 2020 ('Dark patterns are tricks used in websites and apps that make you do things that you didn't mean to, like buying or signing up for something').
[560] For an overview of the "framing" effect, see Korobkin and Ulen, 'Law and Behavioral Science: Removing the Rationality Assumption From Law and Economics' (n 475) 1104 et seq. See also Tversky and Kahneman, 'The Framing of Decisions and the Psychology of Choice' (n 476).

This is a double negative that may lead users to believe ad-tracking is "off" when in fact it is "on".[561]

That dark patterns take advantage of cognitive biases is being increasingly recognised.[562] Mathur et al, for instance, 'draw an explicit connection between each type of dark pattern…and the cognitive bias it exploits'.[563] The proposed DSA also seeks to ban Dark Patterns.[564] Sneaking extra purchases into an online shopping basket, for example, can take advantage of a consumer's bias towards default options – 'with the website behind it hoping that users will stick with the products it adds to cart'.[565] The sunk cost fallacy is also a prime target for manipulation: by revealing extra fees and charges only at the end of the purchase process, 'users are likely to feel so invested in the process that they justify the additional charges by completing the purchase to not waste their effort'.[566] Further, a more nuanced form of perniciously inducing a consumer decision is "confirmshaming" by taking advantage of our bounded self-interest and framing options in ways that "shame" the user into the framer's desired choice.[567] Particularly demonstrative is Amazon trying to steer customers towards Kindle editions of books (which is an Amazon product) by framing the rejection of the Kindle edition as "No, Thanks. I don't' want to save £10.30".[568]

Such pernicious methods of inducing purchases are very much nascent phenomena in antitrust circles but nonetheless their capacity to frustrate switching, deplete consumer decision-making abilities and, therefore, generate foreclosure is starting to be recognised – with the proposed DSA

[561] Brignull, 'Dark Patterns: Inside the Interfaces Designed to Trick You' (n 559).
[562] Arunesh Mathur et al, 'Dark Patterns at Scale: Findings From a Crawl of 11K Shopping Websites' (2019) 3 Proceedings of the ACM on Human Computer Interaction 1, 6 ('Many types of dark patterns operate by exploiting cognitive biases in users').
[563] ibid.
[564] European Commission, 'Questions and Answers: Digital Services Act' *Europa* (20 May 2022) <https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_2348> accessed 20 June 2022.
[565] Marthur et al, 'Dark Patterns at Scale: Findings From a Crawl of 11K Shopping Websites' (n 562) 13.
[566] ibid.
[567] ibid 16.
[568] Sagar, 'Confirm-shaming, Privacy Zuckering & Sneak Adding: E-Tailers are Using These Dark Patterns to Make you buy Junk' (n 559).

being one example, as noted. Day and Stemler, for instance, argue that such manipulation can be so powerful that it essentially crosses the line from persuasion to coercion.[569] Consequently, it may generate antitrust scrutiny. As the authors conclude: '[C]oncentrated markets in which firms design interfaces to *addict*, *subtly influence*, or manipulate users are qualitatively inferior than those preserving free will'.[570] In this sense, manipulation of cognitive vulnerabilities may generate antitrust scrutiny where it 'force[s] [the] purchaser to do something that he would not do in a competitive market'.[571] Others have very recently made similar acknowledgments towards dark patterns' capacities for generating "cognitive market failures" by pushing consumers 'to do things they might not otherwise do'.[572]

c. Summary

This section has highlighted a myriad of ways platform firms could take (and have taken) advantage of consumers' cognitive anomalies that frustrate switching incentives and abilities in order to maintain market power. Through a concoction of methods, platforms have powerful capacities to dilute the demand-side disciplining effect of the market mechanism through rational consumer choice. In short, we are beginning to see the demand-side becoming more and more a target for the pernicious foreclosure efforts of platforms.

Of particular note are the methods generating addiction. From the perspective of BE, one might say that digital platforms have geared themselves towards reversing the traditional rational choice conception of behaviour – that the relationship between past and present behaviour is negative and,

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[569] Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 31 et seq.
[570] ibid 37.
[571] ibid, *citing Tucker v Apple Computer Inc.*, 493 FSupp2d 1090, 1097 (United States District Court, Northern District of California, 2006). See also European Commission, 'Questions and Answers: Digital Services Act' *Europa* (20 May 2022) <https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_2348> accessed 20 June 2022 (describing the proposed 'ban on using so-called "dark patterns" on the interface of online platforms, referring to misleading tricks that manipulate users into choices they do not intend to make').
[572] See Jamie Luguri and Lior Jacob Strahilevitz, 'Shining a Light on Dark Patterns' (2021) 13 Journal of Legal Analysis 43, 103.

therefore, as consumption increases utility gradually decreases.[573] Platforms, however, seem to exhibit the reverse relationship – 'by making platforms addictive, platforms can boost the time spent on their interfaces thereby increasing surveillance and amounts of data collected'.[574] More data means greater abilities to optimise experiences and dopamine releases so that each user finds themselves in a perpetual "attention cycle"[575] that may be viscerally difficult to break out of.

IV. BEHAVIOURAL MARKET POWER – A "SUBSTANTIAL" AND "SUSTAINABLE" DEVIATION FROM PERFECTION?

Thus far, this Chapter has extended the conversation about BE's implications for anti-competitive conduct by providing a more comprehensive and systematic exposition of cognitive foreclosure's seriousness as a demand-side market failure that may warrant antitrust scrutiny. We now turn to examine the implications for market power.[576]

In Chapter 2, we saw how anxieties about the "market power" concept expanding too broadly have been triggered usually whenever the demand-side has been the source of the market power.[577] This should therefore provide us with some motivation for assessing whether BE—also a demand-side deviation from perfect competition—is sufficiently indented to raise antitrust issues. Further motivating an understanding of the limits of BE for antitrust enforcement purposes is that BE has sometimes been conceived of as giving rise to potential consumer protection (not antitrust) problems.[578] We will return to this latter motivation in Chapter 7, with respect to both BE and other demand-side market failures.[579] For now, it is sufficient to note its existence.

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[573] See Korobkin and Ulen, 'Law and Behavioral Science: Removing the Rationality Assumption From Law and Economics' (n 475) 1114.
[574] Day and Stemler, 'Are Dark Patterns Anticompetitive?' (n 281) 16.
[575] ibid 10.
[576] We noted at the outset that academic commentary, as it relates to *conduct*, has been limited and that the omission is even more identifiable as it relates to *market power*. See above (n 266).
[577] See Chapter 2, Part II.
[578] See Chapter 7, Part I
[579] See ibid.

The behavioural biases that consumers suffer from—a demand-side market failure—will only be of concern to antitrust *if* they can constitute a "substantial" deviation from perfect competition; that is, if they can afford firms the power to significantly damage the entire market.[580] Further, they will be of little or no concern to antitrust if consumers can overcome their behavioural shortcomings and impose their demand-side self-correcting constraints when appropriate. Thus, the deviation from perfect competition would also need to be "sustainable" in order to warrant antitrust scrutiny[581] because otherwise we could rely on the market's capacity to supply an "efficient" level of switching[582] over time. As noted above, consumers can be both the *source of* and potential *solution to* cognitive foreclosure. And although a firm may *already* be dominant and is simply seeking to solidify that dominance through cognitive foreclosure, as a doctrinal matter of causation the lack of a link between the conduct and existing dominance has long been recognised as no bar to potential intervention.[583]

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[580] See Colangelo and Maggiolino, 'Manipulation of Information as Antitrust Infringement' (n 241) 70. Scholars contend that it is a firm's capacity to control *market* conditions—that is, aggregate demand—rather than its own price that justifies a charge of "monopoly power". See Chapter 2, Part II.

[581] Short-run market power is of no antitrust concern if the long run can arrive relatively quickly and penetrate the firm's customer base. An ability to protect 'excess profits from erosion', therefore, is what *really* constitutes "antitrust" market power because here the long-run will be slow to arrive and significant damage to the entire market will persist. See Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 27–28. See also Chapter 2, Part II.

[582] See eg Russell Korobkin, 'Efficiency of Managed Care Patient Protection Laws: Incomplete Contracts, Bounded Rationality, and Market Failure' (1999) 85 Cornell Law Review 1, 56 (describing how in the context of healthcare, consumers' failures to optimize their choices 'greatly undermines the ability of the unregulated market to provide the efficient level of medical care').

[583] See Case 6/72 *Continental Can v Commission* [1973] ECR 215. *In Continental Can*, Continental Can argued that its proposed merger could not be caught by Article 102 TFEU because its market power was not determinative of its ability to effectuate the merger. The Court, however, held that simply strengthening a dominant position—regardless of how this is achieved—can be the basis for an abuse under the competition rules. Case 6/72 *Continental Can v Commission* [1973] ECR 215, para 27. See also Case 85/76 *Hoffman-La Roche v Commission* [1979] ECR 461, para 91 ('For the purpose of rejecting the finding that there has been an abuse of a dominant position the interpretation suggested by the applicant that an abuse implies that the use of the economic power bestowed by a dominant position is the means whereby the abuse has been brought about cannot be accepted'); Case T-321/05 *AstraZeneca v Commission* [2010] ECR II-2805, para 267 ('[I]t must in any event be pointed out that a finding of market power, that is to say the ability of an undertaking to behave to an appreciable extent independently of its competitors, its customers and, ultimately, consumers, in the sense that it is in particular able to maintain prices at a higher level while retaining a much higher market share than those of its competitors, is *not conditional on the ability* of the undertaking to make use of that market power in such [a] way as to prevent effective competition from being maintained. As far as concerns practices intended to exclude or reduce competition, in order to be classified as an abuse of a dominant position, behavior *does not necessarily have to result from, or be made possible by*, the economic strength of the undertaking, since no causal link is required between the dominant position and the abuse of that position') (emphasis added).

This emerging form of market power, which continues to be termed "behavioural" market power,[584] is usually portrayed as a 'serious' deviation from perfect competition by those who want behavioural phenomena to be taken seriously. These scholars' motivations are to depict BE as a sufficiently serious violation of perfect efficiency in order to highlight the necessity for fixing these failures through government intervention.[585] This section seeks to examine whether the deviation is "serious". It examines several different areas—utilities, brands and, most pertinently, digital platform markets—where BE has demonstrated the impact cognitive failures can have on efficient consumer decision-making. The section therefore seeks to evaluate BE's deviation from perfect competition. Note that the analysis assesses the "sustainability" of the deviation from perfection for digital platform markets only and presents these environments as special cases where "substantial" market power durability might reasonably be expected. We will see the implications of this nuance in Chapter 6 for the purposes of demarcating the antitrust/consumer protection enforcement boundary[586] in Chapter 7.

a. Efficient markets and perfect rationality

We have already demonstrated the relationship between the rationality assumption and demand-side self-correcting capacities of markets in Chapter 2.[587] The substitution effect acts as a disciplining force on firms who raise price or degrade quality as 'some consumers shift their purchases toward functionally interchangeable products (substitutes)'.[588] This principle, combined with new entry attracted by 'supra-competitive profits', 'predict[s] market self-correction independent of

[584] See above (n 267).
[585] Peter Lunn, 'Are Consumer Decision-Making Phenomena a Fourth Market Failure?' (2015) 38 Journal of Consumer Policy 315, 318 ('Part of the impetus to describe and conceptualize relevant behavioural phenomena as market failures is to get them taken seriously by those whose instinct is to caution against excessive government intervention').
[586] See Chapter 6; Chapter 7.
[587] See Chapter 2. See also Chapter 1.
[588] Devlin and Jacobs, 'The Empty Promise of Behavioural Antitrust' (n 35) 1024–1025.

government intervention'.[589] We will discuss descriptively and normatively the inherently predictive nature of antitrust *analysis* in Chapter 5.[590]

The fact that consumers are not perfectly rational, then, implies that a market may not possess perfect self-correcting capacities – in which case some government intervention may be needed. For antitrust enforcement purposes, we know from Chapter 2 that this deviation from perfect rationality will need to be substantially indented in order to warrant antitrust scrutiny, i.e. an entire market must be damaged significantly. The indentation must also be long-lasting, i.e. non-transient.

i. Some illustrations of "substantial" market power

1. Utilities

Notorious for "sticky" consumers are utility markets. In the market for electricity, for example, Wilson and Price reveal findings that would tend to demonstrate "substantial" market power on the part of electricity suppliers.[591] Crucially, they also posit that the source of this market power—consumer switching errors—is consumer *ir*rationality.[592] Leveraging a survey of low-income consumers,[593] the authors find that of the 87 percent of the sample who did *not* switch providers, almost 99 percent of that group could have saved an average of £43.54 per annum.[594] Another category of decision-making errors showcased that 33 percent of consumers 'switched to a *more expensive* supplier, losing an average of £16.53 per annum as a result…'[595] As the authors

[589] ibid 1025.
[590] See Chapter 5, Part II.
[591] See Chris M Wilson and Catherine Waddams Price, 'Irrationality in Consumers' Switching Decisions: When More Firms May Mean Less Benefit' (ESRC Centre for Competition Policy, August 2005) 3 <https://econwpa.ub.uni-muenchen.de/econ-wp/io/papers/0509/0509010.pdf> accessed 06 November 2020 (showcasing a "substantial" effect).
[592] See ibid 2; ibid 3 (noting "information overload" as the driver of the *ir*rational decision-making).
[593] This is an inherent limitation of the study as it may not be representative of the market's average consumer, as the authors acknowledge. See ibid 13.
[594] ibid 3; ibid 17 (noting that of the 1834 consumers who were aware of the option to switch but did not, 98.8% could have saved on average £43.59 annually by switching).
[595] ibid 3.

acknowledge, such *ir*rationally-generated market power has clear implications for competition enforcement – particularly the demand-side's capacity to discipline firms and maximise total welfare by ensuring firms with the best deals are selected.[596]

Bar-Gill and Stone arrive at similar conclusions in the market for mobile phone plans and that the consumer decision-making mistakes are, again, a product of *ir*rationality (or as the authors put it, 'a market response' to consumers' imperfect rationality).[597] The magnitude of the mistakes demonstrates the potential for BE market failures to generate "substantial" market power. The authors find, for instance, that of the 3,730 mobile phone subscribers examined, 'over 65%...chose the wrong plan'.[598] Additionally, the study found that 47 percent of subscribers would have liked to switch plan but only 3 percent did this; the remainder were deterred by early termination fees, which perpetuate consumer lock-in. These two sources of market power, product complexity and lock-in, can generate market power,[599] perhaps "substantially" so given that 65 percent of the 3,730 dataset made mistakes, with the cost of such mistakes annually to consumers equating to $12 billion.[600]

These studies' shortcomings lie in their sample sizes. A more persuasive example of BE market failures generating "substantial" market power may be the UK Competition and Market

[596] ibid 2 (noting that switching decision errors 'have important consequences for…competition authorities; they not only damage consumers' welfare directly by limiting their ability to trade with the firm offering the highest surplus on the market, but they indirectly reduce total consumer welfare by *increasing* market power') (emphasis added).
[597] Oren Bar-Gill and Rebecca Stone, 'Mobile Misperceptions' (2009) 23 Harvard Journal of Law & Technology 49, 51 ('We argue that the carriers design their contracts in response to systematic mistakes and misperceptions of their customers').
[598] ibid 52.
[599] ibid 55 (describing how lock-in can 'inhibit' competition—and therefore solidify market power—because if 'a more efficient carrier' cannot attract customers 'who are locked in to a contract with a less efficient carrier', new carriers may be deterred from entering the market). ibid ('Without the discipline that comparison shopping provides, cellular service providers can behave like quasi-monopolists – raising prices and reducing consumer surplus').
[600] ibid 118.

Authority's (hereafter "CMA") Energy Market Investigation. The investigation found that there was 'a *material percentage* of customers who are disengaged in domestic retail energy markets'.[601]

Major reasons identified for this disengagement can be characterised as consumer inertia and bounded rationality.[602] A particularly illuminating finding from the perspective of consumer inertia was that the six largest energy firms, which supplied 90 percent of the market's energy,[603] over the period 2011 to mid-2015 extracted 'consistently higher' revenues from their default tariff (the Standard Variable Tariff) compared to the alternative, fixed price tariff.[604] 70 percent of these firms' customers were on this tariff, which generated a total of 26 percent higher revenues for electricity and gas than substitute tariffs.[605] Further, alternative suppliers (so-called "mid-tier" suppliers) consistently offered cheaper tariffs over the period under review.[606] Overall, the CMA identified 'significant gains from switching'[607] and that 70 percent of the market could have saved up to £300. More starkly, the CMA found that the market as a whole was paying £1.4 billion per year more than they would have paid under a '*fully* competitive market'.[608] The CMA's conclusions attest to the behavioural nature of this significant market failure:

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[601] CMA, 'Energy Market Investigation' (Competition and Markets Authority, Summary of Final Report, 24 June 2016) 33 <https://assets.publishing.service.gov.uk/media/576c23e4ed915d622c000087/Energy-final-report-summary.pdf> accessed 14 November 2020.
[602] ibid 35.
[603] CMA, 'Energy Market Investigation' (Competition and Markets Authority, 24 June 2016, Final Report) 3 <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf> accessed 14 November 2020.
[604] CMA, 'Energy Market Investigation' (Competition and Markets Authority, 24 June 2016, Final Report) 23 <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf> accessed 14 November 2020.
[605] CMA, 'Energy Market Investigation' (Competition and Markets Authority, 24 June 2016, Final Report) 6 <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf> accessed 14 November 2020.
[606] CMA, 'Energy Market Investigation' (Competition and Markets Authority, 24 June 2016, Final Report) 27 <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf> accessed 14 November 2020.
[607] CMA, 'Energy Market Investigation' (Competition and Markets Authority, 24 June 2016, Final Report) 30–31 <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf> accessed 14 November 2020.
[608] CMA, 'CMA Publishes Final Energy Market Reforms' *Gov.UK* (24 June 2016) <https://www.gov.uk/government/news/cma-publishes-final-energy-market-reforms> accessed 14 November 2020 (emphasis added).

> [o]ur finding of material potential savings that are persistent over time, available to a significant number of domestic customers and that go unexploited provides evidence of *weak customer engagement* in the domestic retail markets for electricity and gas in Great Britain.[609]

2. Brands

Brands can influence consumer decision-making in powerful ways – particularly when the parameters of competition are extended beyond price and quality into a realm that is psychological, emotional, and based on identity.[610] Mercedes, for instance, can signal prestige, ivy league school sweatshirts can signal elitism and status, and Gillette is "the best a man can get".[611] "Brand power", then, means that a percentage of the *total* reason why consumers may buy Ferrari is *because* it's Ferrari. This may allow businesses to charge higher prices than they otherwise would be able to.[612] American Tobacco at one point, for example, claimed to have a total firm value of $227 million with $45 million of this total comprised of trademarks.[613]

Although not everyone agrees, there does exist evidence that brands can generate "substantial" market power. One only has to look to the story of brand name drugs vs. generic drugs, where even though the brand name drug and generic drug are *functionally* interchangeable, the brand name drug is able to command a much higher price. In the market for painkillers, for example,

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[609] CMA, 'Energy Market Investigation' (Competition and Markets Authority, 24 June 2016, Final Report) 33 <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf> accessed 14 November 2020.

[610] Deven R Desai and Spencer Waller, 'Brands, Competition, and the Law' [2010] Brigham Young University Law Review 1425, 1427 ('Brands allow businesses to reach consumers directly with messages regarding emotion, identity, and self-worth…'). See also Rajeev Batra and Pamela Homer, 'The situational impact of Brand Image Beliefs' (2004) 14 Journal of Consumer Psychology 318, 318 ('Many of the brand associations that make brands distinctive and strong are of [a] *nonfunctional* type; that is, they go beyond the perceived quality of the brand on functional product and service criteria and deal instead with 'intangible' properties of the brand (e.g. Coca-Cola is "All-American", Mercedes is "prestigious"…') (emphasis added).

[611] Kevin Keller, 'The Brand Report Card' [2000] Harvard Business Review <https://hbr.org/2000/01/the-brand-report-card> accessed 12 November 2020.

[612] Desai and Waller, 'Brands, Competition, and the Law' (n 610) 1427.

[613] Susan Strasser, *Satisfaction Guaranteed: The Making of the American Mass Market* (New York, Pantheon 1989) 47.

generic equivalents to Advil and Tylenol may sell for as much as 50 percent less than the latter.[614] As Lemley and McKenna conclude, '[i]t is the brand name that makes the difference'.[615]

Further, courts have recognised the power of brands in the brand name drug vs. generic drug debate by sometimes holding that the former constitute separate markets. In *Geneva Pharmaceuticals Technology Corp. v Barr Laboratories, Inc.*,[616] for instance, the Second Circuit Court of Appeals held that the significant price differential between the drug Coumadin and its generic equivalent was sufficient to infer that the two products were separate markets for antitrust purposes – an outcome induced partly by consumers' 'brand allegiance' and concomitant reluctance to switch away.[617] Here, the conclusion about separate markets was not a product of *non*-functional interchangeability (the products were 'chemically identical')[618] but rather can be more accurately described as a product of a "dream world" that consumers live in.[619]

Other examples outside the pharmaceutical context further highlight the capacity of brands to generate "substantial" market power. Big brand gasoline names like Shell and Chevron, for instance, are ranked consistently in the top 5 fuel products for "pricing power".[620] More pointedly, one study demonstrated differences in per gallon prices of 18.2 cents between gas stations and

[614] Simon Anderson et al, 'Push-Me Pull-You: Comparative Advertising in the OTC Analgesics Industry' (2012) SSRN Working Paper, Table 1 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2047106> accessed 12 November 2020.
[615] Lemley and Mckenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' (n 200) 2083.
[616] 386 F3d 485 (2d Cir 2004).
[617] *Geneva Pharnaceuticals Technology Corp v Barr Laboratories Inc*, 386 F3d 485, 496–498 (2d Cir 2004) ('[T]he price differential between Coumadin and generics is plain, as are the variant pricing trends. Barr's generic was introduced at about 70 percent of Coumadin's price, and has since declined to 50 percent while Coumadin's price has stayed steady, creating a marked gap in price between the products. Coumadin's *substantially higher* prices is evidence of a *distinct customer group* with *brand allegiance* and/or high risk sensitivity that was unwilling to switch from the known brand name even in the face of a discounted alternative') (emphasis added).
[618] Lemley and Mckenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' (n 200) 2083.
[619] ibid ('It might seem odd to say that two functionally identical products are in separate markets. But that is because markets aren't always about function; consumers' beliefs about products can drive purchasing behavior even if those beliefs are *not based in reality*') (emphasis added).
[620] Convenience Store News, 'Report: Chevron Leads Fuel Brands in Pricing Power' *ConvenienceStoreNews* (12 July 2018) <https://csnews.com/report-chevron-leads-fuel-brands-pricing-power> accessed 12 November 2020.

reasoned that *brand allegiance* was the driver of the difference.[621] Products like bleach and organic green iced tea further showcase significant price differentials between different brands and generics – with the former product market showcasing sometimes a 12 percent price difference[622] and the latter a 30 percent price difference.[623] Haagen-Dazs' ability to enter the ice-cream market at a price 30 percent to 40 percent higher than its closest substitute may also be attributed to branding efforts in portraying images of affluence and sophistication.[624]

Finally, some survey evidence reveals that a "substantial" portion of consumers are willing to pay premiums just for branded products despite the existence of functionally interchangeable substitutes. 72 percent will pay a 20 percent premium above the price of the closest substitute rival; 50 percent will pay a 25 percent premium; 40 percent will pay a 30 percent premium; and 25 percent say 'price does not matter' when it comes to purchasing brands that they are loyal to.[625]

What these illustrations show is that, at the very least, brands can have the capacity to affect demand in significant ways and generate consumer lock-in *even* in the face of functionally interchangeable alternatives.[626] To be sure, this is not always the case because not all brands afford this kind of market power and it may be that only the most famous brands are relevant in this respect.[627]

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[621] Jennifer R Thompson, 'Brand Loyalty and Gasoline Pricing in Sacramento' (2007) 10 Agricultural and Resource Economics 9, 9 ('Retail gasoline prices are known to vary substantially among retail stations. Evidence from gasoline markets in Sacramento suggests that these price differences exist and persist because the marketing of supposed differences in branded gasoline is enough to split the 'retail gasoline' market into two submarkets, each supporting a different price').
[622] Lemley and Mckenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' (n 200) 2085.
[623] ibid.
[624] Erich Joachimsthaler and David A Aaker, 'Building Brands Without Mass Media' [1997] Harvard Business Review 39, 41.
[625] Scott Davis, *Brand Asset Management: Driving Profitable Growth Through Your Brands* (2nd edn, San Francisco, California, Jossey-Bass, Wiley 2002) 5.
[626] Desai and Waller, 'Brands, Competition, and the Law' (n 610) 1447.
[627] See Lemley and Mckenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' (n 200) 2087 ('The evidence doesn't support the conclusion that all brands confer market power…[b]ut it seems quite likely that, for many of the most famous brands, and for a variety of goods in which price is a mixed or even affirmatively

What is perhaps more clear, however, is that the *reason* for brands' powerful capacities to magnetise consumers and influence their choices is cognitive. This affords brands a unique ability to affect a product's 'essence' and make it cohere with consumers' psychological desires.[628] Brand power has been described, for instance, as an 'abstract machine' capable of constructing demand.[629] The process of creating a brand has been likened to 'creating a personality',[630] which a consumer then imports into their expressions of their self, their ideal selves, or certain elements of their "selves".[631] More explicitly, brands have been described as 'complex strategic tools that perform a variety of functions including creating demand…controlling prices…[and] satisfying a consumer's *emotional* and *psychological* needs'.[632] These references to the emotional, the intuitive, and the psychological are frequently repeated. Indeed, some scholars maintain the purpose of branding is to *reduce* the *intuitive* substitutability of functionally interchangeable alternatives.[633]

The source of this market power, then, is clearly cognitive, though antitrust scholars continue to refer to intellectual property as the source of the foreclosure effect. This is curious because some of these very scholars refer to the cognitive aspect of brands and how they 'clearly create significant differentiation in the *minds* of consumers…'[634] From the perspective of BE, in what way can brand-generated market power be described such that the foreclosure effect it engenders may be called "cognitive foreclosure"?

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positive signal of value, trademark owners can easily raise the price of their goods 5-10% over the cost of an alternative product without their customers deserting them for that product').
[628] Celia Lury, *Brands: The Logos of the Global Economy* (Routledge 2004) 20.
[629] ibid 22.
[630] Desai and Waller, 'Brands, Competition, and the Law' (n 610) 1434.
[631] Karl Moore and Susan Reid, 'The Birth of Brand: 4000 Years of Branding History' (2008) MPRA Working Paper No 10169, 24 <https://mpra.ub.uni-muenchen.de/10169/1/birth_of_brand_july_14_2004.pdf> accessed 12 November 2020.
[632] Desai and Waller, 'Brands, Competition, and the Law' (n 610) 1449.
[633] See ibid 1474 (describing the branding industry's purpose as a reduction or the elimination of '*intuitively* competing products or services') (emphasis added).
[634] Lemley and Mckenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' (n 200) 2086.

The "affect" heuristic offers an illuminating explanation. Emerging from the proposition that we have two modes of thinking—(1) experiential, emotive, intuitive, unconscious, and associative and (2) analytic, conscious, deliberate, and rational[635]—the affect heuristic shortens decision-making to emotion, symbolic imagery, and metaphorical intuition. Decision-making, essentially, can be a product of hedonic evaluations labelled "good" or "bad".[636]

It is not difficult to make the connection between the affect heuristic and brand power. For example, cigarette manufacturers entirely differentiated themselves at one point by appealing to consumers' affect heuristics. Images such as a handsome man blowing smoke into an attractive woman's face would be followed by the slogan, '[b]low in her face and she'll follow you anywhere',[637] perhaps with the intention of eliciting visceral sexual urges and feelings of masculinity. Others attribute the choice to smoke to the hedonic experience of a new and exciting way to mingle with friends,[638] thereby eliciting a sense of collegiality and camaraderie.

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[635] Slovic et al, 'Rational Actors or Rational Fools: Implications of the Affect Heuristic for Behavioral Economics' (n 273) 329 (describing 'two fundamental modes of thinking' – one is '[t]he experiential mode, [which] is intuitive, automatic, natural, and based upon images to which positive and affective feelings have been attached through learning and experience. The other mode is analytical, deliberative, and reason based'); Walter Schneider and Richard M Shiffrin, 'Controlled and Automatic Human Information Processing: I. Detection, Search, and Attention' (1977) 84 Psychological Review 1, 1 (differentiating between '[a]utomatic processing' and '[c]ontrolled processing'); Richard M Shiffrin and Walter Schneider, 'Controlled and Automatic Human Information Processing: II. Perceptual Learning, Automatic Attending, and a General Theory' (1977) 84 Psychological Review 127, 127 (using 'several studies to elucidate further the properties of automatic and controlled processing and their interrelations, to demonstrate the qualitative difference between these processing modes' and proffering 'a general theory of information processing, with emphasis on the roles of automatic and controlled processing'). See also Daniel Kahneman, 'Maps of Bounded Rationality: Psychology for Behavioral Economics' (2003) 93 American Economic Review 1449, 1450 (distinguishing between 'two modes of thinking and deciding'); Daniel Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality' (2003) 58 American Psychologist 697, 698 (distinguishing between System 1 and System 2); James D Grayot, 'Dual process Theories in Behavioral Economics and Neuroeconomics: A Critical Review (2020) 11 Review of Philosophy and Psychology 105, 105. See also Kahneman, *Thinking, Fast and Slow* (n 381) pt I.

[636] See Melissa L Finucane et al, 'The Affect Heuristic in Judgments of Risks and Benefits' (2000) 13 Journal of Behavioral Decision Making 1.

[637] Charles Clarke, '16 Outrageous Tobacco Ads That Would be Illegal Today' *Business Insider* (30 June 2016) < https://www.businessinsider.com/vintage-tobacco-adverts-that-would-be-illegal-today-2016-6?r=US&IR=T> accessed 12 November 2020.

[638] Slovic et al, 'Rational Actors or Rational Fools: Implications of the Affect Heuristic for Behavioral Economics' (n 273) 338.

Through manipulation of the affect heuristic, then, firms may be able to leverage this BE insight and render a percentage of the consumer's purchasing decision a product of brand imagery that is synonymous with experiential emotions: like Adidas being synonymous with an exciting and youthful "urban lifestyle",[639] or the Body Shop building an "environmentally friendly" identity,[640] or how at one point in time Standard baths and toilets signalled modernity.[641] Apple also has been analogised to a religion because both trigger the same neuro-reactions. One person characterised the opening of an Apple store as more like an 'evangelical prayer meeting' rather 'than a chance to buy a phone or a laptop'.[642] From this perspective, the source of a brand's power that enables it to lock-in consumers, foreclose potentially functionally interchangeable substitutes, and erode the importance of "price" competition[643] (which allows for an increased ability to control price) is cognitive. Put another way, whilst firm A was focusing on price dimensions of competition, firm B was busy "monopolising" System 1.[644]

b. Digital platform markets

Both *Google Search (Shopping)* and *Google Android* further demonstrate the magnitude of demand-side deviations from perfect competition in digital markets—our primary focus of study—where empirical studies showed that BE deviations did have the capacity to generate "substantial" market power.

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[639] See Joachimsthaler and Aaker, 'Building Brands Without Mass Media' (n 624) 49.
[640] ibid 40.
[641] Strasser, *Satisfaction Guaranteed: The Making of the American Mass Market* (n 613) 101–115.
[642] See Alyson Shontell, 'It's Official: Apple Fanboyism is a Religion: Neuroscientists Find Both Trigger Same Reaction in Brain' *Business Insider* (21 May 2011) <https://www.businessinsider.com/apple-is-a-religion-neuroscientists-find-it-triggers-the-same-reaction-in-your-brain-2011-5?r=US&IR=T> accessed 23 November 2021.
[643] Desai and Waller, 'Brands, Competition, and the Law' (n 610) 1430 (describing the 'rise of the brand as a tool for possibly anti-competitive behaviors such as diminishing the role of price competition, *segmenting* market demand, facilitating price discrimination, and *locking in* consumers') (emphasis added).
[644] See Kahneman, *Thinking, Fast and Slow* (n 381) pt I.

In *Google Search (Shopping)*, for instance, the Commission found that the highest search rankings generate 'significant' traffic to those search results.[645] Specifically, users usually look at the first three to five search result rankings on page one and 'pay little or no attention to the remaining results'.[646] Starkly, the studies upon which the Commission rely show that the first three links account for 40–65 percent of total clicks on desktops and on mobile devices this effect becomes exacerbated with the top 3 links assuming more than 70 percent of total clicks. Overall, the 10 highest results receive 95 percent of all clicks and the highest result is clicked on more than any other.[647] As one of the studies concludes, 'consumers seem to display an inherent bias' towards higher ranked search results.[648]

In *Google Android*,[649] a similarly "substantial" deviation from perfection was displayed. Explained through the BE lens of the status quo bias, the Commission demonstrated its power to foreclose competition and generate market power with illuminating data. For example, between 2014 and 2017 in the largest EU states, search queries on Google Search accounted only for 10-20 percent to 40-50 percent on devices where Google Search was not pre-installed; when Google Search was pre-installed, it accounted for 90-100 percent.[650] Further illustrating the power of the status quo bias was almost non-existent switching from Google Search to rival Search applications. Specifically, on devices worldwide and on which Google Search was the default app, rival apps were downloaded only on 0-5 percent of those devices between 2011 and 2016.[651]

[645] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 453.
[646] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 455.
[647] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 457.
[648] *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 Final, para 455, footnote 541.
[649] *Google Android* (Case AT 40099) Commission Decision C(2018) 4761 Final.
[650] *Google Android* (Case AT 40099) Commission Decision C(2018) 4761 Final, para 793.
[651] *Google Android* (Case AT 40099) Commission Decision C(2018) 4761 Final, para 808.

i. Is behavioural market power "sustainable" in digital platform markets?

Market power needs to be durable in addition to being "substantial" in order to generate the kind of market power that antitrust ought to concern itself with.[652] If consumers can learn from their mistakes and become more perfect in their rationality and willpower, then there remains some hope for the market to correct itself "speedily" and obviate the need for intervention.[653] This section, however, shows some pessimism for this prospect in the online world.

A final consideration is whether BE's "substantial" deviation from perfection (and thus its power to generate "substantial" market power) can be countervailed by consumer learning – that is, through experience consumers may be able to overcome their cognitive shortcomings and increase the 'quality' of their decision-making.[654] This would push the demand-side's market disciplining effect closer towards perfect competition.

Studies show that learning is curtailed unless feedback is 'clear, frequent, and quick'.[655] Some environments are conducive to such pre-conditions whilst others are not. For example, weather forecasters may competently calibrate their decision-making overtime as they repeatedly report the weather,[656] whilst members of a jury in a criminal trial possess 'little opportunity to learn from mistakes'.[657]

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[652] See Chapter 2, Part II.
[653] Easterbrook, 'The Limits of Antitrust' (n 245) 11 (arguing how the purpose of antitrust is to 'speed up the arrival of the long run (so that firms lose market power faster))'.
[654] Donald C Langevoort, 'Behavioral Theories of Judgment and Decision Making in Legal Scholarship: A Literature Review' (1998) 51 Vanderbilt Law Review 1499, 1521.
[655] Colin Camerer, 'Comment on Noll and Krier: "Some Implications of Cognitive Psychology for Risk Regulation"' (1990) 19 Journal of Legal Studies 791, 794.
[656] ibid *citing* Sarah Lichtenstein et al, 'Calibration of Probabilities: The State of the Art to 1980' in *Judgment Under Uncertainty: Heuristics and Biases*, Daniel Kahneman et al (eds) (Cambridge University Press 1982).
[657] Langevoort, 'Behavioral Theories of Judgment and Decision Making in Legal Scholarship: A Literature Review' (n 654) 1521.

In light of what we now know about digital markets and platforms' powerful capacities to manipulate users, there is an argument that digital markets are environments hostile (rather than conducive) to learning. Manipulation susceptibility on the part of users and manipulation abilities and incentives on the part of platforms could constitute powerful obstacles in this respect. As to manipulation susceptibility, we have already seen the amplification of biases in the online world. We might therefore reduce our consumer learning expectations, given that the evidence on learning effects generally is mixed.[658] Some studies suggest that as human beings we are terrible at calibrating over time.[659] Regarding manipulation abilities and incentives, platforms' continuous and ubiquitous control over users, coupled with a supercharge from Big Data, would also seem to cut against a belief in consumers' capacities to correct their BE failures over time. Indeed, if we really are "living in a dream world" that leaves us perpetually locked into a specific platform, then the platform's only incentive is to induce us into an even deeper sleep – an outcome that seems more achievable by digital platform firms.[660]

We will examine digital platform markets more extensively in Chapter 6, where we will seek to carve out market contexts *more* or *less* conducive to self-correcting behavioural market failures. For now, we note only that digital platform markets seem to present as special cases worthy of consideration.

CONCLUSION

In examining the BE implications for antitrust's two most fundamental doctrinal concepts—conduct and market power—this Chapter has extended previous Behavioural Antitrust literature by elucidating how the fusion of two emerging phenomena, digital platforms and BE, may be moving

[658] Berndt Brehmer, 'In One Word: Not From Experience' (1980) 45 Acta Psychologica 223, 224 (describing how a 'solid body of evidence' shows that people do not *always* learn from experience) (emphasis added).
[659] For an overview, see ibid.
[660] See Chapter 3, Part II.

us closer towards an antitrust world of cognitive foreclosure (a form of foreclosure that is pernicious but powerful). It has shown, in particular, how such phenomena may cut against both the immediacy and intensity[661] of the substitution effect[662] in a way that may be "substantial" and "sustainable". It has therefore provided a context in which a demand-side market failure, usually regulated by consumer protection regimes and traditionally contested as genuine antitrust issues,[663] may justifiably come within the remit of antitrust enforcement.

[661] See Devlin and Jacobs, 'The Empty Promise of Behavioural Antitrust' (n 35) 1026.
[662] See Andreas Heinemann, 'Behavioral Antitrust – A More "Realistic Approach" to Competition Law' (n 334) 23 (arguing that BE 'eliminates the fiction of perfect rationality').
[663] See Chapter 2, Part II. See also Chapter 7, Part I.

PART II – COGNITIVE FORECLOSURE: THE IDENTIFICATION PROBLEM

4 – MOTIVATING COGNITIVE FORECLOSURE'S "IDENTIFICATION" PROBLEM

Having established the potential for behavioural market failures in digital platform markets to justifiably trigger antitrust scrutiny because of the generation and perpetuation of substantial market failures[664] from the demand-side, we now seek to arrive at a "workable" antitrust enforcement policy[665] for the purposes of cognitive foreclosure. Note that antitrust has been braced with this workable hurdle many times before, primarily when trying to differentiate between benign/pro- and anti-competitive conduct,[666] which as we will see in Chapter 5 may raise difficult futurity issues regarding a business practice's long-run effects.[667] One antitrust school—The Workable Antitrust Policy School—was for the most part characterised by scepticism towards enforcement and believed the market to be better at sifting between good and bad conduct.[668] Another school of economic thought—called The Workable Competition School—linked market structure to anti-competitive outcomes and believed *less* in markets' abilities to eradicate such outcomes.[669] That was several decades ago, however, in a bygone era of brick-and-mortar markets where behavioural control over consumers and their decisions was a shadow of what it is today. It seems only apt, therefore, to now make antitrust workable for the digital era and its attendant BE implications.[670]

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[664] See Chapter 2, Part II; Chapter 3.

[665] What we mean by "workable" is a reliable framework that can "identify" when the market will remain a good substitute for governmental intervention and hence obviate the need for antitrust enforcement. See eg Chapter 1, Part II.

[666] See eg Frank H Easterbrook, 'Workable Antitrust Policy' (1986) 84 Michigan Law Review 1696, 1700 et seq. See also ibid 1701 ('Until we know what a durable business practice does, no one should prohibit the use of that practice'). See also Chapter 5, Part I.

[667] See Chapter 5, Part II. Futurity issues stem from fundamental uncertainty, i.e. a prediction not susceptible to probabilistic determination. See Frank H Knight, *Risk, Uncertainty and Profit* (Houghton Mifflin Company 1921, Sixth Impression, Series of Reprints 1946) 232. See also Ross B Emmett, 'Frank H. Knight on the "Entrepreneur Function" in Modern Enterprise' (2011) 34 Seattle University Law Review 1139, 1140 (describing how 'Knightian uncertainty is often characterised as an expression of the limitations of human knowledge…').

[668] Easterbrook, 'Workable Antitrust Policy' (n 666) 1701 ('Competition is hardier than you think. The desire to make a buck leads people to undermine monopolistic practices'); ibid ('Skepticism is why the Workable Antitrust Policy School seems to favor little other than prosecuting plain vanilla cartels and mergers to monopoly'). See also Chapter 1, Part II (providing illustrations of the Chicago School).

[669] See eg Joe S Bain, 'Workable Competition in Oligopoly' (1950) 40 American Economic Review 35. See Introduction; Chapter 1, Part II.

[670] On the significance of the *conduct* and *market power* BE implications for digital platform antitrust, see Chapter 3.

Several reasons motivate the analysis. First, the recent *Google Search (Shopping)* judgment—a case concerning foreclosure from the demand-side[671]—contained arguments from Google criticising the European Commission's "identification" of anti-competitive conduct, along with a raft of commentary contesting both the Commission's and General Court's legal characterisation of the impugned conduct.[672] Second, another and perhaps more significant reason motivating an understanding of the workable limits of BE for antitrust enforcement purposes is that BE has sometimes been conceived of as giving rise to potential consumer protection (not antitrust) problems.[673] Or at the very least that the former rather than the latter offers a potential remedy for behavioural market failures in the form of mandated disclosure requirements, for instance.[674] Additionally, Averitt and Lande demarcate the consumer protection/antitrust boundary by labelling the former as encompassing issues residing "inside the consumer's head" (where, of course, BE anomalies originate) and the latter as those stemming from market failures 'external to consumers'.[675] Moreover, a variety of consumer protection statutes were once enacted to protect against other demand-side market harms conceptually similar to behavioural manipulation like deception.[676] Indeed, these "BE-like" practices like false advertising/reporting have traditionally been under the auspices of consumer protection.[677]

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[671] See Chapter 3, Part I; Chapter 6, Part I.
[672] Case T-612/17 *Google Search (Shopping)* EU:T:2021:763, paras 136, 144 and 158. See also Chapter 6, Part I.
[673] Huffman, 'Bridging the Divide? Theories for Integrating Competition Law and Consumer Protection' (n 274) 14 ('Behavioural economics has a natural place in consumer protection regulation'); Wright, 'The Antitrust/Consumer Protection Paradox: Two Policies at War With Each Other' (n 135) (arguing that BE has infiltrated consumer protection law whilst antitrust law still relies on a rational choice theory paradigm). See also Chapter 7, Part I. Indeed, as noted in the Introduction and Chapter 2, as a demand-side market failure, BE is in a group of market failures that has often frustrated antitrust analysts about when such failures *should* be antitrust issues. See Chapter 2, Part II.
[674] Oren Bar-Gill, 'Competition and Consumer Protection: A Behavioral Economics Account' (2011) NYU Law & Economics Research Paper No 11-42, 17 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1974499> accessed 11 August 2021 (proffering mandated disclosure as an appropriate remedy because it is usually the 'least intrusive form of regulation' and also because it 'directly target[s] the mistakes and misperceptions at the core of the behavioral market failure').
[675] Averitt and Lande, 'Consumer Sovereignty: A Unified Theory of Antitrust and Consumer Protection Law' (n 135) 714 (describing how consumer protection is intended to deal with market failures 'inside the consumer's head').
[676] See below, Chapter 7, Part I.
[677] Carrier and Tushnet, 'An Antitrust Framework for False Advertising' (n 274) 1842 (describing how false advertising is 'the focus of much consumer protection law').

This seems a somewhat incongruent landscape,[678] however, because we have in Chapter 3 just been exposed to some instances in which behavioural market failures have spawned antitrust-relevant issues through the generation of "antitrust" market power.[679] Otherwise put, these kinds of market failures have sometimes been able to significantly damage entire markets durably. Moreover, it has sometimes been recognised that other demand-side market harms (for instance, deception in various forms) can sometimes raise antitrust issues.[680] Lande, for example, has called for a more inclusive antitrust approach to these kinds of market failures – ones that have 'usually [been] associated with consumer protection violations'.[681] Thus, we are grappling it seems not with a binary question of whether BE *does* give rise to antitrust issues but rather a more nuanced query of when *should* BE be an antitrust issue. It is in this nuanced respect that this Part seeks to render behavioural antitrust enforcement (hereafter "Behavioural Antitrust") workable by illuminating its limits, which has been highlighted as an area demanding attention.[682]

A well-known demonstration of an effort to make antitrust workable in a general sense was certain screening mechanisms[683] that courts could practicably utilise in sanctioning or precluding antitrust intervention. Several of these mechanisms hinged on the presence or absence of market power or, rather, dynamic (not static) perspectives on market power that incorporated potential and relevant market disciplining effects into early parts of the analysis.[684] For example, Easterbrook sought to proffer 'a series of presumptions' that courts could use to 'screen out cases' and therefore

[678] ibid (describing in the context of false advertising the contradictory nature of federal law in presuming how such conduct harms competition but is also harmless).
[679] See Chapter 3, Part IV. See also Chapter 2, Part II (describing "antitrust" market power).
[680] See Chapter 7, Part I.
[681] Robert H Lande, 'Market Power Without a Large Market Share: The Role of Imperfect Information and Other "Consumer Protection" Market Failures' (2007) American Antitrust Institute Working Paper No 07-06, 1 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1103613> accessed 27 July 2021.
[682] Huffman, 'Bridging the Divide? Theories for Integrating Competition Law and Consumer Protection' (n 274) 14 ('As of now…how exactly to incorporate behaviouralist principles into a coherent enforcement regime remains under-studied').
[683] Easterbrook, 'The Limits of Antitrust' (n 245).
[684] See eg ibid 17 et seq.

reliably negate the need for an 'extended inquiry'.[685] The first filter—*market power*—assessed the extent to which the defendant possessed power over price. Astutely, Easterbrook highlighted that the question is not simply power over price but 'substantial power over price'[686] and, in this narrow but important regard, took a dynamic conception of market power and predicted that 'deleterious practices' were unlikely to 'persist' because the market would self-correct.[687]

However, in Chapter 5 we will be introduced to a nuanced landscape in predicting market self-correction.[688] Further, we will be exposed to heterogeneous distributions of *ir*rationality.[689] There consequently seems to be a need to proffer nuanced guidance for cognitive foreclosure purposes given that, as noted in Chapter 3, consumers are both the *source of* and potential *solution to* this emerging form of conduct that seeks to solidify market power.[690] Our ultimate task in this Part, then, will be to identify the necessary and sufficient boundary conditions regarding the creation and perpetuation of "substantial" behavioural market failures. As such, this Part asks not whether behavioural harms are either antitrust or consumer protection issues but rather *the extent* to which they *should* be the former.[691] (Indeed, the demand-side has a notorious track record for generating this question).[692] The "extent" in this respect is the behavioural market failure's capacity to significantly damage entire markets durably – that is, how pervasive and long-lasting they might be such that consumers will not short-circuit these "substantial" behavioural market failures

[685] ibid 17.
[686] ibid 20.
[687] ibid ('Rival firms will offer the consumers better deals. Rivals' better offers will stamp out bad practices *faster than* the judicial process can') (emphasis added).
[688] See Chapter 5, Part II.
[689] See Chapter 5, Part III.
[690] See Chapter 3. Additionally, behavioural market failures are not like other demand-side market failures that, absent state intervention, can be corrected via mechanisms external to consumers. Only consumers have the capacity to self-correct behavioural market failures.
[691] cf Lande, 'Market Power Without a Large Market Share: The Role of Imperfect Information and Other "Consumer Protection" Market Failures' (n 681) 6 (asking the more binary question of whether these kinds of harms are *either* consumer protection or antitrust issues).
[692] See Chapter 2, Part II.

themselves. Indeed, as we saw in Chapter 2, these criteria are pre-requisites for a market failure to generate not simply market power but "antitrust" market power.[693]

Against this backdrop, Part II unfolds as follows. Chapter 5 illuminates Antitrust's "identification" problem by showcasing the difficulty it has had in discerning liability, particularly in foreclosure contexts. We will see this identification problem in an underexplored way: not only on the level of conduct but also on the level of market power. Chapter 6, along with analysing antitrust's "doctrinal" identification problem, seeks to proffer useful guidance that judges and regulators may rely upon when deciding liability, hence rendering cognitive foreclosure "workable".

[693] See Chapter 2, Part II.

5 – ANTITRUST'S "CONDUCT" AND "MARKET POWER" IDENTIFICATION PROBLEMS

Why should it be possible to predict an eclipse, but not a revolution?[694]

So what happened post-merger? Did the merged hospital try to raise prices at one or both hospitals? If so, did the powerful health plans, as the defendants argued and as the health plan CEO and district court predicted, steer customers to the other Bay Area hospitals and defeat the exercise of market power? Often the antitrust agencies don't know the answer to these questions[695]

INTRODUCTION

There are two (sometimes interdependent) levels to potential antitrust liability. First, there is the question of whether the conduct at issue falls within the circumference of a variety of legal tests.[696] The second is that, even if there is "bad" conduct that formalistically falls into one of the established anti-competitive categories, intervention may be obviated because such 'baleful practices' may be 'self-correcting'.[697] Indeed, we saw this latter conception of liability in Chapter 1 with the Chicago School, which illustrated the functional relationship between the scope of antitrust enforcement and one's belief in self-correcting markets. The problem for antitrust is that these two levels of liability generate inter-related issues of "identification" – that is (1) discerning between legal and illegal conduct and (2) discerning between contexts in which the conduct's anti-competitive *effects* may be nullified.[698]

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[694] Stanford Encyclopedia of Philosophy, 'Karl Popper' *Stanford Encyclopedia of Philosophy* (07 August 2018) <https://plato.stanford.edu/entries/popper/#ScieKnowHistPred> accessed 28 February 2021.
[695] Amanda P Reeves and Maurice E Stucke, 'Behavioral Antitrust' (2011) 86 Indiana Law Journal 1527, 1573.
[696] See Chapter 5, Part I.
[697] Easterbrook, 'The Limits of Antitrust' (n 245) 3.
[698] See eg Damien Geradin and Ianis Girgenson, 'The Counterfactual Method in EU Competition Law: The Cornerstone of the Effects-Based Approach' (2011) SSRN Working Paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1970917> accessed 10 April 2022.

Indeed, "anti-competitive effect" is a nebulous term, as evidenced partly by the fact that various antitrust schools of thought often ascribe conflicting definitions to this concept.[699] And this conceptual difficulty is indeed revealed on the level of both conduct[700]—which involves differentiating between benign/pro- and anti-competitive conduct—and markets – which animate the difficult futurity issue of predicting market self-correction and thereby obviating the need for antitrust.[701] Despite this conceptual quandary, courts continue to fail 'to articulate definitive goals and determinate standards', rendering antitrust's identification problem particularly acute.[702]

To be sure, the issue of identification—that is, administrable rules allowing antitrust decision-makers (e.g. judges and regulators) to practicably discern anti-competitiveness in a given case—has usually been analysed in the context of *behaviour*, i.e. the conduct prong of a potentially anti-competitive infringement and whether such conduct's pro-competitive welfare effects outweigh its anti-competitive welfare effects.[703]

However, what we are interested in for cognitive foreclosure purposes is not just in advancing an identification framework that separates pro- and anti-competitive conduct but one that simultaneously illuminates when such conduct generates "antitrust" market power. Indeed, we saw for example in Chapters 1 and 2 how the scope of antitrust intervention can be a product of beliefs

[699] Michael S Jacobs, 'An Essay on the Normative Foundations of Antitrust Economics' (1995) 74 North Carolina Law Review 219, 226–232 (describing the contrasting views on antitrust liability between the Chicago and Harvard schools). See also Chapter 1, Part II (describing the contrasting views of Chicago and *Post*-Chicago).
[700] Hon Richard D Cudahy and Alan Devlin, 'Anticompetitive Effect' (2010) 95 Minnesota Law Review 59, 59 ('The fundamental premise of competition law is straightforward, purporting as it does to condemn "anticompetitive" *behaviour*. Remarkably, despite the concept's definitive importance, the law has yet to give full definition to this amorphous term') (emphasis added).
[701] See Chapter 5, Part II.
[702] Cudahy and Devlin, 'Anticompetitive Effect' (n 700) 60. See eg Einer Elhauge, 'Defining Better Monopolization Standards' (2003) 56 Stanford Law Review 253, 257.
[703] See eg Joskow and Klevorick, 'A Framework for Analyzing Predatory Pricing Policy' (n 78) (proffering a framework for identifying anti-competitive price-cutting). See also Page, 'The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency' (n 71) 1232 (describing how Chicago School models sought to solve 'puzzling' business practices and how '[i]n each instance, the analyst must determine in what circumstances the practice is a means of gaining monopoly profits, and in what circumstances it is a means of enhancing productive efficiency'). See Chapter 5, Part I.

in self-correcting markets, i.e. the non-transient aspect of "antitrust" market power, along with the demand-side's infamy for generating debate about whether demand-side market failures justifiably trigger antitrust scrutiny.

Yet the inherent imperfection of markets concomitantly means that they do not always self-correct – in which case if antitrust *is* and *should* be a predictive enterprise[704] it will be helpful to know when markets are more likely to self-correct than not. Such an analysis is not helped, however, by the heterogeneity of markets.[705] Nor is it helped by the heterogeneous distribution of *ir*rational decision-making[706] given the functional relationship between efficient markets and consumer rationality.[707]

This Chapter illuminates antitrust's identification problem across the aforementioned levels of liability: conduct and markets. It demonstrates how, on the level of conduct, the effects may be (1) at once both positive and negative and (2) inter-temporal in nature – all of which exacerbates the analytical problem of identifying antitrust liability. On the level of markets, the identification problem is compounded by fundamental uncertainty: antitrust decision-makers cannot perfectly quantify the probability of self-correction. Yet this simultaneously raises the questions of whether antitrust *is, should be*, and *can be* a predictive enterprise. The Chapter concludes that whilst antitrust *does* and *should* incorporate predictive analyses into its doctrinal framework, the heterogeneity of *ir*rational decision-making means that necessary and sufficient boundary conditions would need to be known *ex-ante* for practicably predicting the self-correction of significant behavioural market failures.

[704] See Chapter 5, Part II.
[705] ibid
[706] See Chapter 5, Part III.
[707] See Chapter 2, Part I.

I. ANTITRUST'S CONDUCT "IDENTIFICATION" PROBLEM

a. Nebulous standards

Aside from a small class of conduct that is both highly characterisable and predictable in its future effects, antitrust is forced to regulate phenomena that frequently and easily blur the line between legality and illegality. This small class of characterisable and predictable conduct is subjected to explicit rules—like price-fixing and market-sharing—and, as stated, is both easily recognisable and almost certain to produce harmful market effects,[708] as significant amounts of empirical evidence now consistently confirm.[709] In contrast, the remainder of ambiguous business conduct within antitrust is subjected not to rules but to broad-based standards[710] – reflecting the fact that the conduct is too voluminous to describe and specify *ex-ante*, can manifest in various forms *ex-post*, and is too varied in both beneficial and harmful effects.[711] Antitrust uses a panoply of standards – like consumer-welfare tests,[712] comparing-competitive-effects tests,[713] profit-sacrifice tests,[714] as-efficient-competitor tests[715], and competition-on-the-merits tests.[716]

As briefly noted in Chapter 3, exclusionary or foreclosure conduct issues in antitrust enforcement have generated much uncertainty, debate, and anxiety within antitrust discourse.[717]

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[708] See eg *Arizona v Maricopa County Medical Society*, 457 US 332, 351 (1982) (describing how an inquiry into *per se* classes of conduct would be 'wholly fruitless…').

[709] See eg John M Connor, 'Price-Fixing Overcharges: Revised 2nd edn' SSRN Working Paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1610262> accessed 26 May 2022 (surveying almost 600 economic studies and judicial decisions and finding that the median long-run price overcharge for all cartels over all periods was 23.3 percent); ibid (finding that the median overcharge for international cartels was 30 percent).

[710] Steven C Salop, 'Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard' (2006) 73 Antitrust Law Journal 311, 311 ('Antitrust law sets standards for the competitive behavior of firms').

[711] Isaac Ehrlich and Richard A Posner, 'An Economic Analysis of Legal Rulemaking' (1974) 3 Journal of Legal Studies 257, 258 ('A standard indicates the kinds of circumstances that are relevant to a decision on legality and is thus open-ended. That is, it is not a list of all the circumstances that might be relevant but is rather the criterion by which particular circumstances presented in a case are to be judged').

[712] Salop, 'Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard' (n 710) 329–330.

[713] Philip E Areeda and Herbert Hovenkamp, *Antitrust Law* (2d edn 2002), para 651a, 72.

[714] See Marina Lao, 'Aspen Skiing and Trinko: Antitrust Intent and "Sacrifice" (2005) 73 Antitrust Law Journal 171.

[715] See Nicolas Petit, The Judgment of the EU Court of Justice in Intel and the Rule of Reason in Abuse of Dominance Cases' (2018) 43 European Law Review 728.

[716] Mark S Popofsky, 'Defining Exclusionary Conduct: Section 2, The Rule of Reason, and the Unifying Principle Underlying Antitrust Rules' (2006) 73 Antitrust Law Journal 435.

[717] See Chapter 3, Part I. See eg Frank H Easterbrook, 'On Identifying Exclusionary Conduct' (1986) 61 Notre Dame Law Review 972, 972 ('Aggressive, competitive conduct by a monopolist is highly beneficial to consumers. Courts

This should not be too surprising, given that 'injuries to rivals [can be] byproducts of vigorous competition'.[718] Indeed, the conceptual uncertainty surrounding anti-competitive foreclosure has meant that a unifying framework for assessing such conduct has been the subject of various and conflicting positivist and normative opinions.[719] Further, heterogeneous attempts by courts to formulate a coherent principle constitute additional evidence of the difficulty in identifying anti-competitive exclusion.[720] It has been said, therefore, that the antitrust community is forever in an 'exclusionary conduct "definition" war'.[721]

The alleged legal uncertainty surrounding "anticompetitive foreclosure" has led some scholars to label exclusionary doctrine as incoherent.[722] Such a claim is perhaps not unreasonable when one considers the diverse range of legal standards that might be used to resolve a foreclosure case – for example "substantial foreclosure", "cumulative foreclosure", and/or "competition on the merits".[723] Moreover, this says nothing about the range of conduct implicating foreclosure,[724] each

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should prize and encourage it under the antitrust laws. Aggressive, exclusionary conduct by a monopolist is deleterious to consumers. Courts should condemn it under the antitrust laws. There is only one problem. Competitive and exclusionary conduct look alike'); Popofsky, 'Defining Exclusionary Conduct: Section 2, The Rule of Reason, and the Unifying Principle Underlying Antitrust Rules' (n 716) 438 (noting that 'great uncertainty persists as to the test for liability under Section 2 of the Sherman Act').

[718] *Ball Memorial Hospital, Inc. v. Mutual Hospital Insurance, Inc.*, 784 F2d 1325, 1338 (7th Cir 1986).

[719] See eg Popofsky, 'Defining Exclusionary Conduct: Section 2, The Rule of Reason, and the Unifying Principle Underlying Antitrust Rules' (n 716) (arguing that the Rule of Reason provides unified framework). cf A Douglas Melamed, 'Exclusive Dealing Agreements and Other Exclusionary Conduct – Are There Unifying Principles?' (2006) 73 Antitrust Law Journal 375 (arguing that the "profit sacrifice" test provides a unified framework).

[720] See eg *United States v Alcoa*, 148 F2d 416, 429–431 (2d Cir 1945) (stating that liability can arise even from 'honestly industrial' efforts that were not economically inevitable); *United States v United Shoe Mach Corp*, 110 F Supp 295, 342 (D Mass 1953) (explaining how three interpretations of illegality may illuminate unlawful monopolization – like whether there is an 'unreasonable restraint on trade'; whether monopoly power was wielded via an 'exclusionary practice'; or whether conduct was outside competition on the merits); *Berkey Photo, Inc v Eastman Kodak Co*, 603 F2d 263, 275–276 (2d Cir 1979) (holding that monopoly abuses are *limited* to those only which arise from and are made possible by the monopoly power itself).

[721] Andrew I Gavil, 'Exclusionary Distribution Strategies by Dominant Firms: Striking a Better Balance' (2004) 72 Antitrust Law Journal 3, 5.

[722] See eg Elhauge, 'Defining Better Monopolization Standards' (n 702) 257 (describing how both the conduct prong and the market power prong of illegal monopolization 'suffer from an uncertainty that is as extensive as it is unnecessary'); Joshua D Wright and Alexander Krzepicki, 'Rethinking Foreclosure Analysis in Antitrust Law: From *Standard Stations* to *Google*' (2021) George Mason University Law & Economics Research Paper Series, 21-02, 1 < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3769346> accessed 21 March 2022 ('As a legal concept, foreclosure is incoherent at best').

[723] See Joshua D Wright, 'Moving Beyond Naïve Foreclosure Analysis' (2012) 19 George Mason Law Review 1163.

[724] ibid 1163 (describing how exclusionary concerns are at the core 'exclusive dealings, partial exclusives, loyalty discounts, market share discounts, tying, bundled rebates, refusals to deal, product design, and more').

of which is not susceptible to neat categorisation. Rebates, for example, are a form of pricing abuse however they are not consistently subjected to any kind of "price-based" test.[725]

Note the standard of "competition on the merits"—a useful illustration of antitrust's identification problem when it comes to conduct—and which has been cited as a nebulous concept bereft of any concrete definition.[726] As the OECD contends: '[Competition on the merits] has never been satisfactorily defined [resulting in] a dicordant body of case law that uses an assortment of analytical methods'.[727] Indeed, antitrust enforcement stakeholders—lawyers, judges, and agencies—have all relied upon this concept to 'justify their arguments and decisions, but there [seems to be] no consensus on what the term means'.[728]

Take as an additional illustration a variety of other tests attempting to discern anti-competitiveness – like the as-efficient-competitor (hereafter "AEC") test, the profit-sacrifice test, and/or consumer-welfare balancing tests. Despite their efforts to be nuanced in identifying anti-competitive conduct, the identification problem is not erased because antitrust is, and always will be, an area of law regulating a body of phenomena that does not lend itself to easy categorisation,

[725] See eg *Conwood Co v US Tobacco Co*, 290 F3d 768 (6th Cir 2002) (relying on an exclusive dealing framework to resolve a rebate case); *LePage's Inc. v 3M*, 324 F3d 141, 144 (3d Cir 2003) (relying on an exclusive dealing framework to resolve a rebate case); *Virgin Atl Airways Ltd. v. British Airways Plc*, 257 F3d 256 (2d Cir 2001) (using a price-cost test to resolve a rebate case); *Cascade Health Solutions v PeaceHealth*, 515 F3d 883 (9th Cir 2008) (using a price-cost test to resolve a rebate case); *NicSand, Inc. v. 3M Co.*, 507 F3d 442 (6th Cir 2007) (using a price-cost test *but* under the auspices of the rule-of-reason); *Concord Boat Corp. v Brunswick Corp.*, 207 F3d 1039 (8th Cir 2000) (using a price-cost test *but* under the auspices of the rule-of-reason); *Barry Wright Corp. v ITT Grinnell Corp.*, 724 F2d 227 (1st Cir 1983) (using a price-cost test *but* under the auspices of the rule-of-reason).

[726] Daniel Francis, 'Making Sense of Monopolization: Antitrust and the Digital Economy' (2022) 84 Antitrust Law Journal, *forthcoming* (describing the concept of "competition on the merits" as a 'cipher'); Benjamin Klein, 'Exclusive Dealing as Competition for Distribution "On The Merits"' (2003) 12 George Mason Law Review 119, 119 (describing the 'inherent difficulties in distinguishing "raising rivals' costs" behavior from normal competitive conduct').

[727] OECD, 'What is Competition on the Merits?' (OECD Observer 2006) 1 <https://www.oecd.org/competition/mergers/37082099.pdf> accessed 22 March 2022; OECD 'Competition on the Merits' (Best Practice Roundtables on Competition Policy 2005) 9 <https://www.oecd.org/daf/competition/abuse/35911017.pdf> accessed 22 March 2022 ('The concept of "competition on the merits" is supposed to be a helpful point of reference for distinguishing unilateral conduct that is harmful to competition from unilateral conduct that enhances competition').

[728] OECD 'Competition on the Merits' (n 727) 9.

that may at once be beneficial and/or harmful, and may even correct itself without the need for any form of intervention.

For example, the AEC test may "misidentify" conduct by inferring that if a rival is ousted from the market, it must not have been as efficient as the dominant undertaking (if it was, it could match the dominant firm's conduct). However, this test fails to account for the possibility that a new rival or set of new rivals may only have been efficient over time if they had been given an opportunity to compete.[729] Moreover, the AEC test sometimes uses a cost-price test, similar to predatory pricing, which may be unhelpful in discerning anti-competitiveness. This is because such a test is useful for price-based exclusionary conduct—where the foreclosure *results from* the low prices—but arguably less useful for rebates – where the foreclosure *results from* the exclusivity that the rebates generate and perpetuate.[730] Otherwise put, a price-cost test may usefully distinguish between pro- and anti-competitive prices in the former predatory pricing context but in the latter rebate context there may be no link between the lower price offered and the resulting harm to the competitive process (the price may have been the same even absent the rebate system).[731] Similarly, the profit-sacrifice test and/or no economic-sense tests[732] may result in "misidentifying" anti-competitive exclusion. The former—relied upon in *Aspen Skiing* and reiterated in *Trinko*[733]—

[729] OECD, 'What is Competition on the Merits?' (n 727) 4 ('This test may be too lenient, though, if it is interpreted as allowing the elimination of new firms that are currently less efficient but that would have eventually become equally or more efficient than the incumbent if they had been able to survive long enough').
[730] See Wouter PJ Wils, 'The Judgment of the EU General Court in *Intel* and the so-called "More Economic" Approach to Abuse of Dominance' (2014) 37 World Competition 405.
[731] ibid ('In the case of exclusivity rebates…the harm to the competitive process results from the exclusivity, whereas there is no basis for assuming that the price offered in exchange for the exclusivity would necessarily be a low price or would necessarily be lower than the price that the dominant undertaking would charge in the absence of the exclusivity rebate system').
[732] See A Douglas Melamed, 'Exclusionary Conduct Under the Antitrust Laws: Balancing, Sacrifice, and Refusals to Deal' (2005) 20 Berkeley Technology Law Journal 1247; Gregory J Werden, 'The "No Economic Sense" Test for Exclusionary Conduct' (2006) Winter Journal of Corporation Law 293. See also Salop, 'Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard' (n 710).
[733] *Aspen Skiing Co v Aspen Highlands Skiing Corp* 472 US 585, 610–611 (1985) (reaching the conclusion of "exclusion" by highlighting that the defendant was 'willing to sacrifice short-run benefits and consumer goodwill in exchange for a perceived long-run impact on its smaller rival'); *Verizon Communications v Law Offices of Curtis Trinko* 540 US 398, 409 (2004) (noting that the facts in *Aspen* 'suggested a willingness to forsake short-term profits to achieve an anticompetitive end').

exhibits over-inclusiveness, for instance, when it fails to account for the fact that in predatory pricing contexts above-cost price decreases 'may well involve a profit sacrifice but [are] perfectly lawful'.[734] Research and development costs for example may be so high that they would only be justified if in the long-run rivals become foreclosed – but the resulting improvements in product quality represent an increase in consumer welfare.[735] Consumer-welfare-balancing tests may also misfire by erroneously sanctioning or exonerating alleged anti-competitive business conduct. For instance, balancing tests might impose liability for: above-cost pricing (because the loss of ousted rivals apparently outweighs the benefit of lower prices); producing a superior product (because the loss of rivals being driven out of the market is greater than the benefit of the quality improvement); and/or investing in a cost-cutting production technologies (because rivals cannot match the efficiency of the firm and their exit is a greater loss to consumers over the long-run than the present reduction in costs and hence prices).[736]

b. Intertemporal considerations

Identifying anti-competitive conduct may also be made more difficult because of inter-temporal welfare considerations. The effect of conduct is necessarily a complex question that hinges on its *long-run* consequences.[737] As Cudahy and Devlin query, '[c]an conduct found objectionable under

[734] Popofsky, 'Defining Exclusionary Conduct: Section 2, The Rule of Reason, and the Unifying Principle Underlying Antitrust Rules' (n 716) 462; Elhauge, 'Defining Better Monopolization Standards' (n 702) 272–273 ('[A] monopolist who sets its prices anywhere between its monopoly price and its costs must be sacrificing short-run profits, even though it is not pricing below cost. A monopolist who engages in such pricing thus cannot be in violation of U.S. predatory pricing doctrine under *Brooke*'); ibid 273 ('[U]nder *Brooke*, setting above-cost prices is perfectly legal even if designed to drive out entrants or keep them from entering. Thus, this proposed test cannot be justified as a generalization of actual predatory pricing doctrine').

[735] See Popofsky, 'Defining Exclusionary Conduct: Section 2, The Rule of Reason, and the Unifying Principle Underlying Antitrust Rules' (n 716) 462–463; Elhauge, 'Defining Better Monopolization Standards' (n 702) 274 ('[T] problem is that what this test identifies as the signature of evil—sacrificing short-run profits in order to drive out rivals and reap long-run monopoly profits—is normally the stamp of virtue').

[736] cf Salop, 'Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard' (n 710) 339–341.

[737] Cudahy and Devlin, 'Anticompetitive Effect' (n 700) 61 (describing the disagreement surrounding antitrust standards and goals but concluding that '[e]ven if one demarcates a single standard…intertemporal effects complicate the analysis'); Alan Devlin and Michael Jacobs, 'Antitrust Divergence and the Limits of Economics' (2010) 104 Northwestern University Law Review 253, 256 (pointing to economics' 'grave epistemological limitations' that 'necessarily frustrate any attempts to resolve the tension between short- and long-run competitive effects, particularly

the relevant standard be revived by pointing to long run, beneficial consequences of that behaviour?'[738] The opposite can also be true – conduct that generates benefits now but harm later. As the US Supreme Court acknowledged in *Spectrum Sports*: 'It is sometimes difficult to distinguish robust competition [in the present] from conduct with long-term anti-competitive effects'.[739]

These intertemporal welfare considerations are, among other things, what render antitrust 'uniquely vulnerable to error'.[740] Specifically, the

> intertemporal impact of commercial conduct denies policy-makers crucial information about *future* effects, which, combined with the epistemological limitations of contemporary economic theory, necessitates decision making under uncertainty. This chronic degree of indeterminism that pervades this area of law makes mistaken conclusions understandable—even inevitable—but it does not render them any less costly. For these reasons, it is hardly surprising that competition law displays a unique fixation with error.[741]

Despite this indeterminacy, some regulators once proclaimed confidence in their ability to undertake this task of separating 'the wheat from the chaff' by correctly sanctioning pro-competitive conduct

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when those effects are in seeming opposition to one another' and how '[t]his intertemporal tension pervades certain aspects of antitrust doctrine…').

[738] Cudahy and Devlin, 'Anticompetitive Effect' (n 700) 78.

[739] *Spectrum Sports, Inc. v McQuillan*, 506 US 447, 458–459 (1993).

[740] Alan Devlin and Michael Jacobs, 'Antitrust Error' (2010) 52 William and Mary Law Review 75, 82 (describing 'the definitive problem that has long plagued antitrust enforcement' as 'the ever-present risk of erroneous condemnation'); ibid 94. See also Herbert Hovenkamp, 'Antitrust Error Costs' (2021) SSRN Working Paper < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3853282> accessed 26 June 2021.

[741] Devlin and Jacobs, 'Antitrust Error' (n 740) 79; Hovenkamp, 'Antitrust Error Costs' (n 740) 2 (describing how antitrust decision makers face the problem of imperfect information). See C Scott Hemphill, 'An Aggregate Approach to Antitrust: Using New Data and Rulemaking to Preserve Drug Competition' (2009) 109 Columbia Law Review 629, 669 (applying error cost analysis to the pharmaceutical context); Andrew I Gavil, 'Antitrust Bookends: The 2006 Supreme Court Term in Historical Context' (2007) 22 Antitrust 21, 21 (describing how in fashioning "new antitrust" rules like 'fewer per se rules', among others, 'the Court has seemed preoccupied with the goal of reducing error costs, although it has been far more concerned with reducing the incidence of false positives than false negatives…').

and condemning anti-competitive conduct[742] even in light of the inherent difficulty in measuring trade-offs between short-run and long-run welfare.[743]

Take for example several kinds of conduct, where the legality of each kind 'can depend upon first identifying and then comparing current or past harms and benefits with those likely, but not certain, to arise in the future'.[744] In the case of tying and bundled discounts, consumers can benefit now due to various efficiencies[745] but there is 'potential for harm later' in the form of foreclosure effects.[746] In the case of predatory pricing, the consumer again benefits now in the form of lower prices but there may be potential harm later in the form of higher prices as the price-cutting firm attempts to recoup its initial profit loss (the price the firm paid for ousting its rivals in the first instance).[747] There consequently materialised several proposals to "identify", that is, to differentiate, between pro-competitive price-cutting and anti-competitive price-cutting.[748] In contrast, refusal to

[742] Christine A Varney, 'Vigorous Antitrust Enforcement in this Challenging Era' *US DOJ* (12 May 2009) <https://www.justice.gov/atr/speech/vigorous-antitrust-enforcement-challenging-era> accessed 12 June 2021.
[743] Cudahy and Devlin, 'Anticompetitive Effect' (n 700) 107 ('The problem emanates from the fact that the beneficial long-run gains of controversial practices are at once both *uncertain* and *immeasurable*') (emphasis added). See also Devlin and Jacobs, 'Antitrust Divergence and the Limits of Economics' (n 737) 256 (highlighting the tension between short- and long-run effects and how '[a]ntitrust regulators often face the quandary of choosing between two opposing goals, namely whether to promote immediate gains against the possibility of future losses, conversely to forego instant benefits in the hope of spurring even more desirous conduct in the future').
[744] Devlin and Jacobs, 'Antitrust Error' (n 740) 86; Cudahy and Devlin, 'Anticompetitive Effect' (n 700) 93 ('[W]e explore the paradoxical fact that anticompetitive conditions today may mask procompetitive results in the future').
[745] Whish and Bailey, *Competition Law* (n 52) 731 ('Another reason for tying may be to enable economies of scale or scope to be achieved: a manufacturer of a photocopying machine which also supplies ink, paper and spare parts will be able to reduce costs if all these items are delivered to customers at the same time; tying these products may lead to lower prices').
[746] Devlin and Jacobs, 'Antitrust Error' (n 740) 90. The foreclosure effect is usually grounded on the "leveraging" theory. See Michael D Whinston, 'Tying, Foreclosure, and Exclusion' (1990) 80 American Economic Review 837, 839 (arguing that 'tying can indeed serve as a mechanism for leveraging market power' and how 'the mechanism through which this exclusion occurs is foreclosure…') cf Aaron Director and Edward H Levi, 'Law and the Future: Trade Regulation' (1956) 51 Northwestern University Law Review 281; Ward S Bowman JR, 'Tying Arrangements and the Leverage Problem' (1957) 67 Yale Law Journal 19; Richard A Posner, *Antitrust Law: An Economic Perspective* (Chicago, University of Chicago Press 1976); Robert H Bork, *The Antitrust Paradox* (New York, Basic Books 1978).
[747] Gellhorn et al, *Antitrust Law and Economics in a Nutshell* (n 44) 164 (describing the old approach to predatory pricing whereby '[c]ourts widely accepted the idea that a monopolist with "deep pockets" could temporarily set prices below its own and its competitors' costs, wait for chastened or bankrupt rivals to leave the market, and then raise prices to supracompetitive levels').
[748] See eg Phillip Areeda and Donald F Turner, 'Predatory Pricing and Related Practices Under Section 2 of the Sherman Act' (1975) 88 Harvard Law Review 697 (using a cost-measurement—specifically, marginal cost—to delineate the line between permissible price cutting and anti-competitive predatory pricing); F M Scherer, 'Predatory Pricing and the Sherman Act: A Comment' (1976) 89 Harvard Law Review 869, 885 (adopting a dynamic welfare model of "efficient resource allocation" to determine anti-competitive price-cutting because '[w]hen long-term welfare maximization is

deal/license cases deliver harm to the competitive process now but may preserve incentives to innovate over the long-run – further exemplifying the intertemporal malleability of "anticompetitiveness".[749] This is exactly why antitrust is "uniquely" vulnerable to error and suffers from a particularly acute identification problem; '[i]n every case requiring an intertemporal comparison, and there are many such cases, one of the points of comparison will be both unknown and unknowable'.[750]

In sum, identifying conduct producing anti-competitive effects is a difficult task because such conduct may be simultaneously beneficial and harmful and susceptible to issues of futurity. Antitrust has had to grapple with this identification problem particularly in foreclosure cases and hence relies upon more general standards rather than specific rules.

II. ANTITRUST'S MARKET POWER "IDENTIFICATION" PROBLEM

Antitrust may also suffer from an identification problem on the level of market-orientated analyses. This problem is particularly relevant for Behavioural Antitrust, as there are some who doubt the capacity of behavioural economics (hereafter "BE") to meaningfully penetrate antitrust enforcement because of an alleged inability to predict market outcomes. Their concerns are of a theoretical nature. Specifically, BE's successful inroads into antitrust apparently reside in BE's ability to predict *ir*rationality on the part of market actors by reference to certain boundary conditions under

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pursued the price-less-than-marginal-cost rule loses its force'). See also Oliver E Williamson, 'Predatory Pricing: A Strategic and Welfare Analysis' (1977) 87 Yale Law Journal 284.

[749] Cudahy and Devlin, 'Anticompetitive Effect' (n 700) 80 ('Although [the refusal] in the *present* may perhaps be characterized as "anticompetitive," in a more important respect it may be anything but. The right to refuse to deal is a hallmark of a property right, which gives incentives to research, invest, and commercialize that may yield vastly greater consumer benefits than mere low prices and higher output in the short-run') (emphasis added). See Richard A Posner, *Economic Analysis of Law* (5th edn, New York, Aspen Law & Business 1998) section 3.1 ('legal protection of property rights creates incentives to exploit resources efficiently'). Judge Learned Hand famously acknowledged this point in *Alcoa*. See *United States v Alcoa*, 148 F2d 416, 430 (2d Cir 1945) ('[H]aving been urged to compete, [the dominant firm] must not be turned upon when [it] wins').

[750] Devlin and Jacobs, 'Antitrust Error' (n 740) 91.

which such decision-making will likely take place.[751] This theoretical hurdle supposedly needs surmounting because antitrust is a predictive enterprise whereby antitrust *analysis* requires the prediction of market outcomes[752] in response to a monopolist's conduct. For example, higher prices will induce a substitution effect among consumers and new entry; '[t]ogether, [these principles] *predict* market self-correction independent of government intervention…'[753]

This Behavioural Antitrust critique about antitrust analysis requiring a theory with predictive power raises descriptive and normative questions. First, in what sense *is* antitrust a predictive enterprise? Second, *should* antitrust be a predictive enterprise? To the extent that antitrust decision-makers *do* and *should* engage in predictive analyses, then the Behavioural Antitrust detractors' theoretical criticisms would seem to hold some practical weight. Relatedly, there is also a question of predictive content: what is it that we are trying to predict? That the future effects of specific conduct need to be assessed in order to resolve antitrust cases has been well-recognised[754] and discussed above.[755] For our purposes in this section, we will be focusing not on the effects of conduct but rather on predicting the capacity of the market to self-correct,[756] which as can be gleaned from Chapter 1 is itself a predictive endeavour. More pertinently, we will be focusing on

[751] Joshua D Wright and Judd E Stone, 'Misbehavioral Economics: The Case Against Behavioral Antitrust' (2012) 33 Cardozo Law Review 1517, 1522 ('Behavioralist advocates marshal an impressive collection of laboratory and field evidence illustrating some deviations from expectations arising out of pure rational choice. What this evidence fails to produce, however, are either *necessary or sufficient conditions* for situations in which those biases may affect individual or firm decision-making and those situations in which they do not') (emphasis added); ibid 1534 ('The absence of a meaningful basis on which to discern when specific individuals or firms behave subject to a cognitive bias, as opposed to rationally, renders behavioral law and economics impossible to implement in antitrust').

[752] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1051 ('What antitrust law requires…is not subjective post-hoc descriptions, but ex ante predictions. Rational choice theory answers this call; behavioral economics does not'); ibid 1052 ('If [BE] deserves a meaningful role in antitrust, this claim is of inestimable importance because the ability to forecast market outcomes more precisely than neoclassical economics would require us to take the behavioralists' claim seriously. Unfortunately, behavioral antitrust scholars do no more than *claim* a superior ability to predict than the conventional approach—they neither prove this ability nor explain how it exists') (emphasis in original); ibid ('[T]he cognitive biases on which the behavioral literature focuses do not lend themselves to systematic prediction of business behavior or to models of general application. At least for now, then, the behavioral literature plays no role in antitrust policy'). See also Chapter 5, Part II.

[753] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1025.

[754] See Chapter 5, Part II.

[755] ibid Part I.

[756] On the functional relationship between a market's self-correcting capacities and the scope of antitrust enforcement, see Chapter 1, Part I; Chapter 2, Part I. See also Chapter 5, Part II.

consumers' capacities to circumvent their cognitive failures and ameliorate the scope of antitrust intervention – that is, the capacity of the demand-side to discipline behavioural market failures and act as a substitute for agency intervention. Indeed, if under certain boundary conditions *ir*rationality (rather than rationality) is more likely to govern decision-making, we may find ourselves believing *less* in a market's ability to self-correct and preferring a *more* interventionist antitrust enforcement policy.[757]

The next sections therefore undertake descriptive and normative analyses of predictive assessments in antitrust enforcement. The analysis is significant because such a dynamic conception of antitrust will have implications for market power durability. Whilst a static view using market shares may paint a picture of substantial market power on behalf of a firm, a dynamic view may portray a different story – in which case the potential anti-competitive consequences of the conduct the firm engaged in may be nullified. Thus, we can see on this narrow point how the bounds of antitrust liability may expand or contract depending on the paradigm of market power adopted. The analysis is also significant for assessing the height of the theoretical hurdle Behavioural Antitrust detractors levy at BE who point to the need for predicting market actors' propensities to act rationally or *ir*rationally.

On these foregoing points, this section unfolds as follows. Sub-section a and sub-section b respectively engage in descriptive and normative assessments about antitrust as a predictive enterprise. It is argued that not only *do* courts and regulators grapple with futurity issues in antitrust analysis (which is an inherently uncertain exercise)[758] but also that they *should*, given support for the proposition that sometimes markets do self-correct. Thus, this step in antitrust analysis—which

[757] See eg Chapter 6, Part II. See also Introduction.
[758] Joskow and Klevorick, 'A Framework for Analyzing Predatory Pricing Policy' (n 78) 222 (discussing in the context of predatory pricing behavior the 'the difficult task of inferring unobservable long-run market outcomes from observable short-run market conditions. Such an enterprise, no matter how carefully it is done, is inherently uncertain…').

is a speculative and predictive step—deserves at least some role (though certainly not a dominating role) in resolving antitrust cases. Consequently, there would seem to be at least some height to the theoretical hurdle that BE supposedly needs surmounting to successfully infiltrate antitrust enforcement.

a. Is antitrust a predictive enterprise?

Clairvoyance has traditionally been reserved for the fictional realm and, even then, has been rationed only to specific characters. In *The Matrix*, for example, futuristic capacities were within the sole domain of The Oracle who was empowered with foresight about the faith of Zion (the last remaining human city).[759] In Greek Mythology, Tiresias was said to have been endowed with prophetic abilities as a 'gift' from Zeus.[760] In the 2007 thriller *Next*, the protagonist Cris Johnson (played by Nicolas Cage) can see into the future but only for the next two minutes.[761] And despite his vast array of psychic capacities—from reading others' minds to communicating with aliens to 'editing' others' brains so as to render himself invisible—the *X-Men* character Charles Xavier was not rendered with prophetic powers.[762] This scarcity of clairvoyance can perhaps be seen as a signal of its value.

What might be the significance of futurity issues in antitrust analysis and, consequently, the value of clairvoyance? This question's answer will in part dictate the height of the theoretical hurdle that Behavioural Antitrust detractors point to when critiquing BE.

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[759] Fandom, 'The Matrix' *Fandom* <https://matrix.fandom.com/wiki/Zion> accessed 02 March 2021. See also Fandom, 'The Oracle' *Fandom* <https://matrix.fandom.com/wiki/The_Oracle> accessed 02 February 2021 ('The Oracle gives predictions and insight to Zion operatives who choose to hear her. The one prediction she relays to the resistance of Zion is that of the Prophecy, where the war will end when The One returns to end the hold of the Matrix').

[760] Encyclopedia Britannica, 'Tiresias' *Britannica* (20 July 1998) <https://www.britannica.com/topic/Tiresias> accessed 02 February 2021.

[761] IMDB, 'Next' *IMDB* <https://www.imdb.com/title/tt0435705/> accessed 02 February 2021.

[762] Jake Black, '12 Powers You Didn't Know Professor X Has' *ScreenRant* (31 May 2016) <https://screenrant.com/powers-you-did-not-know-professor-x-has/> accessed 02 February 2021. See also Fandom, 'Charles Xavier (Earth-616)' *Fandom* <https://marvel.fandom.com/wiki/Charles_Xavier_(Earth-616)#Powers> accessed 02 February 2021.

The relevance may be most overtly seen when antitrust accounts for long-run considerations in its analysis. Debates over dynamic models of competition, for instance, exemplify just one way in which antitrust may need to be conceived of as a predictive enterprise[763] because these are models that include 'the prediction of future competitive outcomes', which include 'considerations of entry, investment, innovation, price, output, and quality'.[764] Some consider this dynamic analysis to be particularly significant in high innovation industries[765] due to such industries being subjected to 'rapid and disruptive technological change',[766] although contemporary views have been tempered by arguments that "this time is different" and for various technological and structural reasons the technology firms of today may be less susceptible to competitive market forces.[767] Technology industries have nonetheless at times exhibited waves of 'creative destruction' over several decades

[763] Douglas H Ginsburg and Joshua D Wright, 'Dynamic Analysis and the Limits of Antitrust Institutions' (2012) 78 Antitrust Law Journal 1 (evaluating the limits of agencies and courts in predicting future market conditions for antitrust purposes); J Gregory Sidak and David J Teece, 'Dynamic Competition in Antitrust Law' (2009) 5 Journal of Competition Law & Economics 581, 581 (describing how a Schumpterian 'framework for antitrust analysis that favours dynamic competition over static competition would put less weight on market share and concentration in the assessment of market power and more weight on assessing potential competition…').

[764] Ginsburg and Wright, 'Dynamic Analysis and the Limits of Antitrust Institutions' (n 763) 3. See also David S Evans and Keith N Hylton, 'The Lawful Acquisition and Exercise of Monopoly Power and Its Implications for the Objectives of Antitrust' (2008) 4 Competition Policy International 203.

[765] David S Evans and Richard Schmalensee, 'Some Economic Aspects of Antitrust Analysis in in Dynamically Competitive Industries' (2001) NBER Working Paper 8268, 4 <https://www.nber.org/papers/w8268> accessed 20 May 2021.

[766] ibid ('The top three firms [with largest market capitalizations] in 1970 (IBM, AT&T, and General Motors) were still in the top five in 1985 but had been substantially displaced by 2000').

[767] A counterargument to these stories of overthrown incumbents is this time "things are different" – that these markets are *incontestable* to such an extent that they should cut against our historically-fuelled optimism and perhaps justify a (dis)belief in digital markets' self-correcting capacities. Differences in persistence, scale, and data are informative. Ryan Bourne, 'Is This Time Different?' 872 (2019) *Cato Institute Policy Analysis* 1, 4. Regarding persistence, Google's market power has endured for much longer than Lycos and AltaVista – the latter being dominant for just two years. See *Google Search (Shopping)* (Case AT 39740) Commission Decision C(2017) 4444 final; Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (n 3) 39. Facebook has remained 'dominant for over a decade', contrasting with MySpace being 'the most popular' social network for just several years. See ibid. As to scale, MySpace and Yahoo did not reach anything close to the scale that Facebook and Google have reached. MySpace's peak user-base was 100 million, paling in comparison to Facebook's user-base, which is in the billions. See ibid; J Clement, 'Countries With the Most Facebook Users 2020' *Statista* (14 February 2020) <https://www.statista.com/statistics/268136/top-15-countries-based-on-number-of-facebook-users/> accessed 14 February 2020. This smaller scale might be evidence that the market at that point had not yet "tipped" – that competition "for" the market was still possible and ongoing. The corollary – larger scale – may be evidence that today the market has "tipped" and competition "for" the market is perhaps no longer contestable. See Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (n 3) 39. Data provides perhaps the most persuasive (and sweeping) explanation that "this time *really is* different". New entrants overtaking brick-and-mortar and old high-tech incumbents did not have Big Data to contend with, and the original digital giants like MySpace and AOL were not harvesting data in the same way as the new digital giants like Facebook and Google. Specifically, the original digital giants provided much '*less personalized*' services 'and so behavioural data had significantly less value'. See ibid.

with market leaders continuously being overthrown by maverick new entrants.[768] As such, it is argued that market power assessments must account for this prospect because a proper antitrust analysis depends on 'the vulnerability of leading firms to entry powered by drastic innovation…'[769] Further, industrial organisation literature demonstrates many models that seek to predict future competitive outcomes based on current output levels – like price predation models,[770] entry models,[771] and mergers.[772] And the most obvious way in which antitrust analysis is predictive is in the realm of *ex-ante* merger control, which is 'typically an exercise in prediction'.[773]

A more pertinent sense in which antitrust may be braced with futurity issues is the prospect of self-correcting market mechanisms. We have already been exposed in Chapters 1 and 2 to this "future" dimension of antitrust analysis at the level of self-correcting markets from both supply-side and demand-side perspectives. This perspective is largely associated with the Chicago School – perhaps the epitome of antitrust analysis that accounts for futurity. As Reeves and Stucke note:

[768] David S Evans and Richard Schmalensee, 'Some Economic Aspects of Antitrust Analysis in Dynamically Competitive Industries' (2001) NBER Working Paper 8268, 47 <https://www.nber.org/papers/w8268> accessed 20 May 2021.
[769] ibid.
[770] Paul Milgrom and John Roberts, 'Predation, Reputation, and Entry Deterrence' (1982) 27 Journal of Economic Theory 280 (arguing that costly predatory strategies may in fact be rational in light of the benefits of gaining a reputation for being predatory – thus deterring future entrants).
[771] Dennis W Carlton and Michael Waldman, 'The Strategic Use of Tying Preserve and Create Market Power in Evolving Industries' (2002) 33 RAND Journal of Economics 194 (using dynamic models to show how tying can deter the future entry of efficient firms into both the primary market and related markets); Steven C Salop, 'Strategic Entry Deterrence' (1979) 69 American Economic Review 335 (discussing pre-entry asymmetric advantages the monopolist benefits from and may use – thus deterring future entry); Thomas G Krattenmaker and Steven C Salop, 'Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price' (1986) 96 Yale Law Journal 209, 246 et seq (demonstrating how raising the costs of entry can confer increased power over price). See also Steven C Salop and David T Scheffman, 'Raising Rivals' Costs' (1983) 73 American Economic Review 267.
[772] Jonathan B Baker, 'Merger Simulation in an Administrative Context' (2011) 77 Antitrust Law Journal 451 (discussing the value of merger simulations in generating screens and presumptions for predicting post-merger effects and minimising *ex-post* errors); Oliver Budzinski and Isabel Ruhmer, 'Merger Simulation in Competition Policy: A Survey' (2010) 6 Journal of Competition Law & Economics 277 (providing an overview of merger simulation).
[773] See John B Kirkwood, 'The Predictive Power of Merger Analysis' (2011) 56 Antitrust Bulletin 543, 544. See also Whish and Bailey, *Competition Law* (n 52) Chapter 20 ('A complicated feature of merger control is that it is necessarily forward-looking: a competition authority is called upon to consider whether a merger will *lead to* harmful effects on competition in the future') (emphasis added).

> A key component in the Chicago School's thinking is not that rational decision making leads to perfect decision making, but that markets are self-correcting and *will* counteract faulty decision making.[774]

Consequently, 'government decision making is often seen as unnecessary and harmful'.[775]

To be sure, antitrust may also be a retrospective enterprise. For example, Evans and Padilla perhaps best illuminate this more global "time" dimension of antitrust by highlighting how in the context of unilateral conduct the legal concept of "anti-competitiveness" can depend on both possibility theorems ("future" antitrust) and impossibility theorems ("past" antitrust). The latter stipulates per Chicago School reasoning that even if firms possessed the ability to engage in anti-competitive conduct, they would not have had the incentive to do so.[776] We saw this backward-looking mode of analysis in Chapter 1 for the *Matsushita* case.[777] The "single monopoly profit" theorem also exemplifies this backward-looking dimension of antitrust analysis by demonstrating the "impossibility" of firms to engage in monopoly pricing under certain conditions. Specifically, if a rival firm at t=1 alleges anti-competitive tying against a monopolist whereby the latter has sought to leverage its market power in one market into another, related market then the analysis should conclude that no nefarious conduct at t=0 occurred because the monopolist would have had no

[774] Reeves and Stucke, 'Behavioral Antitrust' (n 695) 1548.
[775] ibid 1548 (emphasis added). See also Jonathan B Baker, 'Taking the Error Out of "Error Cost" Analysis: What's Wrong With Antitrust's Right' (2015) 80 Antitrust Law Journal 1, 8 ('Antitrust conservatives often presume that markets are self-correcting: that in the event firms exercise market power, entry by new firms or expansion by existing firms will generally restore competition quickly and automatically, even in the oligopoly settings characteristic of antitrust cases'). As Baker notes, Easterbrook 'popularized' use of the term "self-correcting" but Bork arguably alluded to the notion beforehand. See Bork, *The Antitrust Paradox* (n 746) 133 (asserting that monopoly positions will 'always be eroded' if not due to efficiency). See also Hovenkamp, 'Post-Chicago Antitrust: A Review and Critique' (n 44) 269–270 ('Building on an imposing foundation of neoclassical economics, Chicago School antitrust writers developed well-reasoned arguments that in the long run markets tend to correct their own imperfections…').
[776] David S Evans and A Jorge Padilla, 'Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach' (2005) 72 University of Chicago Law Review 73. An "impossibility" theorem as it relates to antitrust would assert that firms would have no incentives to engage in anti-competitive practices and, therefore, they must not have done so. An "identification" theorem, in contrast, as it relates to antitrust looks to the future and assesses whether a particular practice might generate welfare losses. See Paul L Joskow, 'Transaction Cost Economics, Antitrust Rules, and Remedies' (2002) 18 Journal of Law, Economics, & Organization 95, 104 ('[Post-Chicago] has shown that a variety of market imperfections can *theoretically* lead to the *possibility* that vertical integration and vertical contractual restraints can enhance market power upstream and/or downstream and, as a result, lead to higher prices, higher costs, and welfare losses') (emphasis added).
[777] See Chapter 1, Part II.

incentive in this respect.[778] For instance, if a monopolist of bolts is already profit-maximising—that is, deriving the most amount of profit possible given *both* cost conditions and demand conditions—then conditioning the purchase of bolts on the simultaneous mandatory purchase of nuts will not increase *total* profit because any increase in the latter's price will be offset by a decrease in *total* demand (when the products are consumed in fixed proportions).[779] In fact, as the theorem posits, a monopolist would have an *incentive* for the nuts market to be as competitive as possible[780] so that *total* demand (and hence *total* profit) can increase.[781] Thus, there can be no antitrust liability in such a scenario because in retrospect a monopolist would not have engaged in such self-defeating conduct. As Elhauge so appropriately puts it, '[t]his theory helped *talk* generations of students and judges out of the usual intuition that tying can be anticompetitive'.[782]

Antitrust agencies and courts, however, seem to consistently account for the future in their guidances and decisions. Consider for example international antitrust agencies' incorporation of supply-side countervailing market forces when assessing potentially anti-competitive conduct. In the European Union (hereafter "EU"), the European Commission's *Article 102 TFEU Enforcement Guidance* explicitly accounts for the prospect of new entry or existing firm expansion in its analysis

[778] Einer Elhauge, 'Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory' (2009) John M Olin Center for Law, Economics, and Business Discussion paper No 629 3/2009, 4 <http://www.law.harvard.edu/programs/olin_center/papers/pdf/Elhauge_629.pdf> accessed 09 April 2021 ('The single monopoly profit theory holds that a firm which has a monopoly in one product cannot increase its monopoly profits by using tying to leverage itself into a second monopoly in another product').
[779] Ward S Bowman Jr, 'Tying Arrangements and the Leverage Problem' (1957) 67 Yale Law Journal 19, 21 ('Every increase in the price of nuts, even if the monopolist could produce them as cheaply as competitors, *would require* reduction in the price of bolts by a competing amount [because as total price increases, demand falls]') (emphasis added).
[780] ibid 22, footnote 9 ('If nuts are not competitive, the bolt monopolist has an interest in making them so…').
[781] For further illustrations and perspectives, see Bork, *The Antitrust Paradox: A Policy at War With Itself* (n 7) 365 et seq; Richard A Posner and Frank H Easterbrook, *Antitrust: Cases, Economic Notes, and Other Materials* (2nd edn, West Publishing Co 1981) 802 et seq. cf Elhauge, 'Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory' (n 778) 1 (detailing the conditions necessary for the theorem to hold and demonstrating how 'each relaxation of an assumption reveals a distinctive way in which tying can increase monopoly profits').
[782] Elhauge, 'Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory' (n 778) 1 (emphasis added).

of alleged anti-competitive unilateral conduct.[783] The likelihood, timeliness, and sufficiency of entry and/or expansion can all be factors that may deter a firm from increasing prices.[784] Of course, all of this is an exercise in prediction with a variety of factors affecting the likelihood (that benefits of entry/expansion sufficiently outweigh costs) of such entry and/or expansion.[785] The European Commission's *Guidelines on the Assessment of Horizontal Mergers* demonstrates similar exercises in prediction with respect to the assessment of new entry.[786] Note also the requirement for predictive analysis identified in the European Commission's *Guidelines on the Application of Article 101(3)*, where restrictions of competition by effect in part depend on the probability of negative market outcomes.[787] And in the US, the DOJ's *Horizontal Merger Guidelines* makes the same references to likelihood, timeliness, and sufficiency of new entry.[788] Australia, along with other jurisdictions, provide for similar predictive analyses in their respective regulatory and policy documents.[789]

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[783] European Commission, 'Guidance on the Commission's Enforcement Priorities in Applying [Article 102 TFEU] to abusive exclusionary conduct by dominant undertakings' (n 129) para 16 ('Competition is a dynamic process and an assessment of the competitive constraints on an undertaking cannot be based solely on the existing market situation. The potential impact of expansion by actual competitors or entry by potential competitors, including the threat of such expansion or entry, is also relevant').

[784] ibid para 16.

[785] ibid ('For the Commission to consider expansion or entry likely it must be sufficiently profitable for the competitor or entrant, taking into account factors such as the barriers to expansion or entry, the likely reactions of the allegedly dominant undertaking and other competitors, and the risks and costs of failure').

[786] European Commission, 'Guidelines on the Assessment of Horizontal Mergers Under the Council Regulation on the Control of Concentrations Between Undertakings' (Communication) COM (31), paras 68–75. European Commission, 'Guidelines on the Assessment of Horizontal Mergers Under the Council Regulation on the Control of Concentrations Between Undertakings' (Communication) COM (31), para 68 ('For entry to be shown to be a sufficient competitive constraint on the merging parties, it must be shown to be *likely*, timely and sufficient to deter or defeat any *potential* anti-competitive effects of the merger') (emphasis added).

[787] European Commission, 'Guidelines on the Application of Article [101(3)] of the Treaty' (Communication) COM (101), para 24 ('If an agreement is not restrictive of competition by object it must be examined whether it has restrictive effects on competition. Account must be taken of both actual and potential effects. In other words the agreement must have likely anti-competitive effects. In the case of restrictions of competition by effect there is no presumption of anti-competitive effects. For an agreement to be restrictive by effect it must affect actual or potential competition to such an extent that on the relevant market negative effects on prices, output, innovation or the variety or quality of goods and services can be expected with a reasonable degree of probability').

[788] US DOJ, 'Horizontal Merger Guidelines' (n 124) 27–29. However note that these merger guidelines may be subject to review. See Federal Trade Commission, 'FTC and DOJ Extend Deadline for Public Comment on ways to Strengthen Enforcement Against Illegal Mergers' *FTC.gov* (15 March 2022) <https://www.ftc.gov/news-events/news/press-releases/2022/03/ftc-doj-extend-deadline-public-comment-ways-strengthen-enforcement-against-illegal-mergers> accessed 21 June 2022.

[789] For Australia, see Australian Competition & Consumer Commission, *Merger Guidelines* (November 2008), 10 <https://www.accc.gov.au/publications/merger-guidelines>accessed 12 April 2021 ('Section 50 requires a forward-looking analysis into the effects or likely effects of a merger, since analysis if generally conducted before the impact of a merger on competition can be observed'). Section 50 of the *Australian Competition and Consumer Act 2010* requires the ACCC to account for "merger factors", among which is the *potential* for new entry. Australian Competition & Consumer Commission, *Merger Guidelines* (November 2008), 36 10 <https://www.accc.gov.au/publications/merger-

In *AsiaRenal/Orthe* Notification, for instance, the Competition Commission of Singapore (hereafter "CCS") held that firms supplying kidney dialysis services would not infringe Singaporean competition law via coordinated or non-coordinated effects if they merged.[790] Specifically, there existed a 'strong competitive fringe' that would have been 'capable of sustaining sufficient levels of post-merger rivalry, given the 2 to 6 months required to set up new dialysis centres in Singapore'.[791] Prospective entrants had also highlighted their intention to enter and evidence of past rates of new entry and existing expansion further supported the prediction of a post-merger world 'capable of sustaining sufficient levels of post-merger rivalry'.[792] In contrast, in *Siemens Alstom*, for instance, the Commission predicted that new entry from Chinese firms into the European rail transport market was *not* likely to occur in the near future and a proposed 10-year horizon for assessing the prospect of this entry injected too much uncertainty into the analysis.[793]

Some courts have been much more committal in predicting market self-correction in the face of no or low entry barriers. In *Bailey v Allgas, Inc*, for example,[794] the Court granted summary judgment for the defendant under the Robinson-Patman Act – reasoning that the failure to show

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guidelines>accessed 12 April 2021 ('If there is a high likelihood of timely and sufficient entry in all relevant markets post-merger, the merged firm is unlikely to have market power either pre- or post-merger and therefore the merger is unlikely to result in a substantial lessening of competition'). In Singapore, the Competition and Consumer Commission of Singapore provides for the possibility of new entry in its assessment of mergers. Competition & Consumer Commission, *CCCS Guidelines on the Substantive Assessment of Mergers 2016* (1 December 2016), 75–78 <https://www.cccs.gov.sg/legislation/competition-act> accessed 12 April 2021; Competition & Consumer Commission, *CCCS Guidelines on the Substantive Assessment of Mergers 2016* (1 December 2016), 75 <https://www.cccs.gov.sg/legislation/competition-act> accessed 12 April 2021 ('Entry by new competitors may be sufficient in likelihood, scope and time to deter or defeat any attempt by the merger parties or their competitors to exploit the reduction in rivalry flowing from the merger (whether through coordinated or non-coordinated strategies').

[790] CCS, *Asia Renal Care/Orthe* (26 December 2012) <https://www.cccs.gov.sg/public-register-and-consultation/public-consultation-items/proposed-acquisition-by-asia-renal-care-sea-pte-ltd-of-orthe-pte-ltd> accessed 12 April 2021.

[791] CCS, *Asia Renal Care/Orthe* (26 December 2012), 23 <https://www.cccs.gov.sg/public-register-and-consultation/public-consultation-items/proposed-acquisition-by-asia-renal-care-sea-pte-ltd-of-orthe-pte-ltd> accessed 12 April 2021.

[792] CCS, *Asia Renal Care/Orthe* (26 December 2012), 23 <https://www.cccs.gov.sg/public-register-and-consultation/public-consultation-items/proposed-acquisition-by-asia-renal-care-sea-pte-ltd-of-orthe-pte-ltd> accessed 12 April 2021 ('The entry and expansion of new private operators since 2010 further supports the observation of a strong competitive fringe…').

[793] *Siemens/Alstom* (Case M.8677) Commission Decision C(2019) 921 Final, paras 485–496. *Siemens/Alstom* (Case M.8677) Commission Decision C(2019) 921 Final, para 496 ('It follows that the timeframe for the assessment of potential entry proposed by the Parties can neither constitute the appropriate point of reference, nor allow foreseeing any potential entry').

[794] *Bailey v Allgas, Inc*, 284 F3d 1237 (11th Cir 2002).

difficult entry barriers or the 'inability of existing firms to expand their output' rendered the existing evidence 'insufficient to demonstrate Allgas could maintain supracompetitive prices long enough to recoup its losses'.[795] Similarly in *AD/SAT v Associated Press*,[796] the US Second Circuit Court of Appeals affirmed summary judgment for the defendant – reasoning that low entry barriers suggested the defendant would be subjected to 'significant competition from new entrants'.[797] The potential for future new entry/existing firm expansion has been a determinative factor in many other US appeals court cases.[798]

The demand-side in the form of the substitution-effect[799] similarly pervades agencies' analytic considerations and offers an additional illustration of antitrust as a predictive enterprise. The European Commission for instance accounts for this most explicitly in the context of countervailing buyer power.[800] The US DOJ exhibits similar predictive tendencies in assessing the likelihood of consumer substitution in the event of price rises.[801] Other jurisdictions demonstrate similar predictive analyses. The ACCC for instance states: 'If new entrants are able to offer

[795] *Bailey v Allgas, Inc*, 284 F3d 1237, 1256 (11th Cir 2002).
[796] *AD/SAT v Associated Press*, 181 F3d 216 (2d Cir 1999).
[797] *AD/SAT v Associated Press*, 181 F3d 216, 229–230 (2d Cir 1999).
[798] See eg *Ball Memorial Hospital, Inc v Mutual Hospital Insurance, Inc*, 784 F2d 1325, 1335–1337 (7th Cir 1986) (upholding the district court's judgment for the defendants and holding that it was correct to consider ease of entry in its analysis of market power); *Broadway Delivery Corp v United Parcel Service of America, Inc*, 651 F2d 122, 131 (2d Cir 1981) ('Undisputed evidence showed that the defendants did not have the power to control prices. The defendants' rates were subject to ICC approval and could not realistically be raised substantially without the defendants losing business to their principal competitor, the Postal Service. Undisputed evidence further showed that the defendants lacked the power to exclude competition. The Postal Service could not be excluded by the defendants, and entry into the market was open to anyone willing to make the modest investment required to engage in a local delivery service'); *Top Markets, Inc v Quality Markets, Inc*, 142 F3d 90, 99 (2d Cir 1998) (noting that 'consideration of other relevant factors does not support a conclusion that Quality did, in fact, possess monopoly power. We cannot be blinded by market share figures and ignore marketplace realities, such as the relative ease of competitive entry'); *Top Markets, Inc v Quality Markets, Inc*, 142 F3d 90, 99 (2d Cir 1998) ('On this record we can draw no reasonable inference other than that Quality lacks monopoly power. Despite its high market share, no other evidence—such as barriers to entry, the elasticity of demand, or the nature of defendant's conduct—supports the conclusion that Quality can control prices or exclude competition…').
[799] See Chapter 2, Part I.
[800] European Commission, 'Guidance on the Commission's Enforcement Priorities in Applying [Article 102 TFEU] to abusive exclusionary conduct by dominant undertakings' (n 129) para 18. ('Competitive constraints may be exerted not only by actual or potential competitors but also by customers'); ibid ('If countervailing power is of a sufficient magnitude, it may deter or defeat an attempt by the undertaking to profitably increase prices').
[801] US DOJ, 'Horizontal Merger Guidelines' (n 124) 27 <https://www.justice.gov/atr/horizontal-merger-guidelines-08192010> accessed12 April 2021 ('The Agencies consider the possibility that powerful buyers may constrain the ability of the merging firm to raise prices').

customers an appropriate alternative source of supply at the right time, any attempt by incumbents to exercise market power will be unsustainable since their customers will simply switch to the new entrants'.[802]

Courts also rely on the substitution-effect in predicting potential exercises of market power. Note for example in the context of market definition analysis *FTC v Tenet Health Care Corp*,[803] where the Court held:

> If patients use hospitals outside the service area, those hospitals can act as a check on the exercise of market power by the hospitals within the service area. The FTC's contention that the merged hospitals would have eighty-four percent of the market for inpatient primary and secondary services within a contrived market area that stops just short of including a regional hospital (Missouri Delta in Sikeston) that is closer to many patients than the Poplar Bluff hospitals, strikes us as absurd. The proximity of many patients to hospitals in other towns, coupled with the compelling and essentially unrefuted evidence that the switch to another provider by a small percentage of patients would constrain a price increase, shows that the FTC's proposed market is too narrow.[804]

Thus, in predicting the reactions of consumers to price rises, the Court questioned the narrowness of the market and hence the bounds of antitrust liability.

Similarly (and more pointedly), in *United States v Baker Hughes Inc*,[805] the DC Circuit criticised the government agency for narrowly focusing on entry as a market constraint at the expense of other non-entry countervailing factors.[806] The DC Circuit held that the district court was correct to cite the sophistication of consumers as a potentially self-correcting market mechanism that 'significantly affected the probability that the acquisition would have anticompetitive

[802] Australian Competition & Consumer Commission, *Merger Guidelines* (n 789) 36.
[803] *FTC v Tenet Health Care Corp*, 186 F3d 1045 (8th Cir 1999).
[804] *FTC v Tenet Health Care Corp*, 186 F3d 1045, 1053–1054 (8th Cir 1999).
[805] *United States v Baker Hughes Inc*, 908 F2d 981 (DC Cir 1990).
[806] *United States v Baker Hughes Inc*, 908 F2d 981, 986 (DC Cir 1990) (describing how the Merger Guidelines identify multiple non-entry factors and therefore questioning the government's claim that to rebut its prima facie case, quick and effective entry *must* be demonstrated).

effects'.[807] The DC Circuit upheld the district court on this point and that the presence of sophisticated consumers who 'closely examine available options' was one factor that supplied 'considerable support for the district court's conclusion that the defendants successfully rebutted the government's prima facie case'.[808] Other US federal court cases demonstrate similar reliance on the predictive power of the substitution effect in their antitrust analyses.[809]

What these examples serve to illustrate is that much of the *mode* of antitrust analysis can be predictive. It is a form of analysis that looks to the future in order to arrive at legal conclusions about alleged anti-competitiveness. They therefore would seem to add some height to the theoretical hurdle that BE allegedly needs to surmount to successfully influence antitrust analysis. At the same time, however, accounting for futurity can dramatically exacerbate antitrust's "identification" problem. If antitrust liability is partly a function of self-correcting markets, then fundamental uncertainty will pervade antitrust analysis because of this inherently unknown prospect. As such, BE as a theory would need to contend with this futurity issue and predict outcomes which are inherently unknown. Thus, we now turn to examine why the future should be considered at all.

[807] *United States v Baker Hughes Inc*, 908 F2d 981, 986 (DC Cir 1990).
[808] *United States v Baker Hughes Inc*, 908 F2d 981, 986–987 (DC Cir 1990).
[809] *US v Syufy Enterprises*, 903 F2d 659 (9th Cir 1990) (upholding the district court's judgment that Syufy lacked the power to control prices because distributors had outside options). An illuminating example is the *Citric Acid* cartel, where the Court *predicted* the countervailing force of customers in response to price rises. See *US v Archer-Daniels-Midland-Co*, 781 F Supp 1400, 1416 (SD Iowa 1991) ('The existence of large, powerful buyers of a product mitigates against the ability of sellers to raise prices. Empirical studies have shown that the stronger and more concentrated the buyers' side of the market is, the less is any ability of sellers to elevate their prices. There is a significant concentration among buyers of HFCS'). Note however that the DOJ subsequently prosecuted the cartel, with the DOJ noting the irony that some members were the big buyers who had constituted a countervailing market mechanism. See Reeves and Stucke, 'Behavioral Antitrust' (n 695) 1565. cf *In re High Fructose Corn Syrup Antitrust Litigation*, 295 F3d 651, 658 (7th Cir 2002) ('[T]here are some very large buyers of HFCS, notably Coca-Cola and Pepsi-Cola, and, as theory predicts, they drove hard bargains and obtained large discounts from the list price of HFCS 55. But it does not follow that the defendants could not and did not fix the price of HFCS 55').

b. Should antitrust be a predictive enterprise?

Antitrust at its core is a market-based area of law.[810] It differs from other substantive areas of law—like criminal law or family law—in the sense that even if an infringement occurs, governmental intervention may still be questioned because the market itself can sometimes be a good substitute for state intervention.[811] This is in contrast to, say, a proved domestic violence infraction, whereby no legal decision-maker would seriously entertain a non-interventionist stance because it was predicted that the victim's injuries would heal in the long-run. In antitrust, however, this "wait and see" perspective has not only been adopted but has also been highly influential, as illustrated above and as most markedly seen with the Chicago School of antitrust.[812]

So when we say that antitrust suffers from an "identification" problem—that is, problems in discerning "anticompetitiveness" for the purposes of ascribing liability[813]—we can see this on two levels, both of which may animate the normative question of whether antitrust should be a predictive enterprise. Aside from the asymmetrically distributed welfare consequences of certain conduct,[814] and much more pertinently for our purposes in this section, is a second level upon which the bounds

[810] Though some scholars associated with the Law and Economics movement saw on some level all legal fields as potential markets. See eg Richard A Posner, *Economic Analysis of Law* (New York, Aspen Publishers 2007).
[811] Stephen Breyer, *Regulation and its Reform* (n 48) 15 (describing how the justification for regulatory intervention 'arises out of an alleged inability of the marketplace [itself] to deal with practicular structural problems'). See eg Chapter 1, Part II; Chapter 2, Part I.
[812] See Posner, 'The Chicago School of Antitrust Analysis' (n 62). See also Easterbrook, 'The Limits of Antitrust' (n 245) 2–3 (describing how 'judicial errors that tolerate baleful practices are self-correcting' due to monopoly being 'self-destructive'); Page, 'The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency' (n 71) 1233 (describing how '[c]rucial to the [Chicago] inquiry is the recognition that other economic actors in the market will respond to the practice in ways that maximize their own well-being'). See also Chapter 1, Part II.
[813] Cudahy and Devlin, 'Anticompetitive Effect' (n 700) (discussing the nebulousness of "anticompetitiveness"); ibid 59 ('The fundamental premise of competition law is straightforward, purporting as it does to condemn "anticompetitive" behavior. Remarkably, despite the concept's definitive importance, the law has yet to give full definition to this amorphous term'); Evans and Padilla, 'Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach' (n 776) 73 (describing how 'the welfare effects of unilateral practices are inherently difficult to assess'); Page, 'The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency' (n 71) 1231 et seq (illustrating the potential variance in explanations for 'puzzling' business conduct and describing how Chicago School models asked the question: 'Is the practice monopolistic or is it something else?'). The most troubling "identification" problem suffered by antitrust is arguably with respect to exclusionary practices because competition is synonymous with exclusion.
[814] See Chapter 5, Part I.

of antitrust liability may hinge: the prospect of market self-correction.[815] Similar to the error cost concerns around evaluating conduct, an antitrust policymaker with a strong belief in self-correcting markets would 'favor permissive antitrust rules'.[816] This is because any risk of false negatives (erroneously permitting anti-competitive conduct)[817] 'will be low as long as entry barriers into markets plagued by suspected anti-competition are also low'.[818] We also know from Chapter 2 that the latter is just one component of market self-correction; switching costs would also need to be low to ameliorate the risk of false negatives.[819]

At this section's outset, we saw how Behavioural Antitrust detractors conceive of antitrust as a predictive enterprise and how if BE cannot cohere as a theory with predictive power then it has little or no role in antitrust enforcement. It is therefore apt to assess the extent to which predictive analyses *should* play a role in antitrust analysis – for Behavioural Antitrust detractors' claims would seem to hinge in part on this question.

i. Self-correcting successes – some role for predictive analysis

If markets self-corrected perfectly, no antitrust enforcement would be needed. If a market failure did materialise (by definition, it cannot), we could perfectly predict self-correction. However reality is devoid of perfect competition, and so markets are imperfect.[820] Indeed, the variance in beliefs about self-correcting markets that we saw in Chapters 1 and 2 is by itself a signal that the reality is not binary (self-correction or no self-correction) but probably somewhere in between. Furthermore, the familiar question of whether excessive prices are "self-correcting" has been the subject of both

[815] See eg Chapter 1, Part I; Chapter 2, Part I.
[816] Baker, 'Taking the Error Out of "Error Cost" Analysis: What's Wrong With Antitrust's Right' (n 775) 8.
[817] Fred S Mchesney, 'Talking 'Bout My Antitrust Generation' (2004) Fall Regulation 48, 50 (describing Type II errors as 'failing to penalize anticompetitive contracts and practices…').
[818] ibid. See also Hovenkamp, 'Antitrust Error Costs' (n 740) 3 (describing Easterbrook's preference for avoiding false positives more than false negatives and how such a preference is premised upon 'the market mov[ing] unmolested to its more competitive equilibrium').
[819] See Chapter 2, Part I.
[820] See Chapter 1, Part I.

bifurcated debate[821] and also international divergences in enforcement policy[822] – a further illustration that should caution against "black and white" characterisations. Consequently, it would seem that the appropriate question to ask for antitrust analysis purposes is not do markets self-correct but rather when will markets self-correct. In the context of debates about once-dominant firms, we have been met with an amalgam of claims about self-correcting markets.

On the one hand, leading market positions have sometimes succumbed to the power of the rivalrous process.[823] Brick-and-mortar markets, the "old" high-technology industry, and contemporary digital markets attest to this point.

In brick-and-mortar markets, Great Atlantic and Pacific Tea Company (A&P)[824]—a vertically-integrated grocery retailer described by some as "the Amazon of its time"—was subject to the same insurmountable monopoly charges as tech giants today. Nonetheless, A&P met its match from 'the big-box warehouse-like supermarkets' and changes in consumer tastes on shopping locations. "Dynamically destructive" competition also arrived in the form of shopping malls, non-grocery products in supermarkets, and the digital economy's logistics improvements. As Bourne concludes, 'A&P simply failed to keep up with these changes and was disrupted in the same way it

[821] See eg Ariel Ezrachi and David Gilo, 'Are Excessive Prices Really Self-Correcting?' (2008) 5 Journal of Competition Law & Economics 249 (arguing that high prices will not induce new entry). cf Easterbrook, 'The Limits of Antitrust' (n 245) 2–3 (describing how 'judicial errors that tolerate baleful practices are self-correcting' due to monopoly being 'self-destructive'); Page, 'The Chicago School and the Evolution of Antitrust: Characterization, Antitrust Injury, and Evidentiary Sufficiency' (n 71) 1233 (describing how '[c]rucial to the [Chicago] inquiry is the recognition that other economic actors in the market will respond to the practice in ways that maximize their own well-being').

[822] In the US, high prices by themselves are not an antitrust violation. *Verizon Communications v Law Offices of Curtis Trinko* 540 US 398, 407 (2004) ('The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system'). In contrast, in the EU, excessive pricing can be an abuse contrary to Article 102 TFEU. Case 27/76, *United Brands v. Commission* [1978] ECR 207, para 250 ('charging a price which is excessive because it has no reasonable relation to the economic value of the product supplied [is]…an abuse'). See also Case 40/70, *Sirena v Eda* [1971] ECR 69; Case 26/75, *General Motors v Commission* [1975] ECR 1367.

[823] See Victor Keegan, 'Will MySpace Ever Lose Its Monopoly?' *The Guardian* (8 February 2007) <https://www.theguardian.com/technology/2007/feb/08/business.comment> accessed 15 February 2020.

[824] Timothy Muris and Jonathan Nuechterlein, 'Antitrust in the Internet Era: The Legacy of *United States v A&P*' (2018) George Mason Law & Economics Research Paper No 18-15 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3186569> accessed 17 February 2020.

had disrupted the grocery retailers of the early 20th century'.[825] Evans and Padilla further 'support the self-correction claim with examples of near monopolies that eroded over time'.[826] Companies like General Motors and Kodak all lost their dominant positions to 'the forces of competition'.[827] Harley-Davidson, for example, fell foul to Japanese manufacturers' production of 'lightweight motorcycles'.[828] Pre-1960 Harley-Davidson was the market leader in the US motorcycle market. However Honda overtook them: between 1960 and 1966, Honda's sales ballooned from $500,000 to $77 million.[829] The market mechanism 'has not always been so cowardly' in the mergers context also, with some commentators once claiming that 'one cannot help but come away with renewed or strengthened faith in the market mechanism'.[830] Take for example the *Reynolds-Arrow* transaction, where soon after the acquisition both domestic new entrants and foreign competition diluted any worrying market power that the post-acquisition entity may have had.[831] Similarly in *Union Carbide*, FTC lawyers changed their litigation strategy on the basis of a change in market conditions – it was thought that settling would have been a more prudent approach because markets were such that it was unlikely the FTC would win on appeal.[832] The FTC had initially predicted that the 'combination' would be 'effectively insulated from many of the factors which restrain its extruder competitors', affording the new entity the 'power to drive [competitors] to the wall'.[833] As such, 'the effect of respondent's acquisition of Visking may be to substantially lessen competition or tend to create a monopoly in the manufacture and sale of polyethylene film'.[834] However as time passed, it

[825] Bourne, 'Is This Time Different?' (n 767) 6.
[826] Baker, 'Taking the Error Out of "Error Cost"Analysis: What's Wrong With Antitrust's Right' (n 775) 10.
[827] Evans and Padilla, 'Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach' (n 776) 84.
[828] See Richard T Pascale, 'Perspectives on Strategy: The Real Story Behind Honda's Success' (1984) 26 California Management Review 47.
[829] ibid 49–50.
[830] Kenneth G Elzinga, 'The Antimerger Law: Pyrrhic Victories?' (1969) 12 Journal of Law & Economics 43, 74–75.
[831] *Reynolds Metals Co v FTC*, 309 F2d 223, 228–229 (DC Cir 1962). See also Elzinga, 'The Antimerger Law: Pyrrhic Victories?' (n 830) 75.
[832] Memorandum to the Commission From General Counsel 26 March 1962, in *In the Matter of Union Carbide Corporation*, 59 FTC 614.
[833] *In the Matter of Union Carbide Corporation*, 59 FTC 614, 35.
[834] *In the Matter of Union Carbide Corporation*, 59 FTC 614, 35.

was obvious that this was not going to be the case. Union Carbide lost 10 percent market share in the market for film resin and 13 percent in the market for film production.[835]

Further, 'new economy' firms like Cisco and Microsoft displaced 'old economy'[836] firms with striking displays of "dynamically destructive" competition. Between 1970 and 2000 the US economy's development shows a plethora of "creative destruction". The top 20 companies by market value in 1970 are very different to those in 2000; only 5 companies in 1970 and 1985 remained in that list in the year 2000 and 'more than half' the companies in 2000 did not exist in 1970.[837] Consider also the toppling of IBM's market position, which was a basis for some at the time to contend that it would be ignoring 'recent history to presume that Microsoft is immune from being leapfrogged and displaced from its dominant market position'.[838] IBM was once 'the undisputed market leader in mainframe computers in the 1960s'.[839] However, by 1982—when the US government 'dropped its antitrust case' against IBM—the personal computer had almost entirely replaced the mainframe. 'And in that market, despite its brand name and experience, IBM emerged as just one of several strong competitors'.[840] Additionally, computer software and personal digital assistant (hereafter "PDA") operating system industries have also been subjected to "dynamically destructive" competition – displaying recurring patterns of incumbents and early developers being sequentially overthrown and replaced by new competitors.[841]

[835] Memorandum to the Commission From General Counsel 26 March 1962, in *In the Matter of Union Carbide Corporation*, 59 FTC 614.
[836] Evans and Schmalensee, 'Some Economic Aspects of Antitrust in Dynamically Competitive Industries' (n 765) 4.
[837] ibid.
[838] Howard A Shelanski and J Gregory Sidak, 'Antitrust Divestiture in Network Industries' (2001) 68 University of Chicago Law Review 1, 14.
[839] ibid.
[840] ibid.
[841] Evans and Schmalensee, 'Some Economic Aspects of Antitrust in Dynamically Competitive Industries' (n 765) 21–23.

In contemporary digital markets, Yahoo, Friendster, MySpace, Orkut, and AOL possessed data on their 'many users'.[842] Search engines like Lycos, AltaVista, and Infoseek also had data troves, and 'Microsoft [possessed data] in browsers'. This data did not seem to afford these incumbents the power to usurp competition, however.[843] Indeed, incipient firms with 'no data whatsoever' at times 'displaced the leaders'.[844] For instance, Facebook had no data at all on Indian users in 2006 yet it launched its social network in India that same year to compete with Orkut – which at the time was the 'most popular social network in India'. Four years later, Facebook was the market leader.[845] Spotify further counters the notion that big data forecloses new entry. Spotify entered the market for digital music in 2011 – a time when Apple was selling one billion songs from iTunes per month and had over 50 million customers. It possessed data on all these consumers and their downloads. In contrast, Spotify had no consumers and no data. Yet as Evans highlights, 'it has been able to grow to become the leading source of digital music in the world'.[846]

The foregoing evidence would seem to solidify a prior belief that markets can self-correct – that in the past anxieties were overstated and the probability of new entry is likely. This prior belief would move the antitrust dial away from monopoly and towards perfect competition on the market structure spectrum,[847] discrediting agencies' and policymakers' disbelief in this particular market mechanism's ability to perform its rebalancing role in the rivalrous process and lowering the case for *more* antitrust.[848] In short, we do have evidence of industries that would seem to attest to long-run market mechanisms providing good substitutes for antitrust intervention – in which case the

[842] cf the above counterargment that "this time is different" (n 767).
[843] David Evans and Richard Schmalensee, 'Debunking the 'Network Effects' Bogeyman' (2017) Regulation 36, 39.
[844] ibid.
[845] ibid.
[846] ibid.
[847] See Chapter 1, Part I.
[848] See Introduction.

futurity issue of whether the market will self-correct *should* perhaps form some part of antitrust analysis.

ii. Self-correction failures – less role for predictive analysis

We have also been exposed to instances where the market has failed to nullify market power as envisaged by courts. Such outcomes would seem to dilute the role for predictive analyses in antitrust enforcement.

The *California Hospital Merger*[849] is demonstrative here. Summit and Alta Bates—two hospitals in Oakland and Berkeley respectively—proposed to merge but the California antitrust authorities sought to enjoin the merger under section 7 of the Clayton Act.[850] The district court however permitted the merger, with the long-run consideration of false positive costs playing a key role. Specifically, the defendants raised a "failing firm" defense and the Court was reluctant to intervene in what otherwise appeared to be 'a competitive situation'.[851] The Court found the Eighth Circuit's allegiance to competitive forces 'to be particularly apt in the present case'.[852] The long-run considerations can also be seen in the Court's reliance on big buyers as a disciplining effect on the post-merger entity's market power.[853] The state plaintiff argued that patients would not switch hospitals due to doctor loyalty and travel costs.[854] However the Court disagreed and held that data demonstrated almost 30,000 patients per year engaged in switching in the relevant product market even without being induced by price rises or "steering" by powerful health plan providers (although

[849] *California v Sutter Health System*, 130 F Supp 2d 1109 (ND Cal 2001).
[850] *California v Sutter Health System*, 130 F Supp 2d 1109, 1117 (ND Cal 2001).
[851] *California v Sutter Health System*, 130 F Supp 2d 1109, 1137 (ND Cal 2001), quoting *FTC v Tenet Healthcare Corp*, 186 F3d 1045, 1055 (8th Cir 1999).
[852] *California v Sutter Health System*, 130 F Supp 2d 1109, 1137 (ND Cal 2001).
[853] *California v Sutter Health System*, 130 F Supp 2d 1109, 1129 (ND Cal 2001) ('In the second step of the critical loss step, plaintiff must show that the critical loss number of patients, between 4% and 10.5% of the patients that currently seek acute inpatient services at hospitals located within the proposed market, would not seek such care at hospitals located outside the proposed market if faced with a 5% increase')
[854] *California v Sutter Health System*, 130 F Supp 2d 1109, 1130 (ND Cal 2001).

the latter could certainly help).[855] Evidence also seemed to counteract the "doctor loyalty" argument because doctors could gain admission privileges in other hospitals – albeit sometimes only after several months.[856] The logistical transaction costs also seemed to be contradicted by patient flow data, which showed that 'none of the factors upon which plaintiff relies in fact significantly constrain patients from seeking acute inpatient services at hospitals outside of plaintiff's proposed market'.[857]

The post-merger situation exemplifies, however, that mistakes about predicting market self-correction can be made.[858] Prices increased between 23.2 percent and 50.4 percent.[859] The FTC concluded that the reason for such a dramatic increase was due to the fact that Alta Bates pre-merger constituted 'a major constraint on Summit's price. Post-merger, the two hospitals internalized this constraint'.[860]

Digital platform markets offer an emerging illustration about the vagaries of market self-correction. For example, the "this time is different" claim[861] in digital platform contexts illustrates that as industry structure and technology develops, market dominance can be expected to be more long-lasting and less transient.[862] Indeed, digital platform markets are adding more ambiguity about the self-correction question because a spectrum of opinions (and evidence) exists about their self-correcting capacities. The present concern here seems to be about the persistence[863] of these firms'

[855] *California v Sutter Health System*, 130 F Supp 2d 1109, 1129–1132 (ND Cal 2001).
[856] *California v Sutter Health System*, 130 F Supp 2d 1109, 1131 (ND Cal 2001).
[857] *California v Sutter Health System*, 130 F Supp 2d 1109, 1131 (ND Cal 2001).
[858] Steven Tenn, 'The Price-Effects of Hospital Mergers: A Case Study of the Sutter-Summit Transaction' (2008) FTC Bureau of Economics Working Paper No 293 <https://www.ftc.gov/reports/price-effects-hospital-mergers-case-study-sutter-summit-transaction> accessed 14 April 2021.
[859] Ibid 20.
[860] ibid.
[861] See Bourne, 'Is This Time Different?' (n 767). See also generally (n 767).
[862] See Chapter 6, Part II.
[863] See eg Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (n 3) 39 (discussing the persistent market dominance of Google and Facebook).

market power and that we should be increasingly mindful about pernicious strategies that seek to solidify and maintain this power, as we saw in Chapter 3.

The contrast between the outcomes in the *IBM* and *Microsoft* cases vividly illuminates this increasingly recognised point about how as technology develops, dominance-entrenching strategies can manifest in more nuanced ways[864] and consequently our expectations about self-correction should be updated. The chief economist for IBM in the *IBM* case[865] and the chief economist for the US government in the *Microsoft* case[866] was the same person and his amenability to the different outcomes perhaps best exemplifies the context-dependent nature of markets' self-correcting capacities and, therefore, their imperfection. He acknowledges, for instance, the different conditions in play that empowered Microsoft to do what IBM 'could not have done' – exclude competitors 'by protecting an important barrier to entry in the market in which it held monopoly power'.[867] Specifically, although both were cases about bundling and monopoly leveraging, 'the facts were different'[868] and serve to illustrate the difference in capacities for acting anti-competitively because of technological developments. In *IBM*, the US government contended that IBM's bundling of 'systems support and software with its computer systems' generated foreclosure because now other computer manufacturers would have to bundle, 'thus raising barriers to entry into the supposedly monopolized computer systems market'.[869] However, this claim was weakened by the fact that there existed 'a large independent software industry, making it easy for hardware manufacturers to acquire the necessary software to produce a bundle'.[870] Similar anti-competitive bundling claims were made about disk drives and computer memory but these too could be countered by pointing to

[864] See Stylianou, 'Exclusion in Digital Markets' (n 9) 1497 ('Far from being self-correcting, digital markets facilitate the creation and maintenance of uniquely durable market power').
[865] *United States v International Business Machines Corporation*, Docket Number 69-Civ-200 (SDNY, 1969).
[866] *United States v Microsoft Corporation*, 253 F3d 34 (DC Cir 2001).
[867] Franklin M Fisher, 'The IBM and Microsoft Cases: What's the Difference?' (2001) SSRN Working Paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=245619> accessed 14 June 2021.
[868] ibid 180.
[869] ibid.
[870] ibid.

independent manufacturers in both markets.[871] As Fisher explains: 'Most important, manufacturers of both disk drives and memory could sell to customers using non-IBM processors, and in case anyone has forgotten, there were a great many of these'.[872] This was the nail in the coffin for the government's bundling claim: 'IBM was engaged…in competition with many other firms…'[873] And if consumers did not want the bundle, they would simply purchase from other manufacturers without the add-ons.[874]

In contrast, in *Microsoft*, the role of network effects—an economic phenomenon that drives technology platform industries because of same-side and cross-side inter-dependent demand[875]—can explain why competing manufacturers simply could not offer an operating system without a browser. In particular, new entrants could not offer an operating system with no web browser because the value of the former would be reduced substantially. More applications on an operating system increases its value, which leads to increased demand.[876] Thus, when 'Microsoft bundled its browser, it did not risk the entry of competing operating systems that are attractive because they do not offer a bundled browser'. Such entry would be inconsequential from a competitive standpoint 'because of the applications barrier to entry'.[877]

We can therefore see how market disciplining effects may dissipate as technology develops, in which case it becomes increasingly important to be mindful of the conditions under which *more* or *less* self-correction may be expected. As Newman contends: '[D]igital markets facilitate *uniquely*

[871] ibid 181.
[872] ibid.
[873] ibid.
[874] Franklin M Fisher, 'The *IBM* and *Microsoft* Cases: What's the Difference?' (2000) 90 American Economic Review 180, 181 ('Had consumers not found the bundled offering of the new products sufficiently attractive, there would have been an opportunity for (rather than a foreclosure of) IBM's competitors').
[875] See Chapter 6, Part II.
[876] Franklin M Fisher, 'The *IBM* and *Microsoft* Cases: What's the Difference?' (2000) 90 American Economic Review 180, 181 ('Users naturally wish to have an operating system that has a large number of applications written for it. As a result, the more users of a given operating system there are, the more applications will be written for it. The more applications are written for a given operating system, the more users there will be').
[877] ibid 183.

durable market power, in ways that reach far beyond what previous analyses have imagined'.[878] Indeed, the development of digital platform ecosystems coupled with ongoing merger activity are modern phenomena that may continue to cast doubt over these markets' capacities to self-correct.[879]

III. CAN ANTITRUST BE A PREDICTIVE ENTERPRISE IN LIGHT OF AVAILABLE PREDICTIVE TOOLS?

Aside from the descriptive and normative considerations surrounding antitrust as a predictive enterprise, there is also the more practical question of whether it *can* be a predictive enterprise given the predictive tools available.

Early behavioural law and economic (hereafter "BLE") narratives displayed much optimism in the field's potential to penetrate legal policy and legal analysis, buoyed by the findings of multiple anomalous deviations from perfect rationality.[880] The ensuing waterfall of BLE scholarship

[878] John M Newman, 'Antitrust in Digital Markets' (2019) 72 Vanderbilt Law Review 1497, 1502 (emphasis added).
[879] Michael G Jacobides and Ioannis Lianos, 'Ecosystems and Competition Law in Theory and Practice' (2021) 30 Industrial and Corporate Change 1199, 1199 ('One of the most profound changes in the industrial landscape in the last decade has been the growth of business ecosystems—groups of connected firms, drawing on (digital) platforms that leverage their complementors and lock in their customers, exploiting the "bottlenecks" that emerge in new industry architectures. This has created new asymmetries of power, where the "field" of competition is not the relevant prod- uct market, as is usually the case in competition law, but rather the ecosystem of various complementary products and associated complementor firms. These dynamics raise novel concerns over competition').
[880] Thomas Ulen, 'The Growing Pains of Behavioral Law and Economics' (1998) 51 Vanderbilt Law Review 1747, 1763 ('Behavioral law and economics is exciting, and it is only just beginning. A New theory of human decision making is in the offing, one that captures the best of rational choice theory and supplements it with a subtle view of how and why and when humans make mistakes in judgment'); Jolls et al, 'A Behavioral Approach to Law and Economics' (n 369) 1474 ('The unifying idea in our analysis is that behavioral economics allows us to model and predict behaviour relevant to law with the tools of traditional economic analysis, but with more accurate assumptions about human behaviour, and more accurate predictions and prescriptions about law'); Robert A Prentice, 'Chicago Man, K-T Man, and the Future of Behavioral Law and Economics' (2003) 56 Vanderbilt Law Review 1663, 1671–1677 (surveying traditional neoclassical law and economics analyses and concluding '[t]his survey could continue for many pages, but these examples should serve to indicate that it is at least arguable that K-T man provides a more descriptive model of human behaviour upon which to base legal policy prescriptions than does Chicago man'); Hanson and Douglas Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (n 357) 634–635 ('Ultimately, any legal concept that relies in some sense on a notion of reasonableness or that is premised on the existence of a reasonable or rational decisionmaker will need to be reassessed in light of the mounting evidence that a human is "a reasoning rather than a reasonable animal"'); ibid 634 ('[O]ne might predict that the current behavioral movement eventually will have an influence on legal scholarship matched only by its predecessor, the law and economics movement'); Korobkin and Ulen, 'Law and Behavioral Science: Removing the Rationality Assumption From Law and Economics' (n 475) 1055 (describing how the law and economics movement 'has reached intellectual maturity' and that '[t]here is simply too much credible experimental evidence that individuals frequently act in ways that are incompatible with the assumptions of rational choice theory. It follows that the analysis of the incentive effects of legal rules based on such implausible behavioral assumptions cannot possibly result in efficacious legal policy, at least not in all circumstances').

exemplified this buoyancy[881] – at the time the 'result of [an] increasingly frequent mismatch between the popular theory of human behavior and the human behavior that is popular…'[882] Some even exclaimed that BLE would "supplant" traditional law and economics as the dominant mode of legal analysis.[883] Perhaps unsurprisingly given the fundamental influence of the rationality assumption on its own analysis,[884] similar levels of buoyancy were exhibited in antitrust discourse.[885] Competition agencies and policymakers across the globe also began taking heed of the attack on Chicago School rationality.[886] Scholarship gained traction producing a spectrum of views

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For examples of anomalous deviations, see Chapter 3.

[881] The following are just a small sample of the BLE literature. Russell Korobkin, 'The Status Quo Bias and Contract Default Rules' (1998) 83 Cornell Law Review 608; Jeffrey Rachlinski, 'Gains, Losses, and the Psychology of Litigation' (1996) 70 Southern California Law Review 113; Jeffrey Rachlinski, 'A Positive Psychological Theory of Judging in Hindsight' (1998) 65 University of Chicago Law Review 571; Cass R Sunstein, 'Behavioral Analysis of Law' (1997) 64 University of Chicago Law Review 1175; Jeffrey J Rachlinksi, 'Heuristics and Biases in the Courts: Ignorance or Adaptation?' (2000) 79 Oregon Law Review 61; Christine Jolls, 'Behavioral Economic Analysis of Redistributive Legal Rules' (1998) 51 Vanderbilt Law Review 1653; Stephen M Bainbridge, 'Mandatory Disclosure: A Behavioral Analysis' (2000) 68 University of Cincinnati Law Review 1023; Melvin Aron Eisenberg, 'The Limits of Cognition and the Limits of Contract' (1995) 47 Stanford Law Review 211; Russell Korobkin, 'Policymaking and the Offer/Asking Price Gap: Toward a Theory of Efficient Entitlement Allocation' (1994) 46 Stanford Law Review 663; Edward J McCaffery, 'Cognitive Theory and Tax' (1994) 41 UCLA Law Review 1861; insert other sources and order chronologically. See also Cass R Sunstein, 'Behavioral Law and Economics: A Progress Report' (1999) 1 American Law and Economics Review 115, 115 (describing how the 'outpouring' of BLE scholarship became a 'flood').

[882] Owen D Jones, 'Time-Shifted Rationality and the Law of Law's Leverage: Behavioral Economics Meets Behavioral Biology' (2001) 95 Northwestern University Law Review 1141, 1141.

[883] cf Jennifer Arlen, 'Comment: The Future of Behavioral Economic Analysis of Law' (1998) 52 Vanderbilt Law Review 1765, 1768 ('[A]lthough behavioral economic analysis of law presents a powerful challenge to conventional law and economics, this Comment argues that behavioral economic analysis of law is not yet—and may never be—in a position to supplant conventional law and economics').

[884] Christopher R Leslie, 'Rationality Analysis in Antitrust' (2010) 158 University of Pennsylvania Law Review 261, 265 ('As a result of the dominating influence of law and economics scholarship, antitrust law now worships at the shrine of rationality'). See also Luca Arnaudo, 'The Quest for Behavioral Antitrust: Beyond the Label Battle, Towards a Cognitive Approach' (2013) (15) Temi E Problemi 1, 10 ('Due to the long lasting love affair of L&E [rationality]…with antitrust…its targeting by the new behavioral trend does not surprise').

[885] See eg Maurice E Stucke, 'Behavioral Economics at the Gate: Antitrust in the Twenty-First Century' (2007) 38 Loyola University Chicago Law Journal 513, 516 ('The behavioral economics literature will eventually carry antitrust into the twenty-first century'); Reeves and Stucke, 'Behavioral Antitrust' (n 695) 1585–1586 ('[R]eliance on these rational choice theories will recede in the coming years as they fail to explain actual market behavior. Here, the behavioral economics literature and other interdisciplinary economic theories will advance competition policy in understanding such behavior'); Avishalom Tor, 'The Fable of Entry: Bounded Rationality, Market Discipline, and Legal Policy' (2002) 101 Michigan Law Review 482, 485 ('The profound role of boundedly rational action in markets…renders its understanding supremely important for the legal regulation of economic phenomena. A study of the competition for profitability and survival among new entrants into industry thus highlights the unique contribution a behaviorally informed approach stands to make to legal and economic scholarship writ large, while shedding new light on the important topic of entry competition specifically').

[886] European Commission, 'Why Consumers Behave the way They do: Commissioner Kuneva Hosts High Level Conference on Behavioral Economics' *European Commission* (Brussels, 28 November 2008) <https://ec.europa.eu/commission/presscorner/detail/en/IP_08_1836> accessed 23 February 2021; OFT, 'Consumer Behavioural Biases in Competition: A Survey'(n 427); OFT, 'What Does Behavioral Economics Mean for Competition Policy?' (March 2010) <

regarding the incorporation of BE into antitrust analysis.[887] And in similar vein to BLE proclamations, it was suggested that neoclassical conceptions of rationality would fall prey to more "realistic" human behaviour models.[888]

One might therefore have predicted that BE would go on to assuage the epistemological concerns surrounding the intertemporal effects of evaluating business conduct,[889] as illustrated and discussed in the previous sections.[890] This has not been the case, however. This is because in the aftermath of the above foray, one may be left feeling at least a little anticlimactic. Jones appropriately captures this state of affairs by asking the question "why behavioral economics isn't better, and how it could be"[891] – the implication being that BE is left wanting on some level. Indeed, despite BLE's initial momentum, the field has arguably yet to influence law or policy in a

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https://webarchive.nationalarchives.gov.uk/20140402182927/http:/www.oft.gov.uk/shared_oft/economic_research/oft1224.pdf> accessed 23 February 2021; Thomas J Rosch, 'Behavioral Economics: Observations Regarding Issues That Lie Ahead' (Vienna Competition Conference, Vienna, Austria, June 2010) < https://www.ftc.gov/sites/default/files/documents/public_statements/behavioral-economics-observations-regarding-issues-lie-ahead/100609viennaremarks.pdf> accessed 24 February 2021.

[887] The most ardent proponent was arguably Professor Stucke. See Maurice E Stucke, 'New Antitrust Realism' (2009) The Online Magazine for Global Competition Policy. Professor Tor took a moderate approach. See eg Avishalom Tor, 'Understanding Behavioral Antitrust' (n 28) 578 ('[A] closer analysis reveals that both extreme positions in the behavioral antitrust debate are mistaken'). Whatever side of the debate is taken, an impressive volume of literature emerged. See eg Christopher R Leslie, 'Response: Can Antitrust Law Incorporate Insights From Behavioral Economics?' (2014) 92 Texas Law Review 53; Leslie, 'Rationality Analysis in Antitrust' (n 884); Reeves and Stucke, 'Behavioral Antitrust' (n 695); Maurice E Stucke, 'Money, Is That What I Want?: Competition Policy and the Role of Behavioral Economics' (2010) 50 Santa Clara Law Review 101; Stucke, 'Reconsidering Competition' (n 35); Stucke, 'Behavioral Antitrust and Monopolization'(n 183); Stucke, 'Behavioral Economics at the Gate: Antitrust in the Twenty-First Century' (n 885); Stucke, 'The Implications of Behavioral Antitrust' (n 183); Tor, 'The Fable of Entry: Bounded Rationality, Market Discipline, and Legal Policy' (n 885); Tor, 'The Market, The Firm, and Behavioral Antitrust'(n 35); Avishalom Tor, 'Justifying Antitrust: Prediction, Efficiency, and Welfare' (2016) SSRN Paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2730670> accessed 23 February 2021; Huffman, 'Marrying Neo-Chicago With Behavioral Antitrust' (n 33); James C Cooper and William E Kovacic, 'Behavioral Economics and Its Meaning for Antitrust Agency Decision Making' (2012) 8 Journal of Law, Economics & Policy 779; Thomas J Horton, 'The Coming Extinction of *Homo Economicus* and the Eclipse of the Chicago School of Antitrust: Applying Evolutionary Biology to Structural and Behavioral Antitrust Analyses' (2011) 42 Loyola University Chicago Law Journal 469; Avishalom Tor and William J Rinner, 'Behavioral Antitrust: A New Approach to the Rule of Reason After *Leegin*' (2011) 2011 University of Illinois Law Review 805.

[888] See eg Horton, 'The Coming Extinction of *Homo Economicus* and the Eclipse of the Chicago School of Antitrust: Applying Evolutionary Biology to Structural and Behavioral Antitrust Analyses' (n 887) 475 ('[T]his article predicts that *Homo economicus* will become extinct. As *Homo sapiens* replaces *Homo economicus* in antitrust analysis, the Chicago School's antitrust dominance will come to a timely end').

[889] Devlin and Jacobs, 'Antitrust Error' (n 740) 83 ('The epistemological limitations of economic theory are crucially important. Much of the business conduct that attracts regulatory attention is characterized by asymmetric intertemporal effects, which can be neither measured empirically nor satisfactorily approximated by theory').

[890] See Chapter 5, Part II.

[891] Owen D Jones, 'Why Behavioral Economics Isn't Better, and How It Could Be' in Joshua Teitelbaum and Kathryn Zeiler (eds), *Research Handbook on Behavioral Law and Economics* (Cheltenham, Edward Elgar 2015).

meaningful way (or at least not to the extent that neoclassical economics revolutionised legal thinking and United States (hereafter "US") Supreme Court doctrine).[892] And the 'battle' has hardly 'been won' just because BLE boasts impressive citation counts.[893] The criticism, for instance, that BE/BLE lacks a theoretical foundation and is merely the 'residual' of rational choice[894] has been conceded to even by BLE proponents themselves who acknowledge that much work is to be done.[895]

This Part assesses BE's performance on the parameter of predictive power vis-à-vis RCT. We delve into this literature and narrative so as to supply a solid basis for understanding the practical limits of BE within antitrust analysis. The analysis concludes that neither BE nor RCT can predict perfectly; rather, in the face of empirical evidence showcasing pervasive heterogeneity in individual propensities to act rationally, knowing whether a market actor[896] will act more or less

[892] See eg George L Priest, 'Bork's Strategy and the Influence of the Chicago School of Modern Antitrust Law' (2014) 57 Journal of Law & Economics S1. See also Chapter 1, Part II.

[893] Russell Korobkin, 'What Comes After Victory For Behavioral Law and Economics?' (2011) 2011 University of Illinois Law Review 1653, 1655.

[894] Richard A Posner, 'Rational Choice, Behavioral Economics, and the Law' (1998) 50 Stanford Law Review 1551, 1559. This critique has several variants. Some for example argue BLE lacks coherence. Jennifer Arlen, 'Comment: The Future of Behavioral Economic Analysis of Law' (1998) 52 Vanderbilt Law Review 1765, 1768 ('[E]ven when people are not rational, behavioral analysis of law cannot necessarily provide an alternative framework for developing normative policy prescriptions because it does not yet have a coherent, robust, tractable model of human behavior which can serve as a basis for such recommendations'). Others point to BLE's lack of generalisability. Samuel Issacharoff, 'Can There be a Behavioral Law and Economics?' (1998) 51 Vanderbilt Law Review 1729, 1734 ('For a successful behavioral law and economics to emerge…at least the following four conditions must be met: 1) [t]he effects identified must be generalizable and not limited to idiosyncratic situation-specific departures from rational model expectations'). BLE has been critiqued as disjointed and not unified. Grant M Hayden and Stephen E Ellis, 'Law and Economics After Behavioral Economics' (2007) 55 Kansas Law Review 629, 630 ('[B]ehavioral economics and its legal incarnation are not without problems of their own. Chief among these is the fact that, unlike standard economics, behavioral economics has not coalesced into a unified theory of behavior'); ibid 632 ('Behavioral economists resolutely focus on the trees with very little attention to the forest, and, as result, they have failed to develop a single, consistent account of economic behavior, one that allows them to fit the various behavioral heuristics and biases together…') BLE is just a set of RCT contradictions without proffering a holistic narrative. Ulen, 'The Growing Pains of Behavioral Law and Economics' (n 880) 1747 ('We are like the independent scholars who examined the various parts of a very large animal and then tried to put together their reports to describe that animal; we each have bits and pieces of the elephant but no clear image of the entire beast').

[895] Cass R Sunstein, 'Introduction' in Cass R Sunstein (ed), *Behavioral Law & Economics* (Cambridge University Press 2000) 9 ('Behavioral law and economics is in its very early stages, and an enormous amount remains to be done. Some of the outstanding questions are foundational and involve the nature of economics itself: Can behavioral economics generate a unitary theory of behaviour, or is it an unruly collection of effects?'). See also Christine Jolls et al, 'Theories and Tropes: A Reply to Posner and Kelman' (1998) 50 Stanford Law Review 1593, 1608 (in responding to Kelman's criticism that BE is an 'incomplete theory', the authors generally 'agree' and acknowledge that '[t]here is a lot of work to do').

[896] We saw in Chapters 1 and 2 how market actors would need to play their role perfectly rationally in the rivalrous process in order to justify zero antitrust intervention. See eg Chapter 1, Part I; Chapter 2, Part I.

rationally wholly depends on context, which consequently necessitates knowledge of *ex-ante* boundary conditions for when one outcome is more likely than the other. Thus, just like the question of *when* (not do) markets self-correct is determinative for such a prediction, the question of *when* market actors will act rationally or *ir*rationally is similarly determinative for cognitive foreclosure purposes given the imperfect nature of decision-making. In other words, BE is as "equally incompetent" as RCT.[897]

a. Never always; only sometimes – recognising "boundary conditions"

A frequent charge against BE/BLE is that it does not appropriately identify "boundary conditions" – that is, it does not proffer a set of *necessary and sufficient* conditions for when BE anomalies are more likely than not to arise.[898] Some maintain that BE/BLE scholars speak at 'too general a level', which transforms their findings about BE phenomena into "tendencies" but obscures—through vague *ceteris paribus* clauses—the array of elements that must be in play in order for a specific behavioural bias to arise.[899] For example the omission bias would apparently require several

[897] See Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369). Note that Mitchell used the term "equal incompetence" to point to BE/BLE proponents ascribing uniform incompetence to the decisions of all individuals. I use the term here to instead mean one theory is as equally imperfect as the other.

[898] Wright and Stone, 'Misbehavioral Economics: The Case Against Behavioral Antitrust' (n 751) 1534 (citing one theoretical limitation as the lack of 'a theoretically sound set of necessary and sufficient conditions for predicting when a given bias will affect an individual'); Gregory Mitchell, 'Libertarian Paternalism is an Oxymoron' (2005) 99 Northwestern University Law Review 1245, 1253 ('What is missing from Sunstein and Thaler's argument, and from behavioural law and economics in general, is a theory of *when* choice frames will control choice and *when* they will not') (emphasis added); Arlen, 'Comment: The Future of Behavioral Economic Analysis of Law' (n 894) 1768 (explaining how some biases 'appear under certain circumstances, but not in others'); ibid 1777 ('[M]any biases exist in some circumstances but not in others, with the scope of these biases often being difficult to predict'). For some BLE proponents, this sensitivity to context is less concerning. cf Jeffrey J Rachlinski, 'The "New" Law and Psychology: A Reply to Critics, Skeptics, and Cautious Supporters' (2000) 85 Cornell Law Review 739, 743 ('It is a core principle of psychological research that understanding a phenomenon requires understanding when the phenomenon will occur and when it will not'); ibid 744 ('Legal scholars applying BDT to law have, in fact, taken advantage of context to demonstrate important parameters of BDT phenomena'). BE proponents have also cited "contextuality" as a positive. See Kahneman and Tversky, 'On the Reality of Cognitive Illusions' (n 369) 589.

[899] Gregory Mitchell, 'Tendencies Versus Boundaries: Levels of Generality in Behavioral Law and Economics' (2003) 56 Vanderbilt Law Review 1781, 1783. See also ibid 1810; ibid 1802 ('Try to transport these behavioral tendencies outside the laboratory…and one quickly realizes that they carry tremendously heavy baggage in the form of *ceteris paribus* clauses into which *all of the complicating factors* have been shoved') (emphasis added). On *ceteris paribus* clauses and their use in economics, see Daniel M Hausman, 'Ceteris Paribus Clauses and Causality in Economics' (1988) 2 PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association 308.

'factors' to be held constant – like normality of circumstances,[900] measuring sticks,[901] the kinds of values in play,[902] and the subjective interpretation of an omission's outcome.[903] As Mitchell summarises: 'So we see that a behavioral tendency, like the omission bias, when its *ceteris paribus* clause is unpacked, can be a rather *fragile contingency* likely to exert its influence only under very circumscribed conditions'.[904]

This criticism of BE/BLE seems somewhat indulgent, however, because just as BE/BLE phenomena may be conditional upon the presence of certain boundary conditions, RCT/L&E often makes claims about phenomena *ceteris paribus* (indeed, Marshall even described it as a necessary 'isolating' influence if complex real-world problems are to be dealt with at all).[905] As Hausman explains: 'Explicit or implicit *ceteris paribus* clauses are pervasive in economics'.[906] For instance, people do not *always* switch to good B if good C's price rises; they do so *ceteris paribus*. One might

[900] This is because the "normality bias" can apparently override the omission bias in decision-making. See Robert A Prentice and Jonathan J Koehler, 'A Normality Bias in Legal Decision Making' (2003) 88 Cornell Law Review 583, 643 ('In fact, the normality bias is so strong that it swamps the influence of another well-documented bias—the omission bias—when the two biases push in different directions').

[901] This is because the omission bias does apparently not arise with the same strength or frequency across different methods. See Terry Connolly Jochen Reb, 'Omission Bias in Vaccination Decision: Where's the "Omission"? Where's the "Bias"?' (2003) 91 Organizational Behavior and Human Decision Processes 186, 199 ('These studies show that two features of the earlier measures—the truncation of probability response scales, and the asymmetry of open-response matching scales—could well have produced inadvertent bias in the earlier studies…Measures that in one form show substantial vaccine aversion show exactly the reverse after apparently harmless modification, and intendedly convergent measures of the same construct fail even rudimentary tests of consistency').

[902] This is because omissions to act are more censurable if there exists some perceived moral obligation to act. See Carmen Tanner and Douglas L Medin, 'Protected Values: No Omission Bias and No Framing Effects' (2004) 11 Psychonomic Bulletin & Review 185 (showcasing different outcomes due to framing effects).

[903] This is because the omission bias seemingly becomes reduced *if* subjects are first told to try and adopt the perspective of a person who would be affected by the bias. See Jonathan Baron, 'Value Analysis of Political Behavior—Self-Interested: Moralistic::Altruistic: Moral' (2003) 151 University of Pennsylvania Law Review 1135, 1150 ('Omission bias is somewhat *labile*. It can be reduced by the instructions to take the point of view of those who are affected, e.g. "If you were the child, and if you could understand the situation, you would certainly prefer the lower probability of death. It would not matter to you how the probability came about"') (emphasis added).

[904] Mitchell, 'Tendencies Versus Boundaries: Levels of Generality in Behavioral Law and Economics' (n 899) 1804.

[905] Alfred Marshall, *Principles of Economics: Palgrave Classics in Economics* (8th edn, Palgrave Macmillan 2013) ('The element of time is a chief cause of those difficulties in economic investigations which make it necessary for a man with his limited powers to go step by step; breaking up a complex question, studying one bit at a time, and at last combining his partial solutions into a more or less complete solution of the whole riddle. In breaking it up, he segregates those disturbing causes whose wanderings happen to be inconvenient, for the time in a pound called *Ceteris Paribus*. The study of some group of tendencies is isolated by the assumption *other things being equal*: the existence of other tendencies is not denied, but their disturbing effect is neglected for a time. The more the issue is thus narrowed, the more exactly can it be handled: but also the less closely does it correspond to real life').

[906] Daniel M Hausman, 'Ceteris Paribus Clauses and Causality in Economics' (1988) 2 PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association 308, 308.

conclude, then, that just as BE/BLE seems to require a contextual "crutch" in the form of boundary conditions for predictions to be generated *ex-ante*, RCT is similarly handicapped in its predictive prowess because of *ceteris paribus* qualifications. As Fanto more appropriately acknowledges in a mergers decision-making context: '[P]eople act quasi-rationally, not rationally or irrationally'.[907]

Yet BE proponents routinely seem to promulgate the ubiquity and uniformity of *ir*rational behaviour and, consequently, call or implicitly call for the perfect rationality assumption to be replaced with an unqualified assumption of imperfect rationality.[908] For some BE theorists, cognitive anomalies 'affect us all with uncanny consistency and unflappable persistence'.[909] The range of anomalies identified by BE are therefore said to manifest "systematically" (i.e., frequently)[910] and they apply to all individuals and situations equally.[911] In short,

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[907] James A Fanto, 'Quasi-Rationality in Action: A Study of Psychological Factors in Merger Decision-Making' (2001) 62 Ohio State Law Journal 1333, 1344.

[908] Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369) 85. See eg Hanson and Kysar, 'Taking Behavioralism Seriously: Some Evidence of Market Manipulation' (n 386) 1425 ('We argue that, because a multitude of nonrational factors influence individual decisionmaking, consumers cannot be expected to engage in efficient product purchasing analyses – regardless whether manufacturers are required to supply product warnings'); Korobkin and Ulen, 'Law and Behavioral Science: Removing the Rationality Assumption From Law and Economics' (n 475) 1143 ('In this Article, we have argued that thin versions of rational choice theory—for example, expected utility theory—are an inadequate basis on which to rest legal policy because they have little or no predictive value'); Cass R Sunstein, 'Human Behavior and the Law of Work' (2001) 87 Virginia Law Review 205, 207 ('[W]orkers are like most people. They behave like *homo sapiens*, not like *homo economicus*'). cf Prentice, 'Chicago Man, K-T Man, and the Future of Behavioral Law and Economics' (n 880) 1722 (disputing Mitchell's "equal incompetence" claim and contending that 'legal decision theorists [do] recognize individual and situational variations').

[909] Hanson and Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (n 357) 633.

[910] Amos Tversky and Daniel Kahneman, 'Judgment Under Uncertainty: Heuristics and Biases' in Daniel Kahneman, Paul Slovic, and Amos Tversky (eds), *Judgment Under Uncertainty: Heuristics and Biases* (Cambridge University Press 1982) 20 ('[H]euristics are highly economical and usually effective, but they lead to systematic and predictable errors'). See also Chris Guthrie et al, 'Inside the Judicial Mind' (2001) 86 Cornell Law Review 777, 778 ('Psychologists who study human judgment and choice have learned that people *frequently* fall prey to cognitive illusions that produce *systematic* errors in judgment') (emphasis added); Eisenberg, 'The Limits of Cognition and the Limits of Contract' (n 881) 218 ('[W]ithin the last thirty years cognitive psychology has established that real people use certain decisionmaking rules (heuristics) that yield systematic errors, and that other aspects of actors' cognitive capabilities are also systematically defective'); Sunstein, 'Introduction' (n 895) 3 ('It is now well established that people make decisions on the basis of heuristic devices, or rules of thumb, that may work well in many cases but that also lead to systematic errors').

[911] Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369) 84 ('All individuals confronted with legally-relevant decisions—whether the individuals be judges, jurors, attorneys, law professors law students, legislators, criminals, or law-abiding decisions—*presumptively* show systematic deviations from the predictions of rational choice theory *regardless* of their education, sex, age, and other personal background characteristics') (emphasis added). See eg Larry T Gavin, 'Disproportionality and the Law of Consequential Damages: Default Theory and Cognitive Reality' (1998) 59 Ohio State Law Journal 339, 343 ('*Most* people tend to undervalue remote risks; overvalue vivid data and undervalue drab data; take risks to avoid loss, but

> whereas law and economics treats all legal actors in all situations as if they were perfectly rational, behavioral law and economics treats all legal actors in all situations as if they were equally predisposed to commit errors of judgment and choice.[912]

This "systematicity" therefore apparently provides a strong basis for BE to supply better predictive power than RCT. As Prentice states:

> [F]or K-T Man to have more descriptive, explanatory, *predictive*, and prescriptive power than Chicago man, people need only be systematically (not universally and uniformly) subject to various heuristics and biases discussed in the literature. And they are.[913]

However this presumption of homogeneity seems contradicted by rafts of evidence showcasing variance in *ir*rationality.[914] In particular, BE/BLE advocates who propound generalised and all-encompassing statements about *ir*rational behaviour seem to '[ignore]…a growing body of empirical research demonstrating that individuals vary widely, and predictably, in their propensities to act rationally'.[915] Both the kinds of *individuals* and the kinds of decision-making *contexts* can be

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avoid them to protect gains…') (emphasis added); Guthrie et al, 'Inside the Judicial Mind' (n 910) 778 ('Judges, it seems, are human. Like the rest of us, their judgment is affected by cognitive illusions that can produce systematic errors in judgment'); Hanson and Kysar, 'Taking Behavioralism Seriously: The Problem of Market Manipulation' (n 357) 633 ('These cognitive illusions—sometimes referred to as "biases"—are not limited to the uneducated or unintelligent, and they are not readily capable of being unlearned'); Rachlinksi, 'The "New" Law and Psychology: A Reply to Critics, Skeptics, and Cautious Supporters' (n 898) 744 (describing how behavioural research 'certainly suggests that *all* social institutions, including courts, legislatures, and administrative agencies, will be subject to cognitive biases') (emphasis added); Cass R Sunstein, 'Economics & Real People' (2000) 3 Green Bag 397, 398 ('It is now well-established…that people make decisions on the basis of heuristic devices, or rules of thumb, that may work well in many cases but that also lead to systematic errors. It is also well established that people suffer from various biases and aversions that can lead to inaccurate perceptions').

[912] Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369) 69. See also ibid 73 ('Whereas law and economics assumes too much rationality on the part of legal actors as an empirical matter, behavioral law and economics errs by assuming too much irrationality'); ibid 74 ('[B]oth approaches assume uniformity in cognitive performance across persons and situations that is not supported by the empirical data…').

[913] Prentice, 'Chicago Man, K-T Man, and the Future of Behavioral Law and Economics' (n 880) 177 (emphasis added).

[914] See Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369) 67 ('[S]ubstantial empirical evidence [demonstrates] that people are not equally irrational and that situational variables exert an important influence on the rationality of behavior'); ibid 75 ('[E]vidence of individual and situational differences in rationality counsels rejection of a simple dichotomous choice between universal rationality and universal irrationality and directs attention instead to comparisons of the relative predictive power of the two models in specific domains for specific groups of people').

[915] Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369) 86; ibid footnote 46 ('[T]his argument arises from a fundamental misunderstanding of

determinative in illustrating the heterogeneity of rational decision-making and, therefore, detract from its "systematicity". Such research can thus serve to establish 'the contingent nature of a behavioral tendency…'[916] and, hence, provide a basis for moving towards more nuanced understandings about the boundary conditions under which more or less rationality can be expected.

b. Individual differences

Research shows, for instance, that more educated as opposed to less educated individuals may perform more rationally in judgment and decision-making tasks.[917] In deductive reasoning tasks, for example, 'education level had a large impact on reasoning performance'.[918] Participants with a master's degree or higher solved the Wason four-card selection task—described as one of the 'most difficult deductive reasoning' tasks[919]—'on their first attempt'.[920] Further, master's students performed better than bachelor's students and bachelor's students performed better than high school students, thereby demonstrating the 'significant main effects of education…'[921] Studies also illustrate correlations between education level and superior performance in deductive reasoning tasks. Nisbett et al, for example, find that 'statistical training does indeed have profound effects on people's reasoning about everyday life effects'.[922]

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legal decision theory research: Despite legal decision theorists' portrayal of cognitive biases and errors as widespread and uniform, the great majority of behavioral decision research provides little or no evidence on the prevalence or uniformity of cognitive biases and errors').

[916] Mitchell, 'Tendencies Versus Boundaries: Levels of Generality in Behavioral Law and Economics' (n 899) 1804.

[917] Geoffrey T Fong and Richard E Nisbett, 'Immediate and Delayed Transfer of Training Effects in Statistical Reasoning' (1991) 120 Journal of Experimental Psychology: General 34, 44 ('The present findings…suggest strongly that people do possess abstract rules and that the rules can be improved by methods such as formal instruction'); Richard E Nisbett et al, 'Teaching Reasoning' (1987) 238 Science 625, 630 ('Taken together, the results of our studies suggest that the effects of higher education on the rules underlying reasoning may be very marked. In fact, the effects may be marked enough to justify the teaching of some rule systems invoking precisely the principles of formal training and general transfer that have long been invoked for logic, grammar, and other formal systems').

[918] Stephen J Hoch and Judith E Tschirgi, 'Logical Knowledge and Cue Redundancy in Deductive Reasoning' (1985) 13 Memory & Cognition 453, 457.

[919] Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369) 88.

[920] Hoch and Tschirgi, 'Logical Knowledge and Cue Redundancy in Deductive Reasoning' (n 918) 456.

[921] ibid 456.

[922] Richard E Nisbett et al, 'The Use of Statistical Heuristics in Everyday Inductive Reasoning' (1983) 90 Psychological Review 339, 358.

Heterogeneous rationality has also been showcased via differences in cognitive capacity.[923] Stanovich and West, for instance, find significant correlation between cognitive processing power and superior performance on judgment and decision-making tasks. High performers on standardised intelligence tests like the SAT for example are more likely to produce the normative rational response .[924] Stanovich and West document many other instances of individual differences in rationality with correlations between higher cognitive ability and more rational judgment and decision-making.[925] As Mitchell summarises: 'persons who score higher on standard tests of cognitive capacity often, but not always, perform better on judgment and decisionmaking tasks employed within behavioral research'.[926]

Not only can we observe heterogeneous rationality *across* individuals, we may also observe it *within* individuals. We were introduced to the Affect heuristic in Chapter 3 and research has demonstrated how emotional fluctuations[927] can impact judgment and decision-making. Affect can change from situation-to-situation, remain unchanged even as situations change, and/or vary despite

[923] See Keith E Stanovich and Richard F West, 'Individual Differences in Reasoning: Implications for the Rationality Debate?' (2000) 23 Behavioral and Brain Sciences 645; Keith E Stanovich and Richard F West, 'Advancing the Rationality Debate' (2000) 23 Behavior and Brain Sciences 701. cf Magda Osman, 'An Evaluation of Dual-Process Theories of Reasoning' (2004) 11 Psychonomic Bulletin & Review 988.

[924] Stanovich and West, 'Individual Differences in Reasoning: Implications for the Rationality Debate?' (n 923) 648.

[925] See eg Keith E Stanovich, *Who Is Rational? Studies of Individual Differences in Reasoning* (Psychology Press 1999); Keith E Stanovich and Richard F West, 'Individual Differences in Reasoning and the Heuristics and Biases Debate' in Philip L Ackerman et al (eds), *Learning and Individual Differences: Process, Trait, and Content Determinants* (Amer Psychological Association 1999); Keith E Stanovich and Richard F West, 'Discrepancies Between Normative and Descriptive Models of Decision Making and the Understanding/Acceptance Principle' (1999) 38 Cognitive Psychology 349; Keith E Stanovich and Richard F West, 'Who Uses Base Rates and P(D/-H)? An Analysis of Individual Differences' (1998) 26 Memory & Cognition 161 (finding that in a study of over 900 participants those who tested higher on cognitive ability tasks were better at probability assessments and better deductive and inductive reasoners); Keith E Stanovich and Richard F West, 'Individual Differences in Framing and Conjunction Effects' (1998) 4 Thinking & Reasoning 289; Keith E Stanovich and Richard F West, 'Cognitive Ability and Variation in Selection Task Performance' (1998) 4 Thinking & Reasoning 193 (finding that in a study of over 800 participants those with higher cognitive ability 'solved disproportionately' nondeontic tasks); Keith E Stanovich and Richard F West, 'Reasoning Independently of Prior Belief and Individual Differences in Actively Open-Minded Thinking' (1997) 89 Journal of Educational Psychology 342 (finding in a 349 college student sample that '[i]ndividual differences in this index were reliably linked to individual differences in cognitive ability and actively open-minded thinking dispositions').

[926] Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369) 96.

[927] One issue for this literature is the definition of emotion. See Reid Hastie, 'Problems for Judgment and Decision Making' (2001) 52 Annual Review of Psychology 653, 671 ('A major obstacle to the study of the role of emotions in decision making is that there is little consensus on a definition of emotion'); Joseph P Forgas, 'Mood and Judgment: The Affect Infusion Model (AIM) (1995) 117 Psychological Bulletin 39, 41 ('There is little general agreement about how best to define terms such as affect, feelings, emotions, and mood').

the situation remaining unchanged.[928] Study after study has demonstrated how even small Affect changes may alter cognitive processes.[929] Further, the valence of the Affect—positive or negative—has also been shown to significantly influence decision-making. At the time of decision-making, for example, positive mood may lead to more heuristic-orientated decisions, which contrasts with a negative mood that seems to induce more cerebral and data-orientated decision-making.[930]

c. Contextual differences

Variance in decision-making contexts can also generate differences in propensities for rational thinking. BE/BLE theorists have, in essence, fallen somewhat foul to the "fundamental attribution error", which is the 'experimentally observed tendency of humans to make the mistake of overestimating the importance of fundamental human character traits and underestimating the importance of situation and context'.[931] For instance, it has been acknowledged that situations that provide opportunities for learning and calibration may produce more rationality overtime.[932]

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[928] Robert B Zajonc, 'Emotions' in Daniel T Gilbert et al (eds), *The Handbook of Social Psychology* (4th edn, The McGraw-Hill Companies, Inc 1998) 607 ('A totally different emotional reaction…can be elicited depending on what meaning is attached to the eliciting stimulus situation, to the internal states, to the way events are construed, and to the possible consequences of one's own actions').

[929] F Gregory Ashby et al, 'A Neuropsychological Theory of Positive Affect and its Influence on Cognition' (1999) 106 Psychological Review 529, 529 ('[A] large amount of research has shown convincingly that even moderate fluctuations in positive feelings can systematically affect cognitive processing'). See eg C Estrada et al, 'Positive Affect Influences Creative Problem Solving and Reported Source of Practice Satisfaction in Physicians' (1994) 18 Motivation and Emotion 285 (demonstrating how positive Affect can influence creativity); T R Greene and H Noice, 'Influence of Positive Affect Upon Creative Thinking and Problem Solving in Children' (1988) 63 Psychological Reports 895 (demonstrating how positive mood can influence more creative word generation); A M Isen et al, 'Positive Affect Facilitates Creative Problem Solving' (1987) 52 Journal of Personality and Social Psychology 1122 (demonstrating how positive mood can influence performance on tasks demanding creative solutions); W Nasby and R Yando, 'Selective Encoding and Retrieval of Affectively Valent Information: Two Cognitive Consequences of Children's Mood States' (1982) 43 Journal of Personality and Social Psychology 1244 (demonstrating how positive Affect influences can lead to greater recall of positive information); A M Isen and Thomas E Shalker, 'The Effect of Feeling State on Evaluation of Positive, Neutral, and Negative Stimuli: When You "accentuate the positive", do you "eliminate the negative?" (1982) 45 Social Psychology Quarterly 58 (demonstrating how Affect valence can impact evaluation of specific stimuli).

[930] Norbert Schwarz, 'Emotion, Cognition, and Decision Making' (2000) 14 Cognition & Emotion 433, 434 (pointing to the 'large body of experimental research' that documents differences in decision-making strategies).

[931] Robert E Scott, 'The Limits of Behavioral Theories of Law and Social Norms' (2000) 86 Virginia Law Review 1603, 1643–1644.

[932] See William K Balzer et al, 'Effects of Cognitive Feedback on Performance' (1989) 106 Psychological Bulletin 410.

A helpful way of viewing situational variability and its relationship towards *more* or *less* rationality[933] is through the lens of dual-process-theory (hereafter "DPT") or what has commonly become called System 1 and System 2.[934] DPT posits that two separate mental processes control our 'human cognition' – one of which is deliberate, controlled, slow, analytical, conscious, and effortful whilst the other is automatic, unconscious, associative, and fast.[935] Heuristics and biases research contains broad consensus on the existence of these two mental processes.[936] For example, in an effort to integrate 'brain imaging results into cognitive theory', Kahneman and Frederick use the 'dual-system framework' to explain the results. And DPT has shown its potential practical value as well as evidenced by its influence on the libertarian paternalism/nudge literature.[937]

Despite displaying promise, DPT is not without its critics[938] and for present purposes a particular concern has been DPT's lack of predictive power in identifying *when* an individual will make judgments or decisions under *ir*rational (rather than rational) processes. As Grayot notes:

> [T]he standard view of DPT does not actually provide an account of how reasoning tasks are accomplished, and decisions made; what it provides is a generic theory about the potential origins of reasoning and decision errors. This, it would seem, is a

[933] See Chapter 2, Part I. See also Introduction.
[934] See Stanovich, *Who is Rational? Studies of Individual Differences in Reasoning* (n 925); Kahneman, 'Maps of Bounded Rationality: Psychology for Behavioral Economics'(n 635); Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality' (n 635) 698.
[935] Grayot, 'Dual process Theories in Behavioral Economics and Neuroeconomics: A Critical Review' (n 635) 105. See also Kahneman, *Thinking, Fast and Slow* (n 381) Part I. Note that the attributes of System 1 and System 2 can be assessed along parameters of both content (e.g. percepts, stimuli) and process (e.g. fast and parallel versus slow and serial). See Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality' (n 635) 698.
[936] See eg Steven A Sloman, 'The Empirical Case for Two Systems of Reasoning' (1996) 119 Psychological Bulletin 3; Shelly Chaiken and Yaacov Trope, *Dual-Process Theories in Social Psychology* (New York; London, Guildford 1999); Daniel Kahneman and S Frederick, 'Representativeness Revisited: Attribute Substitution in Intuitive Judgment' in Thomas Gilovich, Daniel Kahneman and Dale Griffin (eds), *Heuristics and Biases: The Psychology of Intuitive Judgment* (Cambridge University Press 2002); Daniel Kahneman and S Frederick, 'A Model of Heuristic Judgment' in Keith James Holyoak and Robert G Morrison (eds), *The Cambridge Handbook of Thinking and Reasoning* (Cambridge University Press 2005); Daniel Kahneman and Shane Frederick, 'Frames and Brains: Elicitation and Control of Response Tendencies (2007) 11 Trends in Cognitive Sciences 45.
[937] See Thaler and Sunstein, *Nudge: Improving Decisions About Health, Wealth and Happiness* (New York, Penguin Books 2009); Cass R Sunstein, 'People Prefere System 2 Nudges (Kind Of)' (2016) 66 Duke Law Journal 121.
[938] See eg Gerd Gigerenzer and Terry Regier, 'How Do We Tell an Association From a Rule? Comment on Sloman' (1996) 119 Psychological Bulletin 23; Magda Osman, 'An Evaluation of Dual-Process Theories of Reasoning' (2004) 11 Psychological Bulletin & Review 988; Gideon Keren and Yaacov Schul, 'Two is not Always Better Than One: A Critical Evaluation of Two-System Theories' (2009) 4 Perspectives on Psychological Science 533.

> major deficiency for the theory: if it cannot explain how the mind inhibits or overrides bad judgments that are generated by rapid or automatic mental processes, then what is the point of making the distinction to begin with? After all, we don't *always* submit to our biases—we are often able to restrain gut-reactions and to recognize hasty errors for what they are.[939]

Illustrating how System 1 thinking (that is, the source of *ir*rationality)[940] may vary with context is whether System 2 is sufficiently positioned to intervene. Demonstrative in this respect are Kahneman's propositions about accessibility and System 1 – that '[h]ighly accessible impressions produced by System 1 control judgment and preferences, unless modified or overridden by the deliberate operations of System 2'.[941] The basic point is that heuristics and biases—mental shortcuts that are substituted for more thoughtful and reflective cognitive processes—are easily accessible and, hence, may be more relied upon in judgment and decision-making.[942]

For example, changes and differences (another label for the BE phenomenon of losses and gains relative to a reference point) have shown to be of high cognitive accessibility.[943] Consequently, they may weigh more heavily than absolute states in judgment and decision-making – a factor that prospect theory accounts for but which Beronouliian models do not account for because they exclusively focus on 'outcomes as states' rather than 'changes'.[944]

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[939] Grayot, 'Dual process Theories in Behavioral Economics and Neuroeconomics: A Critical Review' (n 635) 113 (emphasis added).
[940] See Chapter 3, Part IV.
[941] Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality' (n 635) 716.
[942] ibid 58 American Psychologist 697, 699 ('A core property of many intuitive thoughts is that under appropriate circumstances, they come to mind spontaneously and effortlessly, like percepts').
[943] Stephen E Palmer, *Vision Science: Photons to Phenomenology* (Cambridge, Massachusetts, MIT Press 1999).
[944] See Daniel Bernoulli, 'Exposition of a New Theory on the Measurement of Risk' (1954) 22 Econometrica 23. Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality' (n 635) 704 ('Bernoulii's (1738/1954) model of utility is flawed because it is *reference independent*: it assumes that the utility that is assigned to a given state of wealth does not vary with the decision maker's initial state of wealth. This assumption flies against a basic principle of perception, where the effective stimulus is not the new level of stimulation but the difference between it and the existing adaptation level') (emphasis in original). This proposition—that changes in wealth are the 'carriers of utility' instead of final outcomes—is the 'cornerstone' of prospect theory. See Kahneman and Tversky, 'Prospect Theory: An Analysis of Decision Under Risk' (n 481) 273.

Similarly, framing effects—another BE phenomenon—can be squared with System 1 accessibility because rendering certain attributes of a problem more salient or formulating different representations of a problem can 'make different aspects of it accessible'.[945] Consequently, different preferences can manifest depending on whether, say, 'emotions associated with…immediate outcomes' are evoked (and therefore are made more cognitively accessible) instead of final states of wealth.[946] And a final example of System 1 accessibility is attribute substitution – whereby a heuristic attribute (like representativeness/similarity) 'that comes more *readily to mind*' is substituted for a statistical judgment.[947] The Tom W experiment is demonstrative,[948] which is similar to the Linda problem and illustrates how stereotypes are a 'highly accessible natural assessment, whereas judgments of probability are difficult'.[949]

One can thus see the potential for heterogeneous *ir*rationality and how it can be derived from the fact that accessibility may be situationally-dependent. It can vary with object properties, physical salience, and '[m]otivationally relevant and emotionally arousing stimuli'.[950] And since the most cognitively accessible features are not *always* the basis for a rational decision,[951] then *more* accessibility may lead to *less* rationality. But since accessibility varies with context, *ir*rationality may be similarly context-dependent (a point that Kahneman himself acknowledges).[952]

[945] Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality' (n 635) 716 ('Framing effects were attributed to the fact that alternative formulations of the same situation make different aspects of it accessible').
[946] See ibid 706.
[947] ibid 707 (emphasis added).
[948] Daniel Kahneman and Amos Tversky, 'On the Psychology of Prediction' (1973) 80 Psychological Review 237, 238 et seq. In these problems, experiments require subjects to read a description of a person and then rank the likelihood of that person belonging to a specific industry or job.
[949] Kahneman and Tversky, 'On the Psychology of Prediction' (n 948) 708.
[950] Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality' (n 635) 700–701.
[951] ibid 703 ('Unfortunately, there is no reason to believe that the most accessible features are also the most relevant to a good decision').
[952] ibid 699 ('[T]he different aspects and elements of a situation, the different objects in a scene, and the different attributes of an object – all can be more or less accessible').

Furthermore, the fact that System 2's remedial capabilities also vary with context further highlights the heterogeneous (rather than homogenous) distribution of *ir*rationality. Kahneman and Frederick, for example, offer a framework for highlighting the conditions under which System 2 will not correct System 1 failures. They also illustrate how some biases and heuristics can only arise when *both* systems fail.[953] In one way Kahneman himself bolsters this point by acknowledging: 'In the context of an analysis of accessibility, the question *when* intuitive judgments will be corrected is naturally rephrased: *When* will corrective thoughts be sufficiently accessible to intervene in the judgment?'[954] Indeed, the great variety of conditions that can determine System 2 remedial efficacy only serves to further illuminate the variant nature of DPT in predicting *ir*rational conduct. Some conditions under which System 2 is less efficacious include time-pressured decisions,[955] multi-tasking,[956] the time of the day that best correlates with a specific person's day-time preferences,[957] and an individual's mood (a highly variable determinant).[958] In contrast, a more robust System 2 is more often associated with intelligence,[959] and unsurprisingly training in statistical thinking.[960]

Thus, if the 'comprehensive list' of the factors that could influence accessibility (and hence the likelihood of *ir*rationality) will be 'long',[961] then propositions about uniform and ubiquitous judgment and decision-making errors are 'incomplete at best and empirically false and misleading at worst'.[962]

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[953] Kahneman and Frederick, 'Representativeness Revisited: Attribute Substitution in Intuitive Judgment' (n 936).
[954] Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality' (n 635) 711.
[955] Melissa L Finucane et al, 'The Affect Heuristic in Judgments of Risks and Benefits' (2000) 13 Journal of Behavioral Decision Making 1.
[956] See Daniel T Gilbert, 'Thinking Lightly About Others: Automatic Components of the Social Inference Process' in James S Uleman and John A Bargh (eds), *Unintended Thought* (Guildford Press 1989).
[957] Galen V Bodenhausen, 'Stereotypes as Judgmental Heuristics: Evidence of Circadian Variations in Discrimination' (1990) 1 Psychological Science 319.
[958] Herbert Bless et al, 'Mood and the Use of Scripts: Does a Happy Mood Really Lead to Mindlessness?' (1996) 71 Journal of Personality and Social Psychology 665.
[959] See Chapter 5, Part III.
[960] Franca Agnoli, 'Development of Judgmental Heuristics and Logical Reasoning: Training Counteracts the Representativeness Heuristic' (1991) 6 Cognitive Development 195.
[961] Kahneman, 'A Perspective on Judgment and Choice: Mapping Bounded Rationality' (n 635) 716.
[962] Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369) 124.

d. The potential for great variance in effects on competition

i. Some biases sometimes persist at higher levels of cognition

We saw above how increased cognition (by virtue of higher education levels, for example) can reduce *ir*rational behavior.[963] Indeed, one of the most robust BE findings—loss aversion—has been shown to significantly dissipate among individuals with higher education levels.[964] This is unsurprising, given that bounded cognitive capacity and willpower are the drivers behind *ir*rational decision-making.

Nevertheless, we simultaneously do have evidence of biases persisting across highly educated, professionally trained individuals like doctors, engineers, accountants, military leaders, and psychologists.[965] Consider more specifically in this respect the Linda Problem espoused by Tversky and Kahneman to illustrate conjunction rule contradictions, i.e. some respondents based their judgment on representativeness rather than probability. Here is the prelude:

> Linda is 31 years old, single, outspoken and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in anti-nuclear demonstrations.[966]

And here are the answers – to be ranked by a group of 88 subjects according to probability (likelihood):

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[963] Chapter 5, Part III. See also John Y Campbell, 'House Finance' (2006) NBER Working Paper 12149, 39 <https://www.nber.org/papers/w12149> accessed 15 April 2021 ('[I]t appears that poorer and less educated households are more likely to make mistakes than wealthier and better educated households').

[964] Simon Gächter et al, 'Individual-Level Loss Aversion in Riskless and Risky Choices' IZA Discussion Paper No 2961 <https://ftp.iza.org/dp2961.pdf> accessed 01 September 2021.

[965] John C Anderson et al, 'Evaluation and Auditor Decisions: Hindsight Bias and the Expectation Gap' (1993) 14 Journal of Economic Psychology 711, 725 (highlighting how auditors may be subject to the hindsight bias); Hal R Arkes et al, 'Eliminating the Hindsight Bias' (1988) 73 Journal of Applied Psychology 305, 306 (highlighting how psychologists may be subject to the hindsight bias); Hal R Arkes et al, 'Hindsight Bias Among Physicians Weighing the Likelihood of Diagnoses' (1981) 66 Journal of Applied Psychology 252, 253 (illustrating how 'physicians exhibited the hindsight bias'); Loren J Chapman and Jean P Chapman, 'Illusory Correlation as an Obstacle to the Use of Valid Psychodiagnostic Signs' (1969) 74 Journal of Abnormal Psychology 271 (illustrating psychotherapists' use of heuristics which lead to erroneous decisions).

[966] Amos Tversky and Daniel Kahneman, 'Extensional Versus Intuitive Reasoning: The Conjunction Fallacy in Probability Judgment' (1983) 90 Psychological Review 293, 297.

> Linda is a teacher in elementary school; Linda works in a bookstore and takes Yoga classes; Linda is active in the feminist movement (F); Linda is a psychiatric social worker; Linda is a member of the League of Women voters; Linda is a bank teller (T); Linda is an insurance salesperson; Linda is a bank teller and is active in the feminist movement (T&F).[967]

Contrary to what standard RCT/probability theory would predict—since every feminist bank teller is a also a bank teller, the probability of T must be greater than T&F[968]—the results 'confirmed' the predictions of Tversky and Kahneman.[969] Specifically, 85 percent of respondents produced a rank F>T&F>T, thereby illustrating the 'conflict between the intuition of representativeness and the logic of probability'.[970] Further, so as to demonstrate the result was not simply a product of undergraduate statistical naivety, the experiment was given also to PhD students at the Stanford Graduate School of Business, where 85 percent fell foul to the error.[971]

Note also evidence that judges may be inclined towards intuitive reasoning and hence make decision-making errors.[972] Striking variance in asylum decisions, for example, suggests less than predictable and more 'chaotic'[973] decision-making process. Guthrie et al find similar results: 'judges rely on the same cognitive decision-making process as laypersons and other experts, which leaves them vulnerable to cognitive illusions that can produce poor judgments'.[974] The authors find that across anchoring, framing, hindsight bias, and representative heuristic effects judges fall foul to these biases and heuristics in statistically significant ways.[975]

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[967] ibid.
[968] This is because the more you 'specify a possible event in greater detail you can only *lower* its probability'. See Kahneman, *Thinking, Fast and Slow* (n 381) 157.
[969] Tversky and Kahneman, 'Extensional Versus Intuitive Reasoning: The Conjunction Fallacy in Probability Judgment' (n 966) 297 ('The results confirmed our expectations').
[970] Kahneman, *Thinking, Fast and Slow* (n 381) 157.
[971] ibid.
[972] Jeffrey J Rachlinski and Andrew J Wistrich, 'Judging the Judiciary by the Numbers: Empirical Research on Judges' (2017) 13 Annual Review of Law and Social Science 203, 214 ('Overall, the evidence strongly indicates that judges will, in some cases, rely on simple intuitive strategies. The data on judges and the CRT show them to be intuitive thinkers on the whole').
[973] ibid 204.
[974] Guthrie et al, 'Inside the Judicial Mind' (n 910) 829.
[975] ibid (the authors note the statistical significance of their results across all of their experiments).

Nevertheless, it is not always the case that judges will fall foul to automatic, intuitive reasoning at the expense of more conscious, analytic, and deliberative reasoning. Guthrie et al, for example, also demonstrate 'that judges generally make intuitive decisions but sometimes override their intuition with deliberation'.[976] More specifically, although their work illustrates that judges 'rely heavily' on intuitive reasoning in both experiments and in real life cases, the results simultaneously show that 'they [sometimes] have the capacity to override intuition with deliberative thinking'.[977]

Thus, it appears that some biases sometimes affect those who are assumed to be operating at higher levels of cognition. Even within these studies, however, there is nuance and it remains the case that not all subjects fell foul to decision-making and judgment errors. Consequently, which biases most consistently impact higher-cognition individuals remains an empirical question.

ii. Some biases sometimes have both positive and negative competitive effects

Biases may also vary in terms of having a positive or negative impact on markets. Indeed, the fact that some biases may spur new entry suggests on its own accord that not all biases all of the time may be of antitrust concern.[978]

The "availability" heuristic is a worth examining as a BE phenomenon that might have both positive and negative effects. This heuristic predicts that individuals will make probability

[976] C Guthrie et al, Blinking on the Bench: How Judges Decide Cases' (2007) 93 Cornell Law Review 1, 3.
[977] ibid 27– 28.
[978] See eg Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1032 ('[T]he behavioral approach suggests that conventional economics may understate the likelihood of entry in some cases. Numerous cognitive biases support that possibility'); Tor, 'The Fable of Entry: Bounded Rationality, Market Discipline, and Legal Policy' (n 885) (arguing that behavioral shortcomings like overoptimism may, in fact, spur successful 'excess' entry because '[t]hese entrants, even when they fail and more so when they succeed, facilitate economic growth and expand the range of consumer choice. Equally important, they make a significant long-term contribution to the disciplining of incumbent firms').

judgments according to the ease with which a similar event springs to mind.[979] For instance, divorce rates may be predicted by easily recalling divorces of friends.[980]

On the one hand, Kuran and Sunstein vividly illustrate its potential negativity by their analysis of "availability cascades". Indeed, if there was any broad-based proposition with predictive policy value arising out of Kuran and Sunstein's paper, it would be that public reporting can generate artificial demand for risk regulation by inducing 'mass delusions' which may 'last indefinitely', resulting in an erroneous regulatory response comprising 'wasteful or even detrimental laws and policies'.[981] Take for example the *Love Canal* example of an availability cascade 'that [has] resulted in socially harmful regulatory responses'.[982] After a chemical company dumped waste into a waterway and covered it with dirt, it sold it to the Niagara Falls Board of Education. Local government developed this area and built residential houses. Fast forward twenty years and a raft of public reporting on how *Love Canal* had harmed fish, burnt children, rendered water undrinkable, caused nervous breakdowns, induced miscarriages, and resulted in urinary system diseases – all of which contributed to a global sense of fear and anxiety. True, some of the latter effects were based on studies but ultimately these were discredited. Television documentaries entitled *The Killing Ground* and newspaper reports all seemed to be the driver behind political capitulation, despite statistical science demonstrating that *Love Canal* was of very low risk. Kuran and Sunstein's main point is that the wave of attention accorded to *Love Canal* was a function of the artificial demand for

[979] Amos Tversky and Daniel Kahneman, 'Availability: A Heuristic for Judging Frequency and Probability' (1973) 5 Cognitive Psychology 207, 208 ('[A] person could estimate the numerosity of a class, the likelihood of an event, or the frequency of co-occurrences by assessing the *ease* with which the relevant mental operation of retrieval, construction, or association can be carried out') (emphasis added); ibid 208 ('A Person is said to employ the availability heuristic whenever he estimates frequency or probability by the ease with which instances or associations could be brought to mind').
[980] ibid.
[981] Timur Kuran and Cass Sunstein, 'Availability Cascades and Risk Regulation' (1999) 51 Stanford Law Review 683, 685.
[982] ibid 688.

political action which, in the end, resulted in wasteful regulatory responses that could have put resources to better use on real issues like smoking.[983]

On the other hand, the availability heuristic may have the potential for positive effects on market dynamics. If prospective entrants witness successful entry, the 'availability bias may lead [them] to overestimate its chance of triumphant entry into an apparently profitable market'.[984] Firms therefore become subject to the overconfidence bias.[985] Two heuristics and biases may coalesce together, then, and actually produce an effect that would be desirable from a competitive standpoint. Indeed, although such overoptimistic entry is less likely to be successful, the very fact of their presence 'decreases other entrants' probability of success and changes the composition of the final cohort of successful entrants'.[986] Start-ups, for example, exhibit strong overoptimism and get lucky – ultimately displacing entrants who had higher *ex-ante* chances of success.[987] The ensuing benefits include greater consumer choice and increased 'competitive pressures on incumbents'.[988] As Tor concludes:

> When overconfident entrants attempt entry more frequently than rationality dictates, they increase the range of the possible outcomes of entry selection, bringing to the market many innovative products, services, and methods of operation that otherwise would not have been introduced. While many high-risk innovative ventures fail, those that survive expose the economy to a significant amount of innovation. And, even those who fail, infuse market participants with new ideas and information that may later provide a basis for success by other entrants or incumbents.[989]

Note that it is not just the supply-side that may actually benefit from *ir*rationality. More pertinent for our purposes are the biases with potential to induce higher levels of consumer

[983] ibid 691–698.
[984] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1033.
[985] Joshua D Wright and Judd E Stone II, 'Still Rare Like a Unicorn? The Case of Behavioral Predatory Pricing' (2012) 8 Journal of Law, Economics & Policy 859, 864 ('Optimism bias speculates that individuals accurately assess potential risks in the abstract but discount these risks significantly when applying them to their own situations…').
[986] Tor, 'The Fable of Entry: Bounded Rationality, Market Discipline, and Legal Policy' (n 885) 531.
[987] ibid 532.
[988] ibid 540.
[989] ibid 541.

switching, thereby adding to the substitution effect.[990] Consider for instance loss aversion, whereby consumers may be spurred to 'avoid the costs [involved] in continuing to buy from a price-increasing firm'.[991] Consider also in this respect the potential for a bandwagon effect[992] if consumers observe other consumers switching from one supplier to another.[993] The optimism bias, which as we have just seen can have positive effects on supply, may also increase consumer substitution by spurring 'bargain-hunters consistently to seek out better deals'.[994] Consumers may also place greater weight on the recency of market deals and switch to a firm that more easily springs to mind.[995]

In sum, exactly which biases are more persistently and more powerfully negative from a competition standpoint than others would seem to be an empirical question[996] and beyond the scope of this thesis. This discussion provides a starting point, however, for further research on the categorisation of bias intensity and its link to the scope of antitrust enforcement. Nevertheless, empirical evidence would seem to cut against generalised propositions about rational or *ir*rational behaviour. Both RCT and BE/BLE acolytes should strive for more nuanced conversations and statements about the likelihood of *ir*rational conduct rather than assume constant uniformity. Indeed, such an endeavour has been highlighted as significant for future BE/BLE research. Mitchell

[990] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1029 ('Cognitive psychology has identified many aspects of human reasoning that might lead consumers to abandon a price-increasing firm in greater numbers than conventional theory might suggest'). See also Chapter 2.
[991] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1030.
[992] See H Leibenstein, 'Bandwagon, Snob, and Veblen Effects in the Theory of Consumers' Demand' (1950) 64 Quarterly Journal of Economics 183, 184 (describing the bandwagon effect as the result of 'the desire of people to wear, buy, do, consume, and behave like their fellows; the desire to join the crowd…').
[993] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1030 ('[I]f consumers observe others switching to a less expensive substitute, a bandwagon effect may cause a cascade away from a higher-priced product').
[994] ibid. See eg Ofer Tur-Sinai, 'The Endowment Effect in IP Transactions: The Case Against Debiasing' (2011) 18 Michigan Telecommunications and Technology Law Review 117, 148 (illustrating overoptimism in the context of a poetry competition).
[995] Devlin and Jacobs, 'The Empty Promise of Behavioral Antitrust' (n 35) 1030.
[996] ibid (arguing that 'cognitive biases are meaningless without empirical validation. Although they may exist in fact, their frequency, prevalence, and appearance defy systematic prediction').

proposes this move by advocating for the identification of 'discrete situations' that are likely to manifest *ir*rationality instead of trying to build general models.[997] Indeed,

> when we have empirical data establishing the contingent nature of a behavioral tendency, surely we should acknowledge these *limiting conditions* rather than bury them in (typically implicit rather than express) *ceteris paribus* clauses.[998]

CONCLUSION

Antitrust's identification problem becomes implicated on both the levels of conduct and market power. This Chapter has elucidated these identification issues across both these dimensions – showcasing how both levels of the problem present real analytical issues for antitrust decision-makers in coming to ultimate conclusions about liability. Thus, to the extent that antitrust enforcement decision-makers *do* and *should* engage in predictive analyses, then the Behavioural Antitrust detractors' theoretical criticisms would seem to hold some practical weight.

Moreover, the fact that we have examples which cut in both directions—markets self-correcting and markets not self-correcting; behavioural phenomena manifesting *more* or *less* in intensity and *more* or *less* regarding competitive effects—should not be too surprising given the imperfect nature of markets and the heterogeneous distribution of *ir*rationality across society. It can be argued, however, that this very point means the prospect of self-correcting market failures warrants at least a partial (though not a predominant) consideration in antitrust analysis, in which case antitrust *should* be partly a predictive enterprise. Of course, analysis of a dynamic kind 'may

[997] Mitchell, 'Why Law and Economics' Perfect Rationality Should not be Traded for Behavioral Law and Economics' Equal Incompetence' (n 369) 130 ('Given the applied nature of legal decision theory, the primary goal should be to explain and predict behavior in *discrete situations* to the greatest extent possible rather than to seek to build an overarching theory of legal behavior…') (emphasis added).
[998] Mitchell, 'Tendencies Versus Boundaries: Levels of Generality in Behavioral Law and Economics' (n 899) 1804 (emphasis added).

require difficult judgments about the likelihood of disruptive innovations in the future'.[999] And this is compounded by measuring intertemporal welfare tradeoffs. But to ignore these futurity considerations altogether would seem to render antitrust analysis 'incomplete'.[1000]

More important, however, is that the discussions in this Chapter provide some basis for moving away from dichotomous debates about self-correction versus no self-correction and towards a more nuanced conversation about the conditions[1001] under which one outcome is more likely than the other, thereby proffering guidance for identifying anti-competitiveness. This seems particularly true for digital platform markets because of these firms' unique business structures and emerging methods for solidifying market power in more pernicious and unprecedented ways.[1002] Indeed, the very existence of these new *kinds* of markets bolsters the claim that the assessment of the prospect of market self-correction is less binary and more nuanced.

[999] Evans and Schmalensee, 'Some Economic Aspects of Antitrust Analysis in in Dynamically Competitive Industries' (n 765) 47.
[1000] Devlin and Jacobs, 'Antitrust Error' (n 740) 91. See also Thomas O Barnett, 'Maximizing Welfare Through Technological Innovation' (2008) 15 George Mason Law Review 1191, 1199.
[1001] We will refer to these conditions in the next Chapter as "boundary conditions".
[1002] See Chapter 3.

6 – ANTITRUST'S "DOCTRINAL" IDENTIFICATION PROBLEM IN DIGITAL PLATFORM MARKETS: TOWARDS "WORKABLE" COGNITIVE FORECLOSURE

I. COGNITIVE FORECLOSURE MISIDENTIFIED

The *Google Search (Shopping)* judgment[1003] exemplifies the difficulty of "subsuming" emerging and novel foreclosure methods under pre-existing areas of law[1004] – thereby illustrating an additional identification problem[1005] to the ones we discussed in Chapter 5.[1006] This identification problem, however, is different to the ones highlighted previously because in the latter scenarios the presumption was that there existed substantive law to actually apply but that its application may result in erroneous outcomes. In contrast, the former scenario involves the apparent lack of existing substantive law to apply because of new phenomena that cannot be conceptually squared with existing rules.[1007]

Note that this "doctrinal" issue of identification—that is, discerning how the conduct at issue fits within existing competition rules—is not simply a theoretical exercise and has significant practical implications. The initial legal characterisation of the conduct (e.g. refusal to deal, tying, margin squeeze) dictates the respective legal test to be applied. Yet some tests may be easier to

[1003] Case T-612/17 *Google Search (Shopping)* EU:T:2021:763.
[1004] Justin Lindeboom, 'Rules, Discretion, and Reasoning According to Law: A Dynamic-Positivist Perspective on *Google Shopping*' (2022) 13 Journal of European Competition Law & Practice 63, 63.
[1005] Case T-612/17 *Google Search (Shopping)* EU:T:2021:763, para 158 ('Google [argues]…that the Commission does not identify anything in the practices at issue that deviates from competition on the merits'); Case T-612/17 *Google Search (Shopping)* EU:T:2021:763, para 144 (Google argues that the Commission relied on "leveraging" but did not identify any 'anticompetitive feature' – in which case 'the Commission would not have been entitled to classify [the] conduct as abusive').
[1006] See Chapter 5.
[1007] Lindeboom, 'Rules, Discretion, and Reasoning According to Law: A Dynamic-Positivist Perspective on *Google Shopping*' (n 1004) 63 ('The *Google Shopping* case is legally challenging…because there was no pre-existing legal rule prohibiting self-favouring by dominant undertakings…'); Friso Bostoen, 'The General Court's *Google Shopping* Judgment: Finetuning the Legal Qualifications and Tests for Platform Abuse' (2022) 13 Journal of European Competition Law & Practice 75 (describing how *Google Search (Shopping)* is legally ambiguous and raises questions as to the legal qualification of the conduct involved); Renato Nazzini, '*Google* and the (Ever-Stretching) Boundaries of Article 102' (2015) 6 Journal of European Competition Law & Practice 301, 313 (concluding that 'the alleged Vertical Search Abuse does not fall squarely under any of the established categories or types of abuses'). See also Pablo Colomo, 'Self-Preferencing: Yet Another Epithet in Need of Limiting Principles' (2020) 43 World Competition 417.

satisfy than others, so the question of identification becomes wholly important, as the probability of liability varies according to different sets of legal criteria. Proving refusal-to-deal, for instance, is much more difficult than proving tying.[1008]

Google Search (Shopping) has been described as 'legally challenging…because there was [apparently] no pre-existing legal rule prohibiting self-favouring by dominant undertakings'.[1009] A case-specific rule was also absent, further exacerbating legal uncertainty.[1010] Indeed, the fact-specific nature of the "abuse" of self-favouring would seem to be too concrete and insufficiently abstract to 'offer a theory of broader use for leveraging conduct in digital markets'.[1011] Many commentators have, therefore, made efforts in the context of *Google Search (Shopping)* to square the case's facts with pre-existing substantive legal tests.[1012] And indeed, issues of legal qualification seem to be at the fore of digital platform cases more generally, as most involve and are motivated by allegations of what has come to be known as "self preferencing".[1013] Consider, for example, the

[1008] Bostoen, 'The General Court's *Google Shopping* Judgment: Finetuning the Legal Qualifications and Tests for Platform Abuse' (n 1007) (describing how 'legal qualifications can easily determine the outcome of a case').
[1009] Lindeboom, 'Rules, Discretion, and Reasoning According to Law: A Dynamic-Positivist Perspective on *Google Shopping*' (n 1004) 63. See also Chapter 3, Part I (describing the facts of *Google Search (Shopping)*).
[1010] Magali Eben, 'Fining Google: A Missed Opportunity for Legal Certainty?' (2018) 14 European Competition Journal 129, 141 et seq.; ibid 143 (describing how the European Commission's 'nebulous description [of Google's conduct] left much room for speculation as to the precise nature of the abuse').
[1011] Bostoen, 'The General Court's *Google Shopping* Judgment: Finetuning the Legal Qualifications and Tests for Platform Abuse'(n 1007); Lindeboom, 'Rules, Discretion, and Reasoning According to Law: A Dynamic-Positivist Perspective on *Google Shopping*' (n 1004) 65 ('The decision-maker has to explain not only why this conduct is anticompetitive or abusive, but on the basis of what *general criteria* this and similar conduct are anticompetitive or abusive').
[1012] See eg Bo Vesterdorf, 'Theories of Self-Preferencing and Duty to Deal – Two Sides of the Same Coin' (2015) 1 Competition Law & Policy Debate 4; Marina Lao, 'Search, Essential Facilities, and the Antitrust Duty to Deal' (2013) 11 Northwestern Journal of Technology and Intellectual Property 275; Benjamin Edelman, 'Does Google Leverage Market Power Through Tying and Bundling?' (2015) 0 Journal of Competition Law & Economics; Ioannis Lianos and Eugenia Motchenkova, 'Market Dominance and Search Quality in the Search Engine Market' (2012) 9 Journal of Competition Law & Economics 419. See also Bostoen, 'The General Court's *Google Shopping* Judgment: Finetuning the Legal Qualifications and Tests for Platform Abuse' (n 1007).
[1013] Bostoen, 'The General Court's *Google Shopping* Judgment Finetuning the Legal Qualifications and Tests for Platform Abuse' (n 1007). See eg Friso Bostoen and Daniel Mândrescu, 'Assessing Abuse of Dominance and the Platform Economy: A Case Study of App Stores' (2020) 16 European Competition Journal 431, 435 (describing how platforms like the App Store and Google Play are vertically-integrated and 'may thus be incentivized to preference the distribution of their own apps over those of competitors in various ways'). cf Case T-612/17 *Google Search (Shopping)* EU:T:2021:763, para 240 (holding that the behaviour at issue constituted 'positive acts of discrimination').

cases against *Amazon*[1014] and *Google Ads*,[1015] both of which are motivated by "self-preferencing" concerns.

The enforcement landscape is beginning to demonstrate that in these kinds of cases, the primordial issue seems to be the *effects* of the conduct on consumer behaviour. Indeed, cases like *Funda*[1016] and *Streetmap*[1017] all highlight that in "self-preferencing" contexts, the issue seems not to be about the *fact of* discrimination in a platform's favour but rather the *effects of* such conduct on *consumer* behaviour.[1018]

In *Funda*,[1019] for instance, a Dutch court was confronted with discriminatory treatment by an online platform. A trade association of real estate agents also owned the online platform, Funda. Rival estate agents argued that they were being discriminated against – that is, their search rank was not as favourable as the search rank accorded to the trade association's agents. Although the Court held that Article 102(c) TFEU could apply because similar transactions were being treated dissimilarly, the discriminatory conduct did not result in a competitive disadvantage. The appeals court held the same and reasoned that *consumers*, in the process of making such an important purchase like that of a house, will conduct their search process with diligence and persistence. Hence, the likelihood of such conduct resulting in anticompetitive outcomes would be low.[1020] Thus

[1014] European Commission, 'Commission Sends Statement of Objections to Amazon for the use of Non-Public Independent Seller Data and Opens Second Investigation Into its E-Commerce Business Practices' *Europa* (10 November 2020) < https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2077> accessed 19 April 2022.
[1015] European Commission, 'Commission Opens Investigation Into Possible Anticompetitive Conduct by Google in the Online Advertising Technology Sector' *Europa* (22 June 2021) < https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3143> accessed 19 April 2022 ('The European Commission has opened a formal antitrust investigation to assess whether Google has violated EU competition rules by *favouring* its own online display advertising technology services in the so called "ad tech" supply chain, to the detriment of competing providers of advertising technology services, advertisers and online publishers') (emphasis added).
[1016] Case C/13/528337 *VBO Makelaar v Funda*, NL:RBAMS:2018:1654.
[1017] *Streetmap.eu v Google* [2016] EWHC 253 (Ch).
[1018] Bostoen, 'The General Court's *Google Shopping* Judgment: Finetuning the Legal Qualifications and Tests for Platform Abuse' (n 1007) 80.
[1019] Case C/13/528337 *VBO Makelaar v Funda*, NL:RBAMS:2018:1654.
[1020] Case C/13/528337 *VBO Makelaar v Funda*, NL:GHAMS:2020:1337, para 3.9.

when dealing with "self-preferencing" and in contrast to *Google Search (Shopping)*, similar conduct may result in different outcomes in different contexts.

In *Streetmap*,[1021] an emphasis on demonstrating foreclosure effects from the demand-side was similarly evident. An online maps provider argued that Google engaged in self-preferencing by promoting and displaying in a preferential manner its own maps application.[1022] After characterising the case as one of discrimination rather than tying by differentiating *Microsoft*,[1023] the Court held that the threshold question for liability was proof of foreclosure effects.[1024] The Court broadly conceived of "input foreclosure" here as access to consumers via promotional display.[1025] However because only a limited number of users were diverted away from rival map providers due to the preferential display of Google's map application, the Court concluded that no anti-competitive foreclosure had resulted.[1026] Indeed, the Court had reasoned that for liability to result, the foreclosure effect had to be serious and appreciable[1027] – which is, perhaps, another way of saying it had to be "substantial".[1028]

[1021] *Streetmap.eu v Google* [2016] EWHC 253 (Ch).
[1022] *Streetmap.eu v Google* [2016] EWHC 253 (Ch), para 4 ('[T]he claimant contends that the defendants abused a dominant position in general search engines by the prominent and preferential display given to their own related online map product, thereby restricting competition from competing suppliers of online maps').
[1023] *Streetmap.eu v Google* [2016] EWHC 253 (Ch), paras 51–54.
[1024] *Streetmap.eu v Google* [2016] EWHC 253 (Ch), para 62 ('A dominant firm is of course able, and indeed should be encouraged, to compete, and successful competition on its part is likely to harm and may ultimately exclude competitors. Accordingly, for there to be an abuse, what has to be established is that there is *anti-competitive* foreclosure') (emphasis in original).
[1025] *Streetmap.eu v Google* [2016] EWHC 253 (Ch), para 63 ('But "input" is to be viewed broadly, and in the present case, the relevant input is the promotion afforded by display on the Google SERP; or put another way, display on the Google SERP is a form of access to customers').
[1026] *Streetmap.eu v Google* [2016] EWHC 253 (Ch), para 139 ('Although this is not an easy assessment due to the limitations in the data, I find on consideration of all the evidence that the introduction of the new-style Maps OneBox in June 2007 did not in itself have an appreciable effect in taking custom away from Streetmap. In the light of that, I conclude that it was not reasonably likely to give rise to anti-competitive foreclosure').
[1027] *Streetmap.eu v Google* [2016] EWHC 253 (Ch), paras 96–97.
[1028] See Chapter 2, Part II.

These cases on one view reveal that the legal threshold for self-preferencing is a *demand-side* consideration,[1029] which has been examined in previous chapters.[1030] So when commentators do debate the identification of the conduct at issue in *Google Search (Shopping)* and encounter difficulties in subsuming (i.e. "identifying") it under pre-existing legal frameworks, is it any wonder, then, that regulators, courts, and commentators have found such a conceptual task difficult? On one view it should not be surprising, because attempts to date have for the most part relied upon *supply-side* doctrines – that is, trying to subsume a demand-side market failure under supply-side legal frameworks.

Take for example the inappropriateness of refusal to deal—a supply-side doctrine—in resolving self-preferencing.[1031] Commentators have relied upon this doctrine to explain self-preferencing.[1032] However, refusal-to-deal rules are wholly supply-side orientated. The conceptual dynamic usually involves one firm in possession of an indispensable input necessary for the production of a good or service on a related market. Refusing to supply such an indispensable input then results in foreclosure of a firm who requested the input, which has nothing to do with the demand-side market failure of consumers failing to exert their competitive constraints. Thus, analogising *Google Search (Shopping)* makes little conceptual sense because the criteria are inapposite to deal with the demand-side market failure at issue. Indeed, that consumers are "inputs" was recognised in *Streetmaps*[1033] and as discussed below, consumer en-masse switching is necessary

[1029] Bostoen, 'The General Court's *Google Shopping* Judgment: Finetuning the Legal Qualifications and Tests for Platform Abuse' (n 1007) ('It should be clear from the *Streetmap* and *Funda* cases that, even under a discrimination standard, unequal treatment does not equate to abuse. The devil is often in the anticompetitiveness threshold of "competitive disadvantage", now generally interpreted as capability (or likelihood) of anticompetitive effects, for which not just any disadvantage suffices').
[1030] See eg Chapter 2; Chapter 3.
[1031] See Pinar Akman, 'The Theory of Abuse in *Google Search*: A Positive and Normative Assessment Under EU Competition Law' (2017) 2017 Journal of Law, Technology and Policy 301, 307 et seq.
[1032] See eg Lao, 'Search, Essential Facilities, and the Antitrust Duty to Deal' (n 1012); Vesterdorf, 'Theories of Self-Preferencing and Duty to Deal – Two Sides of the Same Coin?'(n 1012). cf Nicolas Petit, 'Theories of Self-Preferencing Under Article 102 TFEU' (2015) SSRN Working Paper < https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2592253> accessed 20 April 2022.
[1033] *Streetmap.eu v Google* [2016] EWHC 253 (Ch).

for a platform's new entry into the market at the *inter-platform* level of rivalry.[1034] But Google is not *in possession* of the consumers; rather, it has *control* over them.

Discrimination offers another illustration of the inappropriateness of squaring a demand-side market failure with supply-side doctrines.[1035] Article 102(c) TFEU—the applicable legislative provision—requires that the discrimination take place between trading parties other than the dominant undertaking. But the supply-side nature of this requirement fails to account for the fact that the foreclosure effect is manifesting not because of discrimination but because consumers themselves are acting less than rationally.

Even quasi-demand-side doctrines like tying fail to appropriately resolve self-preferencing issues.[1036] Although tying does incorporate a demand-side component for determining liability—that is, the lack of consumer choice to obtain the tying product without also having to simultaneously obtain the tied product—this does not account for the fact that consumers are not being *forced* to click on anything in the context of *Google Search (Shopping)*.[1037] Rather, the issue is that when a certain display structure is adopted—some options more visible and vivid and others less so—then users behave accordingly[1038] because of some cognitive defect that departs from the strict axioms of perfect rationality. Some argue that this amounts to a *de facto* tie, but this seems both far-reaching and undesirable from a policy perspective – for whenever consumers fail to exert their competitive constraints because of some kind of ostensibly benign conduct, the firm will be liable.

[1034] See Chapter 6, Part II.
[1035] Akman, 'The Theory of Abuse in *Google Search*: A Positive and Normative Assessment Under EU Competition Law' (n 1031) 327 et seq.
[1036] ibid 346.
[1037] ibid 349.
[1038] Edelman, 'Does Google Leverage Market Power Through Tying and Bundling?' (n 1012) 371–372.

Although each of the foregoing forms of abuse—resfusal-to-deal, tying, discrimination—will require the foreclosure effect to be "substantial", that is not what the issue is. The issue is the initial legal *characterisation of* the impugned conduct; not an evaluation of its likely effects. Indeed, as noted, such a task is 'crucial' because issues of qualification dictate applicable legal tests, 'which in turn hinges on the legal qualification given to such conduct'.[1039] However, in formulating a broader framework that captures conduct like that at issue in *Google Search (Shopping)*, one should be mindful of the effects so that the abstract criteria identified has practicable and "workable" value for regulators and judges. Otherwise put, the criteria used for legal characterisation should arguably reflect the effects and vice-versa, which would not only align with the effects-based approach now firmly governing antitrust enforcers' decision-making but could also be desirable from the perspective of legal certainty (firms *ex-ante* would at least now know that the legality of their conduct will hinge on demand-side effects). This is similar to what some have called 'procedural methodology' in antitrust enforcement.[1040] More than this, however, is the need for a framework to appropriately identify "substantial" and durable demand-side market failures. Cognitive foreclosure, as a demand-side market failure, falls into a category of market failures that, as discussed in Chapter 2, are infamous in this respect.[1041] Consequently, the criteria should arguably be such as to try and limit intervention only to contexts in which such a "substantial" and durable demand-side market failure can arise. Additionally, it should arguably only be limited to behavioural phenomena that can significantly and durably influence consumer behaviour.

Indeed, not all markets have the same capacities for market failures. Some are more conducive to anti-competitive conduct than others. The structure-conduct-performance paradigm, for instance, sought to highlight this fact by recognising the heterogeneity of market structures and

[1039] Bostoen, 'The General Court's *Google Shopping* Judgment: Finetuning the Legal Qualifications and Tests for Platform Abuse' (n 1007) 85.
[1040] See Barak Orbach, 'Antitrust Stare Decisis' (2015) October The Antitrust Soruce 1, 7.
[1041] Chapter 2, Part II.

how some structures could lead to more anti-competitive outcomes than others.[1042] Stigler also once noted that 'collusion is impossible for many firms and collusion is much more effective in some circumstances than in others'.[1043] Additional examples of this nuance may be seen across international antitrust enforcement regimes, where regulatory guidance acknowledges (at least implicitly) that some market structures may contain more of the necessary and sufficient conditions for anti-competitive outcomes than others.[1044] Oligopolies, for example, are probably more conducive to collusion 'as it is easier for fewer companies to reach a common understanding on the terms of coordination and to monitor deviations'.[1045] Note that this nuance is not limited to collusive outcomes; more pertinent for our purposes is the demand-side of the market, which has been subjected to several nuanced antitrust policy proposals in the context of unilateral conduct that recognise variance in market structure and how some may justifiably trigger antirust scrutiny more than others.[1046]

[1042] See Leonard W Weiss, 'The Structure-Conduct-Performance Paradigm and Antitrust' (1979) 127 University of Pennsylvania Law Review 1104.

[1043] George J Stigler, 'A Theory of Oligopoly' (1964) 72 Journal of Political Economy 44, 44.

[1044] See eg in the EU, European Commission, 'Guidelines on the Applicability of Article 101 of the Treaty on the Functioning of the European Union to Horizontal Co-operation Agreements' (Communication) COM (11), para 80 ('In a complex market environment more information exchange is normally needed to reach a common understanding on the terms of coordination and to monitor deviations. For example, it is easier to achieve collusion on a price for a single, homogenous product, than on numerous prices in a market with many differentiated products'); ibid para 78 ('Collusive outcomes are more likely in transparent markets [and] '[t]he pre-existing degree of transparency, inter alia, depends on the number of market participants and the nature of transactions…'); ibid para 85 ('Overall, for a collusive outcome to be sustainable, the threat of a sufficiently credible and prompt retaliation must be likely. Collusive outcomes are not sustainable in markets in which the consequences of deviation are not sufficiently severe to convince coordinating companies that it is in their best interest to adhere to the terms of the collusive outcome. For example, in markets characterized by infrequent, lumpy orders, it may be difficult to establish a sufficiently severe deterrence mechanism, since the gain from deviating at the right time may be large, certain and immediate, whereas the losses from being punished small and uncertain, and only materialise after some time'). See eg in Turkey, Rekabet Kurumu, 'Guidelines on Horizontal Cooperation Agreements' (Turkish Competition Authority, 13-24/326-RM, 30 April 2018), para 60 et seq.

[1045] ibid para 79.

[1046] Scholars more recently have exhibited nuance by relying on various factors to "identify" and make "workable" antitrust in the context of demand-increasing practices. For example, some rely on market structure and posit that in more concentrated industries a monopolist can maintain and solidify market power when it engages in deceptive practices like false advertising. See eg Carrier and Tushnet, 'An Antitrust Framework for False Advertising'(n 274). Others propose a "quick-look" standard that establishes a *prima facie* case for liability if it appears that the conduct is reasonably capable of contributing significantly to maintaining a monopolist's market power. See eg Stucke, 'How Do (and Should) Competition Authorities Treat a Dominant Firm's Deception?' (n 274) 1071. And yet others say liability should be triggered when it imposes costs on purchasers of other products, like in a tying case where output is reduced in a market 'related to the one in which demand is increased'. See eg Mark Patterson, 'Coercion, Deception, and Other Demand-Increasing Practices in Antitrust Law' (1997) 66 Antitrust Law Journal 1. Others recognise that certain market structures may be *more* conducive to maintaining potentially anticompetitive demand-increasing practices than others.

A nuanced approach to antitrust enforcement policy has been the hallmark of various attempts to make antitrust enforcement workable. We saw this in Chapter 1 with respect to different antitrust schools' beliefs in market disciplining effects and their concomitant preferences for antitrust enforcement scope.[1047] What we mean by workable is an antitrust enforcement policy that acknowledges competition *may* in some instances survive some of the deviations from perfect competition and, hence, remain 'fairly healthy and workable' despite those imperfections.[1048] It is in these instances that 'one may hope that government need not assume the burden of doing something'[1049] and instead rely on the market to correct itself. More pointedly, it can be argued that nuance is a necessity for any antitrust enforcement policy because of (1) the impossibility of perfectly competitive markets[1050]—a point once famously made by economists[1051]—and (2) the by now very obvious fact that not all deviations from perfection are sufficiently indented to warrant antitrust scrutiny. Indeed, in Chapter 5 we were exposed to a variety of heterogenous deviations from the axioms of perfectly competitive markets.[1052]

In our efforts to make Behavioural Antitrust workable and identify substantial and sustainable anti-competitive behavioural harms, therefore, we must acknowledge the reality that is the nuance of

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See eg Huffman, 'Bridging the Divide? Theories for Integrating Competition Law and Consumer Protection' (n 274) 19 ('False reporting of prices will be successful only if not counteracted by competitors. A producer with *de minimis* market power will have no ability to influence competitive entry decisions through price reporting. By contrast, producers in an oligopoly marketplace may tacitly collude in false price reporting, and a monopoly producer will be able to control price reports through its unilateral conduct').

[1047] See Chapter 1, Part II.

[1048] J M Clark, 'Toward a Concept of Workable Competition' (1940) 30 American Economic Review 241, 256.

[1049] ibid.

[1050] Steve N Isser, 'What Is Workable Competition, Anyway (and Why Should We Care?)' (2016) SSRN Working Paper, 1 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2880147> accessed 14 September 2021 ('The necessity of some form of a model of workable competition is the impossibility of a perfectly competitive market').

[1051] See Sanford J Grossman and Joseph E Stiglitz, 'On the Impossibility of Informationally Efficient Markets' (1980) 70 American Economic Review 393.

[1052] See Chapter 5, Part II; Chapter 5, Part III. See also Chapter 1, Part I (explaining the stylised world of perfect competition and its axioms).

market characteristics and behavioural phenomena[1053] and how some industries may be more poised than others to cognitively foreclose competition significantly and durably.[1054]

II. COGNITIVE FORECLOSURE AS ANTITRUST HARM "IDENTIFIED"

a. Is the firm willing and able to control consumers ubiquitously and continuously in the relevant market identified?

The *first* necessary condition for a substantial and durable behavioural market failure to occur is that the market must be one in which the manipulator has continuous and ubiquitous control over (almost all) relevant consumers and their interaction with the product or service. If this were not the case, consumers and their demand functions could not be manipulated in the first instance. This point was highlighted in Chapter 3, where a contrast between digital platform markets and the market for retail bicycles was made.[1055]

This point perhaps becomes all the more significant to note when one considers the importance of switching to the rivalrous process in digital platform markets at the *inter*-platform level of rivalry. Data begets digital platform success, incentivizing firms to multitudinously attract and *retain* users. Firms therefore possess strong incentives to frustrate switching and/or multi-homing[1056] and induce single-homing. Further, the fact that platform competition is "for" the market only compounds these incentives because a platform's value to any given user and advertiser increases as *total* users increase (direct and indirect network effects). Thus, the fact that users will migrate to (and stay on) a platform with the *majority* of users demonstrates *why* in these kinds of

[1053] We noted in Chapter 5 the contingent nature of behavioural phenomena and how it may variably arise and vary in intensity across context and individuals.
[1054] See Sunstein, 'The Storrs Lectures: Behavioral Economics and Paternalism' (n 267) 1831–1832 (stating how in some instances the market may be an effective remedy against behavioural exploitation while in other 'identifiable cases, those who do *not* exploit human errors will be seriously punished by market forces, simply because their competitors are doing so and profiting as a result').
[1055] See Chapter 3, Part II.
[1056] See ibid.

markets there will ever *only* be a 'place for [just] a limited number of platforms'.[1057] Both these reasons—data and the user scale/platform-value relationship—make platforms intensely motivated to capture and ensnare users on their platform.

A digital platform is therefore both incentivized and able to control *aggregate* demand[1058] because in these platform markets direct and indirect network effects dictate that the platform with the *majority* of users is where most of the *market* demand will be concentrated.

b. Are consumers likely to self-correct their cognitive shortcomings in the relevant market identified?

The *second* necessary condition for a substantial and sustainable behavioural market failure to occur is that the environment must be one in which consumers in the aggregate may not be expected to move towards greater levels of perfect rationality. Otherwise put, it would have to be one in which the prediction of market self-correction is unlikely. In light of what we know of digital platforms' powerful capacities to control the rivalrous process, self-correcting prospects on this view seem low. Indeed, whilst the Chicago–*Post*-Chicago debate manifested primarily in brick-and-mortar markets, digital platform markets are replicating this story because much of regulatory and policymaker anxiety is stemming from a doubt about the capacity for self-correction[1059] – that Adam Smith's invisible hand is insufficient and needs supplementing with regulatory intervention.[1060] Others are more optimistic about digital markets' self-correcting capacities.[1061]

[1057] Crémer et al, 'Competition Policy for the Digital Era' (n 2) 55.
[1058] See Chapter 2, Part II (explaining how aggregate demand must be damaged if antitrust scrutiny is to be warranted).
[1059] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 81.
[1060] Crémer et al, 'Competition Policy for the Digital Era' (n 2) 14 ('This competition policy must be vigorous, disciplined, and coherent. It must rely on solid analysis of the new market settings and of the market failures which *will imply* that "the invisible hand of the market" must be supplemented by "the visible hand" of competition authorities or of the legislator') (emphasis added).
[1061] See eg Bork and Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google' (n 445).

Advocates of 'uniquely interventionist'[1062] antitrust enforcement in digital platform markets argue market power is 'durable' due to these markets' idiosyncrasies[1063] – sceptical of their capacity to self-correct,[1064] which exacerbates their foreclosure concerns.[1065] In contrast, those arguing that concerns are overstated rely on history, as illustrated in Chapter 5, to inform their beliefs of markets' self-correcting capacities – that anxieties about insurmountable monopolies in the past have usually been misplaced.[1066] These historical examples are met with a sur-reply – that "this time is different".[1067]

Scope economies are one reason cutting against regulators' and policymakers' belief in the capacity for new entry in digital markets and therefore exacerbate their self-correction scepticism. For example, a platform offering email can combine its mapping technology to offer 'a higher quality restaurant recommendation product'.[1068] These scope economies are touted as a critical reason why the 'same small number of large digital companies' have been able to construct ecosystems 'across several adjacent markets'.[1069] Amazon is a case in point[1070] and illustrates rival foreclosure as a concern when the platform is *both* the marketplace regulator and a ubiquitous participant in that marketplace.[1071] Amazon competes in online book retail, delivery and logistics, payment services, auction houses, television and film production and distribution, hardware

[1062] Newman, 'Antitrust in Digital Markets' (n 878) 1497.
[1063] ibid 1503–1520.
[1064] ibid 1512–1517.
[1065] ibid 1518–1520. See also Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 41.
[1066] Bourne, 'Is This Time Different?'(n 767); Evans and Schmalensee, 'Debunking the 'Network Effects' Bogeyman' (n 843); Bork and Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google' (n 445) 690 (describing how Google overtook Yahoo); Evans and Schmalensee, 'Some Economic Aspects of Antitrust in Dynamically Competitive Industries' (n 765) 47 (highlighting the 'vulnerability of leading [digital] firms to entry powered by drastic innovation'). See also Chapter 5, Part II.
[1067] Bourne, 'Is This Time Different?' (n 767) 4 ('The past century is replete with warnings of "this time is different". Fears of entrenched monopoly power echo through time, often using near-identical arguments to those used against…tech giants today').
[1068] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 37. Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (n 3) 32 ('There are…features of digital markets that mean costs can be reduced, or service quality increased, by operating simultaneously across multiple adjacent markets').
[1069] Furman, 'Unlocking Digital Competition: Report of the Digital Competition Expert Panel' (n 3) 32.
[1070] Lina Khan, 'Amazon's Antitrust Paradox' (2016) 126 Yale Law Journal 710.
[1071] Crémer et al, 'Competition Policy for the Digital Era' (n 2) 60.

manufacturing and lists an additional plethora of current and potential[1072] competitors.[1073] Thus, Amazon's competitors are also its customers due to its integration in 'multiple, related business lines'. Its retail rivals may depend upon it for delivery, or media companies producing content may also depend on it for distribution. As Khan concludes, 'this arrangement creates conflicts of interest, given that Amazon is positioned to favour its own products over those of its competitors'.[1074]

Big Data is another reason for why "this time may be different" and therefore engender disbeliefs in market self-correction. Data—dubbed the "new oil"[1075]—may exacerbate the economies of scale and scope concerns due to datasets displaying 'increasing marginal returns'.[1076] This means acquiring new data has rising benefits because it is advantageous to have more and more granular consumer information – allowing a platform firm to become 'more and more confident about what the consumer wants, and to better tailor its services and ads'.[1077] Google's acquisition of Nest Labs—an interactive thermostat manufacturer—is illustrative. The thermostats use 'sensors' that link to a user's day schedule, which may empower Google to develop a '*fuller* picture of users' conduct' and amplify its algorithmic power.[1078] Data thus compounds scale and scope worries because a single digital firm with a diverse range of services will gain access to 'detailed non-shopping information' about consumers[1079] – 'simultaneously generat[ing] and captur[ing] digital

[1072] Amazon, 'Annual Report' 4 <https://ir.aboutamazon.com/files/doc_financials/annual/2018-Annual-Report.pdf> accessed 14 April 2020.
[1073] Khan, 'Amazon's Antitrust Paradox' (n 1070) 754.
[1074] ibid.
[1075] The Economist, 'The World's Most Valuable Resource is no Longer Oil, But Data' *The Economist* (6 May 2017) <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data> accessed 17 January 2020.
[1076] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 47.
[1077] ibid 48; Rubinfeld and Gal, 'Access Barriers to Big Data' (n 260) 342 ('Those who enjoy more portholes from which to gather data, who have a substantial database to which they can compare new data, or who possess unique data synthesis and analysis tools, may enjoy a competitive comparative advantage').
[1078] See Rubinfeld and Gal, 'Access Barriers to Big Data' (n 260) 352 (emphasis added). See also Bernard Marr, 'Google's Nest and the Internet of Things in the Connected Home' *Forbes* (5 August 2015) < https://www.forbes.com/sites/bernardmarr/2015/08/05/googles-nest-big-data-and-the-internet-of-things-in-the-connected-home/#e4842bd3bac4> accessed 29 April 2020 (describing the acquisition as a first step by Google to enter the impending market for 'smart homes').
[1079] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 45. See Alessandro Acquisti et al, 'The Economics of Privacy' (2016) 54 Journal of Economic Literature 442, 444.

trails of personal and professional activities' which were 'previously conducted in private and left little or no trace'.[1080] Ads become more targeted and services more granularly tailored.[1081] Advertising on this particular platform consequently becomes more valuable as consumers 'more and more' organise their social, cultural, and economic lives on one eco-system with 'multiple [data] touch points'.[1082]

As such, companies possess no incentive to 'stop looking for and accumulating new pieces of data, *entrenching* incumbents with large datasets vis-à-vis entrants with *smaller* databases'.[1083] Indeed, the European Commission is currently investigating Facebook's Marketplace for its potential to foreclose rival advertisers due to superior possession of data.[1084]

c. Bias implication potential

The *third* necessary condition for a substantial and sustainable behavioural market failure is that the conduct at issue must have the capacity to implicate an identifiable behavioural bias. Relatedly, the bias implicated must be capable of significantly and lastingly influencing consumer behaviour, such that consumers themselves are unlikely to circumvent their cognitive shortcomings and obviate the need for antitrust. In short, the conduct must (1) be able to implicate an identifiable behavioural bias and (2) that bias must be capable of significantly and lastingly influencing consumer behaviour.

[1080] Acquisti et al, 'The Economics of Privacy' (n 1079) 444.
[1081] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 44. See Acquisti et al, 'The Economics of Privacy' (n 1079) 444.
[1082] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 48. See ACCC, 'Digital Platforms Inquiry' (n 8) 11 ('The multiple touch points that Google and Facebook each have with their users enable them to collect more user data, improve their services and attract more users and advertisers, creating a virtuous feedback loop').
[1083] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 48 (emphasis added). See ACCC, 'Digital Platforms Inquiry' (n 8) 11 ('The breadth and depth of user data collected by the incumbent digital platforms provides them with a strong competitive advantage, creating *barriers to rivals* entering and expanding in relevant markets, and allowing the incumbent digital platforms to expand into adjacent markets') (emphasis added).
[1084] Foo Yun Chee, 'EU Antitrust Regulators Raise More Questions About Facebook's Online Marketplace' *Reuters* (7 April 2020) <https://www.reuters.com/article/us-eu-facebook-antitrust/eu-antitrust-regulators-raise-more-questions-about-facebooks-online-marketplace-idUSKBN21P22J> accessed 8 May 2020.

Chapter 5 illuminated this issue, when we were exposed to the heterogeneous distribution of *ir*rationality.[1085]

d. Consumers are "inputs"

The *fourth* and final condition necessary for a substantial and durable behavioural market failure to occur is that consumers themselves must be "inputs". This condition seems necessary because only in markets where consumers are inputs and demand therefore constitutes a central force would behavioural market failures in the form of cognitive foreclosure seem to be able to affect *aggregate* demand. Indeed, as already noted, platform industries have been cited as more poised to fall foul to demand-side market failures and generate antitrust issues compared to ordinary markets.[1086]

Indeed, consider the importance of online users in digital platform contexts to the rivalrous process, particularly at *inter*-platform levels, discussed above. Digital platforms usually incur large fixed costs but low marginal costs – that is, 'the cost of [serving] an additional user on the platform is relatively low'.[1087] These 'increasing returns to scale'[1088] are said to be a 'barrier to entry' because new firms are unable to match the incumbent's quality absent a 'large-scale operation' to pay for the

[1085] See Chapter 5, Part III.
[1086] David Dranove and Neil Gandal, 'The DVD vs. DIVX Standard War: Empirical Evidence of Vaporware' (2000) UC Berkeley, Centre for Competition Policy Working Paper No CPC00-16, 20 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=502842> accessed 12 August 2021 ('[T]he result that the product preannouncement by an entrant had such a large effect suggests that a product preannouncement by an incumbent would likely have a much larger effect; hence the *general antitrust concern* about vapourware seems justified') (emphasis added). See also Joseph Farrell and Garth Saloner, 'Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation' (1986) 76 American Economic Review 940, 942 (arguing that in the context of network effects industries, product preannouncements may have significant effects like 'critically determin[ing] whether the new product supersedes the existing technology'); Mark A Lemley and David McGowan, 'Legal Implications of Network Economic Effects' (1998) 86 California Law Review 479, 504 ('By preannouncing a product, a large company may…influence the outcome of a standards competition in an industry characterised by network effects'). Note that Lemley and McGowan doubt the capacity of deceptive practices like vapourware to generate anticompetitive effects in non-network effect markets and cite consumer protection as the appropriate legal regime. ibid 504–505 ('Absent network effects…it is difficult to see why anyone would be concerned about vapourware as an antitrust issue. Repeated efforts to deceive customers might be punishable as fraud or deceptive advertising if the market does not discipline the company, but it is unlikely that deception could really lead to market power in a non-network market').
[1087] ACCC, 'Digital Platforms Inquiry' (n 8) 73.
[1088] Scott Morton et al, 'Stigler Committee on Digital Platforms' (n 3) 37.

initial fixed cost. But large-scale can only be reached if 'quality is high'.[1089] Social networks are illustrative.[1090] An increase in users 'tends to raise the value of the platform to a given user'. If family and friends are on a social network, its value increases for any given user[1091] because the determinative criteria for selecting a social network are its size and the availability of people a user actually wants to be in contact with (i.e. 'identity-based network effects').[1092] New entrants—who initially have no users and therefore zero value to any given user—may find it difficult to compete. This latter phenomenon is known as direct network effects and their capacity to foreclose new entry[1093] can be seen in the relationship between a platform's scale and value – meaning as its size grows its value grows, creating 'a positive feedback loop'. Once a 'tipping point' of numbers is reached, a platform may be a consumer's 'most attractive' option. Thus, '[c]ompetitors with smaller networks may find it difficult to grow or even to protect their existing customer base from migration to the largest and most attractive network'.[1094]

CONCLUSION

Digital platform markets seem to be exhibiting a new kind of potentially nefarious conduct that does not seem to fit easily under existing competition frameworks and rules. Hence, this Chapter

[1089] ibid.
[1090] Search engines are also illustrative. See Bork and Sidak, 'What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google?' (n 445) 687–688.
[1091] ACCC, 'Digital Platforms Inquiry' (n 8) 79.
[1092] Bundeskartellamt, 'Background Information on the Facebook Proceeding' (19 December 2017) 3; Maurice Stucke and Allen Grunes, *Big Data and Competition Policy* (1st edn, OUP 2016) 164 ('[I]f your family and friends use WhatsApp to text you will more likely use WhatsApp as well').
[1093] Joseph Farrell and Paul Klemperer, 'Coordination and Lock-in: Competition With Switching Costs and Network Effects' in *Handbook of Industrial Organisation* (Elsevier 2007) 2007 (Describing how network effects exist when 'one agent's "adoption of a good" (a) benefits other adopters of the good' and '(b) increases others' incentives to adopt it'); ibid 2022 ('[T]he fact that adoption *encourages* others to adopt the same network' means '[a] user's adoption of A instead of B not only directly makes A more attractive to others but also makes the alternative, B, *less so*') (emphasis added).
[1094] Eleonora Ocello, Cristina Sjödin, and Anatoly Subočs, 'What's Up With Merger Control in the Digital Sector? Lessons From the Facebook/Whatsapp EU Merger Case' 1 (2015) *Competition Merger Brief* 1, 4.

identified the need for a new class of conduct to be recognised under antitrust law, which the Commission is entitled to adopt as the list of abuses in Article 102 TFEU is not exhaustive.[1095]

The Chapter advanced a conceptual framework containing necessary and sufficient conditions for a substantial and non-transient behavioural market failure to occur in order to move towards a more "workable" antitrust enforcement policy for cognitive foreclosure purposes. It is hoped that in the wake of digital platforms becoming more and more scrutinised by antitrust enforcers and more sophisticated in their capacity to cognitively foreclose competition, this framework can aid antitrust decision-makers in appropriately identifying liability in these kinds of cases.

[1095] Case C-395/96 P *Compagnie Maritime Belge Transports and Others v Commission*, para 112 ('It is settled case law that the list of abusive practices contained in [Article 102 TFEU] is not an exhaustive enumeration of the abuses of a dominant position prohibited by the Treaty').

PART III – COGNITIVE FORECLOSURE: THE NORMATIVE LIMITS

7 – JUSTIFYING BEHAVIOURAL ANTITRUST'S LIMITS

Every saint has a past, and every sinner has a future[1096]

INTRODUCTION

Having established a workable framework for behavioural antitrust enforcement (hereafter "Behavioural Antitrust") purposes, we now seek to build on our nuanced learnings about (1) heterogeneous distributions of *ir*rationality and (2) market contexts in which those behvaioural phenomena as demand-side market failures are likely to manifest as "substantial" and "sustainable" market failures. In short, we have already examined BE's limits for the purposes of enforcement and arrived at a "workable" antitrust enforcement policy;[1097] we now seek to justify those limits.

The use of a paternalistic intervention like antitrust for behavioural market failures might be justifiably limited from the perspective of moral hazard. If consumers know that the legal system will employ a big stick to protect them from their own cognitive shortcomings, we may reduce long-run social welfare because of the 'long-run costs of paternalistic regulations that induce negative learning and motivational effects'.[1098] In short, inducing consumers towards more perfect levels of rationality may be somewhat lost if antitrust—a much bigger stick than consumer protection, as we will see[1099]—assumes a punitive role for all behavioural market failures. Note that both European and United States recent legislative proposals do not account for this policy concern.[1100] A more

[1096] Oscar Wilde, *A Woman of No Importance* (London, Bloomsbury 2004) Act 3.
[1097] What we mean by "workable" is a reliable framework that can "identify" when the market will remain a good substitute for governmental intervention and hence obviate the need for antitrust enforcement.
[1098] Jonathan Klick and Gregory Mitchell, 'Government Regulation of Irrationality: Moral and Cognitive Hazards' (2006) 90 Minnesota Law Review 1620, 1625.
[1099] See eg Carrier and Tushnet, 'An Antitrust Framework for False Advertising' (n 274) 1848 (describing how after 'stringent' requirements like monopoly power are met, 'antitrust comes down hard on the defendant, who is potentially liable for treble damages, attorneys' fees, and costs'). See Chapter 7, Part II.
[1100] See eg Council Regulation (EC) 2020/0361 of 15 December 2020 proposal for a regulation of the European Parliament and of the Council on a Single Market for Digital Services (Digital Services Act) and amending Directive 2000/31/EC [2020]; American Innovation and Choice Online Act, Section 2992, 117th Congress (2021-2022).

optimal approach, therefore, may be to limit Behavioural Antitrust across both biases and markets that have the potential to significantly damage entire markets durably.

Against this backdrop, this Chapter unfolds with one descriptive and one normative claim about the limits of Behavioural Antitrust. Part I illuminates how behavioural harms like the ones we saw in Chapter 3 can be described as an example of a 'combined' consumer protection/antitrust issue.[1101] It thus positions and orients the discussion as one in need of a nuanced understanding about the boundary conditions under which behavioural harms are more likely to justifiably raise one issue over the other. Part II proceeds to nuance the scope of antitrust intervention by linking it to the nature of biases and their respective intensities. It is recognised, as discussed in Chapter 5, that not all behavioural biases are the same, that some may have diverse effects—both positive and negative—on competition, and that some may be more surmountable by consumers over time than others. Similarly, the heterogeneous nature of markets and their capacities for perpetuating significant behavioural market failures is again recognised. It is thus normatively argued from a moral hazard perspective that antitrust—a much more paternalistic mode of intervention than consumer protection—should be limited in its enforcement framework to only the most insuperable of biases and hostile learning environments so that consumers over the long-run retain incentives to develop more rationality. The Chapter therefore illuminates the normative limits of Behavioural Antitrust on both the dimension of *biases* and on the dimension of *markets*.

I. BEHAVIOURAL HARMS AS COMBINED CONSUMER PROTECTION/ANTITRUST ISSUES

In Chapter 5, we demonstrated what we meant by antitrust having an "identification" problem and how this can be conceived of on two levels.[1102] This problem has been particularly pronounced in demand-side antitrust contexts. As noted in Chapter 2, antitrust has had a thorny relationship with

[1101] See eg Huffman, 'Bridging the Divide? Theories for Integrating Competition Law and Consumer Protection' (n 274) 18 (describing how market manipulation can be viewed as a combined consumer protection/antitrust issue).
[1102] See Chapter 5, Part I; Chapter 5, Part II.

the demand-side of markets because *sometimes* demand-side market failures are not sufficiently "substantial" and "sustainable" enough to damage entire markets durably (or to put the point another way, to empower firms to control the market price—that is, aggregate demand—non-transiently).[1103] Moreover, since other areas of the legal system like common law fraud[1104] and consumer protection regimes[1105] already deal with such market failures, one could question the need for antitrust.[1106] Nevertheless, various practices that have traditionally been associated with consumer protection—the legal regime which usually regulates demand-side market failures more *de minimis* in nature[1107]—have been subjected to analysis by antitrust commentators who argue that *sometimes* these practices deserve to be within the remit of antitrust enforcement.[1108] As Lande notes, the question is 'the extent to which they exist significantly' such that they 'should [instead] affect antitrust decisionmaking'.[1109]

[1103] See Chapter 2, Part II.

[1104] See Dan B Dobbs, *The Law of Torts* (St Paul: West Publishing Co 2000) 643–644.

[1105] See Chapter 7, Part I.

[1106] Harvard Law Review Association, 'Deception as an Antitrust Violation' (2012) 125 Harvard Law Review 1235, 1243–1244 (arguing in the context of deception, for example, that 'since a number of other legal regimes already address deception — including common law fraud, state unfair competition statutes, and the Lanham Act — one might wonder why antitrust scrutiny is necessary'). See also Posner, *Antitrust Law* (n 123) 195 ('[A]cquiring a patent by fraud…or falsely disparaging the competitor's products…are adequately punished under other laws').

[1107] See Averitt and Lande, 'Consumer Sovereignty: A Unified Theory of Antitrust and Consumer Protection Law' (n 135); Huffman, 'Bridging the Divide? Theories for Integrating Competition Law and Consumer Protection' (n 274) 9 ('The failures with which consumer law is concerned undermine the *consumer's ability* to optimize his or her own welfare') (emphasis added). See eg Areeda and Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application* (n 312) ¶ 782b ('[T]he courts would be wise to regard misrepresentation as presumptively de minimis for § 2 purposes'); Herbert Hovenkamp, *Federal Antitrust Policy* (4th edn, 1994) § 7.13, 366 ('[M]ost business torts have only a *de minimis* effect or no effect at all on competition'). Courts have also exhibited scepticism about demand-side market failures to generate the kind of market power antitrust should concern itself with. See eg *Jefferson Parish Hospital District No 2 v Hyde*, 466 US 2, 27 (1984) (stating how consumer information failures 'may generate "market power" in some abstract sense, [but] they do not generate the kind of market power that justifies condemnation of tying').

[1108] See eg Stucke, 'How Do (and Should) Competition Authorities Treat a Dominant Firm's Deception?' (n 274) 1071 (describing how sometimes deception 'may not contribute significantly to maintaining or attaining monopoly power' while '[a]t other times, deception raises significant anticompetitive risks'); Carrier and Tushnet, 'An Antitrust Framework for False Advertising' (n 274) 1864 ('When companies engaging in false advertising [already] have monopoly power, they possess the ability to harm not only an individual competitor but also the market as a whole'); Harvard Law Review Association, 'Deception as an Antitrust Violation' (n 1106) 1237–1241 (illustrating how deception can significantly harm competition). See also Patterson, 'Coercion, Deception, and Other Demand-Increasing Practices in Antitrust Law' (n 1046) (arguing how coercion and deception can be an antitrust issue).

[1109] Lande, 'Market Power Without a Large Market Share: The Role of Imperfect Information and Other "Consumer Protection" Market Failures' (n 681) 13 (arguing that sometimes these market failures can generate market power similar to 'market share-based market power'). See also Stucke, 'How Do (and Should) Competition Authorities Treat a Dominant Firm's Deception?' (n 274) 1094 ('The critical question is whether the misrepresentation reasonably appears capable of making a significant contribution to maintaining or attaining monopoly power…').

That we have identified BE as a demand-side market failure, then, should provide us with at least some pause for thought to examine briefly the issue of whether behavioural market failures—like other demand-side market failures—potentially blur the line between consumer protection and antitrust. As Patterson appropriately explains: 'Coercion, deception, and other demand-increasing practices present difficult problems for antitrust law because their competitive harm—if any—appears not to be of the *same kind* as the harm caused by more traditional antitrust violations'.[1110] Two arguments can be made, therefore, in illuminating the need for a nuanced assessment about BE's capacity to justifiably trigger antitrust scrutiny. The first is a "proxy" argument: that demand-side market failures (which BE falls into the category of) are usually the culprits in raising the issue of whether such failures deserve to be antitrust problems. The second is an empirical argument: that in fact evidence demonstrates sometimes BE should raise antitrust issues and sometimes it should not in light of the variance in evidence illustrating its potential capacity to significantly damage entire markets durably.[1111]

a. The proxy argument

Take for example the demand-side market failure of deception.[1112] Deception on the one hand has been subjected to consumer protection legislation in the form of many US State Unfair and Deceptive Acts and Practices (hereafter "UDAP") statutes[1113] and unfair competition legislation.[1114]

[1110] Patterson, 'Coercion, Deception, and Other Demand-Increasing Practices in Antitrust Law' (n 1046) 9 (emphasis added); ibid 32 (contending that even for sources of 'demand-based market power' that are 'regulated by expert agencies', antitrust 'should only…defer after the *nature and extent* of the antitrust harm is determined') (emphasis added). cf Richard Craswell, 'Tying Requirements in Competitive Markets: The Consumer Protection Issues' (1982) 62 Boston University Law Review 661 (arguing that tying arrangements not involving monopoly power should be removed from antitrust law entirely and moved under the auspices of consumer protection because of institutional competence issues).

[1111] Chapter 5, Part II; Chapter 5, Part III.

[1112] Patterson, 'Coercion, Deception, and Other Demand-Increasing Practices in Antitrust Law' (n 1046) 3 (describing the effects of deception and coercion on antitrust as 'demand effects'); Averitt and Lande, 'Using the "Consumer Choice" Approach to Antitrust Law' (n 132) 181 ('Consumer protection law…guards against other market failures by ensuring that *consumers are able to* make free and rational selection from among…options, unimpeded by artificial constraints, *such as deception*…') (emphasis added). Indeed, some US consumer protection legislation limits its application to deceptive practices that consumers *themselves* cannot overcome, which thus serves to illustrate it as a demand-side market failure. See eg 15 USC § 45(n) ('The Commission shall have no authority under this section…to declare unlawful an act or practice on the grounds that such act or practice is unfair unless the act or practice causes or is

However, rafts of variance exist as to *when* deception may constitute an antitrust issue. It is therefore one example of how the demand-side has the potential to blur the antitrust/consumer protection boundary. Variance amongst US federal appeals courts, for example, illustrates the potentially contingent nature about deception's capacity to durably damage the entire market significantly and thus justifiably trigger antitrust scrutiny.[1115] In *Retractable Technologies v Becton Dickinson*,[1116] for instance, the Court doubted the capacity of false advertising to sustainably harm the market as a whole: it seemed to agree with the Seventh Circuit that it could be self-correcting (and hence not durable)[1117] and, further, that it was unlikely to significantly affect competition in light of the 'dearth' of demonstrative precedent.[1118] And whilst other circuits have adopted a *de minimis* approach to false advertising,[1119] we simultaneously have instances where courts have recognised deception's ability to damage significantly and durably the entire market.

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likely to cause substantial injury to consumers which is *not reasonably avoidable by consumers themselves*...') (emphasis added).

[1113] See eg Consumer Protection Act of 1977, Tenn Code Ann § 47-18-104(b)(8) (2001) (prohibiting 'disparaging the goods, services or business of another by false or misleading representations of fact'); National Conference of Commissioners on Uniform State Laws, Revised Uniform Deceptive Trade Practices Act § 2(a)(8) (1966) (describing how the Uniform Act is 'designed to bring state law up to date by removing undue restrictions on the common law action for deceptive trade practices'); Florida Deceptive and Unfair Trade Practices Act, § 501.204 ('Unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices in the conduct of any trade or commerce are hereby declared unlawful'); Deceptive Trade Practices Act, Tex Bus & Com Code § 17.46(a) ('False, misleading, or deceptive acts or practices in the conduct of any trade or commerce are hereby declared unlawful and are subject to action by the consumer protection division under [certain sections] of this code').

[1114] See eg 15 USC § 1125.

[1115] See Carrier and Tushnet, 'An Antitrust Framework for False Advertising' (n 274) 1850 et seq. See also Harvard Law Review Association, 'Deception as an Antitrust Violation' (n 1106) 1241–1244 (surveying the *de minimis* arguments against deception as an antitrust violation).

[1116] *Retractable Technologies, Incorporated v Becton Dickinson & Company*, 842 F3d 883, 895 (5th Cir 2016).

[1117] *Retractable Technologies, Incorporated v Becton Dickinson & Company*, 842 F3d 883, 895 (5th Cir 2016) ('[F]alse advertising simply "set[s] the stage for competition in a different venue: the advertising market". In such a setting, a business that is maligned by a competitor's false advertising may counter with its own advertising to expose the dishonest competitor and turn the tables competitively against the malefactor'), citing *Sanderson v Culligan International Co*, 415 F3d 620, 623 (7th Cir 2005).

[1118] *Retractable Technologies, Incorporated v Becton Dickinson & Company*, 842 F3d 883, 895 (5th Cir 2016) ('That false advertising alone hardly ever operates in practice to threaten competition…is confirmed…by a dearth of Fifth Circuit precedent…').

[1119] *American Council of Certified Podiatric Physicians and Surgeons v American Board of Podiatric Surgery, Inc*, 323 F3d 366, 370 (6th Cir 2003) ('An antitrust claim premised primarily on advertising or speech must overcome a presumption that such advertising or speech had a *de minimis* effect on competition'); *American Professional Testing Service, Inc v Harcourt Brace Jovanovich Legal and Professional Publications, Inc*, 108 F3d 1147, 1152 (9th Cir 1997) ('While false or misleading advertising directed solely at a single competitor may not be competition on the merits, the fliers in question must have a *significant and enduring* adverse impact *on competition itself* in the relevant markets to rise to the level of an antitrust violation') (emphasis added); *National Association of Pharmaceutical Mfrs, Inc v Ayeserst Laboratories, Div of/and American Home Products Corp*, 850 F2d 904, 916 (2d Cir 1988) ('[A] plaintiff

Consider in these latter respects *Microsoft*,[1120] exemplifying how 'at critical junctures [deception] *can* substantially lessen competition'.[1121] Here the District Court found that Microsoft publicly represented that it would promote cross-platform technology such that independent software developers' applications could be used on both Windows operating system computers *and* rival operating system computers.[1122] However this in fact was not the case because Microsoft's tools covertly used 'certain keywords and compiler directives', which rendered the applications Windows-specific and not usable on non-Windows operating systems.[1123] Thus,

> developers who relied upon Microsoft's public commitment to cooperate with Sun and who used Microsoft's tools to develop what Microsoft led them to believe were cross-platform applications ended up producing applications that would run only on the Windows operating system.[1124]

Internal emails and documents demonstrated the deceptively exclusionary intent of Microsoft[1125] and the DC Circuit ultimately held that the conduct anticompetitively insulated Microsoft's monopoly position and, therefore, violated the Sherman Act.[1126]

Note also deception's capacity to damage the market not just substantially but also durably – particularly in two-sided markets with network effects where even a single deceptive proclamation

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asserting a monopolization claim based on misleading advertising must overcome a presumption that the effect on competition of such a practice was *de minimis*').

[1120] *United States v Microsoft Corp*, 253 F3d 34 (DC Cir 2001).

[1121] Stucke, 'How Do (and Should) Competition Authorities Treat a Dominant Firm's Deception?' (n 274) 1111 (emphasis added).

[1122] *United States v Microsoft Corp*, 253 F3d 34, 76 (DC Cir 2001).

[1123] *United States v Microsoft Corp*, 253 F3d 34, 76 (DC Cir 2001) ('As a result, even Java developers who were opting for portability over performance…unwittingly [wrote] Java applications that [ran] only on Windows').

[1124] *United States v Microsoft Corp*, 253 F3d 34, 76 (DC Cir 2001).

[1125] *United States v Microsoft Corp*, 253 F3d 34, 76–77 (DC Cir 2001) ('[O]ther Microsoft documents confirm that Microsoft intended to deceive Java developers, and predicted that the effect of its actions would be to generate Windows-dependent Java applications that their developers believed would be cross-platform; these documents also indicate that Microsoft's ultimate objective was to thwart Java's threat to Microsoft's monopoly in the market for operating systems').

[1126] *United States v Microsoft Corp*, 253 F3d 34, 76–77 (DC Cir 2001) ('Microsoft's conduct related to its Java developer tools served to protect its monopoly of the operating system in a manner not attributable either to the superiority of the operating system or to the acumen of its makers, and therefore was anticompetitive. Unsurprisingly, Microsoft offers no procompetitive explanation for its campaign to deceive developers. Accordingly, we conclude this conduct is exclusionary, in violation of § 2 of the Sherman Act').

can "tip" demand.[1127] In *Caldera I*, a rival operating system claimed Microsoft engaged in deceptive practices to eliminate it from the market.[1128] Among these were 'allegedly improper actions' of 'preemptive false and misleading announcements of forthcoming, competitive [Microsoft] products'[1129] – a practice known as "Vaporware". This had the effect of dissuading computer manufacturers to switch from Windows to the rival's operating system.[1130] The plaintiff claimed in 1994—several years after the alleged deception apparently began—that it would withdraw from the market. At this point, Microsoft announced its new software would not be available until August 1995.[1131] The district court saw some merit in a section 2 Sherman Act violation and denied Microsoft's motion for partial summary judgment.[1132] Microsoft settled for an estimated $275 million.[1133]

Kodak and *Jefferson Parish* further exemplify variance about demand-side market failures and their potential to blur the line between consumer protection and antitrust. Each 'relied upon a

[1127] Dranove and Gandal, 'The DVD vs. DIVX Standard War: Empirical Evidence of Vaporware' (n 1086) 20 ('[T]he result that the product preannouncement by an entrant had such a large effect suggests that a product preannouncement by an incumbent would likely have a much larger effect; hence the *general antitrust concern* about vapourware seems justified') (emphasis added). See also Farrell and Saloner, 'Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation' (n 1086) 942 (arguing that in the context of network effects industries, product preannouncements may have significant effects like 'critically determin[ing] whether the new product supersedes the existing technology'); Mark A Lemley and David McGowan, 'Legal Implications of Network Economic Effects' (1998) 86 California Law Review 479, 504 ('By preannouncing a product, a large company may…influence the outcome of a standards competition in an industry characterised by network effects'). Note that Lemley and McGowan doubt the capacity of deceptive practices like vapourware to generate anticompetitive effects in non-network effect markets and cite consumer protection as the appropriate legal regime. Lemley and McGowan, 'Legal Implications of Network Economic Effects' (n 1086) 504–505 ('Absent network effects…it is difficult to see why anyone would be concerned about vapourware as an antitrust issue. Repeated efforts to deceive customers might be punishable as fraud or deceptive advertising if the market does not discipline the company, but it is unlikely that deception could really lead to market power in a non-network market').

[1128] *Caldera, Inc v Microsoft Corp*, 72 FSupp2d 1295, 1299 (D Utah 1999).

[1129] *Caldera, Inc v Microsoft Corp*, 72 FSupp2d 1295, 1299 (D Utah 1999).

[1130] *Caldera, Inc v Microsoft Corp*, 72 FSupp2d 1295, 1300 (D Utah 1999) (One Microsoft executive stated: '[v]urtually all of our OEMs were informed about DOS 5, which *diffused* DRI's ability to capitalize on a window of opportunity with these OEMs').

[1131] *Caldera, Inc v Microsoft Corp*, 72 FSupp2d 1295, 1304 (D Utah 1999) ('Caldera claims that shrouded in the fog of such vaporware and as a result of *years of* Microsoft's illegal anticompetitive conduct, Novell announced in September 1994 that it would withdraw from active development and marketing of further versions of DOS. On the heels of Novell's exit from the market, Microsoft announced on December 20, 1994, that Chicago, now officially termed "Windows 95," may not be available until August 1995') (emphasis added).

[1132] *Caldera, Inc v Microsoft Corp*, 87FSupp2d 1244, 1249 (D Utah 1999).

[1133] Andrews Litigation Reporter, 'Microsoft Settles Unfair Competition Suit by Caldera' (Andrews Publications 2000). See also BBC, 'Caldera vs Microsoft – The Settlement' *BBC News* (13 January 2000) <http://news.bbc.co.uk/2/hi/business/600488.stm> accessed 12 August 2021.

market failure that is more often associated with consumer protection violations…'[1134] *Kodak* and *Jefferson Parish*, introduced in Chapter 1, both implicated information failures – a market failure that has usually been housed under the auspices of consumer protection.[1135] Perhaps this is why we saw such antagonistic responses to *Kodak* from various commentators, as highlighted in Chapter 2.[1136] Indeed, the opposite outcomes in these cases demonstrate the penumbral nature of such market failures. For instance, it has been contended that *Jefferson Parish* represented an express rejection of 'the notion that the pricing discretion from…imperfect information can be antitrust market power'.[1137] And yet the outcome in *Kodak* suggested that imperfect information can generate "antitrust" market power.[1138] However it has been argued that *Kodak* should be limited to its specific set of facts and, therefore, its application to cases with 'very similar facts'[1139] – a further illustration of the potentially contingent nature of such demand-side market failures' capacities to generate either antitrust or consumer protection issues. Indeed, interpreting *Kodak* like this—limiting its application to complex durable goods markets—generates the conceptual problem for future courts of identifying the meaning of "complex",[1140] such that in some markets *Kodak* would trigger antitrust scrutiny and in some it would not.

[1134] Lande, 'Market Power Without a Large Market Share: The Role of Imperfect Information and Other "Consumer Protection" Market Failures' (n 681) 8.
[1135] Becher and Bar-Gill, 'Consumer Protection' (n 220) 49 ('[I]n many consumer markets the assumptions of complete information and rationality do not hold. Market failures result in inefficiency and harm to consumers. In these conditions legal intervention may well be considered. This is the *domain of* consumer protection law') (emphasis added).
[1136] See Chapter 2, Part II.
[1137] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 41.
[1138] *Eastman Kodak Co v Image Technical Services, Inc*, 504 US 451 (1992).
[1139] Jacobs, 'Market Power Through Imperfect Information: The Staggering Implications of *Eastman Kodak Co. v. Image Technical Services* and a Modest Proposal for Limiting Them' (n 211) 369 ('An obvious way to limit the reach of *Kodak* is to restrict its applicability to cases with very similar facts').
[1140] Ibid 369 ('[T]he next court encountering a similar dispute will have to fashion a workable, narrow definition of "*complex* durable goods"') (emphasis in original).

b. The empirical argument

All of the foregoing is just a proxy for being put on notice about BE's capacity to justifiably trigger antitrust scrutiny. Practically and more pointedly, there is variance in BE's capacity to generate the kind of market power—that is, significant and enduring—that antitrust ought to concern itself with.

Indeed in Chapter 3 we acknowledged in the context of brands (which we illustrated as a BE phenomenon through the Affect heuristic) that it may be *only* the most well-known and famous brands that can confer significant market power.[1141] As Lemley and McKenna acknowledge:

> The evidence doesn't support the conclusion that all brands confer market power…[b]ut it seems quite likely that, for many of the most famous brands, and for a variety of goods in which price is a mixed or even affirmatively positive signal of value, trademark owners can easily raise the price of their goods 5-10% over the cost of an alternative product without their customers deserting them for that product.[1142]

Further, research demonstrates the heterogeneous capacity for consumers to learn over time and move towards more perfect levels of rationality in their decisions and judgments.[1143] Additionally, the heterogeneous distributions of *ir*rationality across individuals and contexts that we saw in Chapter 5[1144] further exemplify BE's potential variance for generating "antitrust" market power. It thus highlights the need for a nuanced understanding in this respect. The significant and enduring nature of behavioural market failures, then, may vary and thus highlights the need for appreciating *when* such failures can justifiably be antitrust issues and *when* they cannot.

[1141] See Chapter 3, Part IV.
[1142] Lemley and Mckenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' (n 200) 2087.
[1143] See eg Ernst Fehr and Jean-Robert Tyran, 'Individual Irrationality and Aggregate Outcomes' (2005) 19 Journal of Economic Perspectives 43, 43 ('A second common argument [about markets' abilities to 'correct or offset individually anomalous behaviors'] is that even if individuals are irrational at times, they will learn from their mistakes. While market experience can diminish anomalous behavior in some cases…a number of powerful individual anomalies, like the failure to update expectations in a Bayesian manner, are very robust to individual learning in markets…'); Colin F Camerer, 'Do Biases in Probability Judgment Matter in Markets? Experimental Markets' (1987) 77 American Economic Review 981; Colin Camerer, 'The Rationality of Prices and Volume in Experimental Markets' (1992) 51 Organizational Behavior and Human Decision Processes 237, 267 ('The data suggest that individual errors are *sometimes* reduced, but not eliminated, in experimental markets under ideal learning conditions').
[1144] See Chapter 5, Part III.

In sum, the above considerations would seem to be placing us in a landscape where behavioural market failures—like other demand-side market failures—may not *always* be antitrust issues. Whilst nefarious demand-increasing practices generally have often been cited as doctrinally outside antitrust's remit[1145]—an unfortunately narrow, non-consequentialist perspective that fails to account for the *real* effects of such practices—it is clear that such a purely legal view omits the instances, as shown above, when antitrust enforcement may be warranted because there was in that specific context a significant and enduring impact on competition. The remainder of this Chapter thus seeks to justify the limits identified in Chapter 6, thereby providing a normative underpinning for the separation of antitrust and consumer protection with respect to behavioural market failures.

II. THE NORMATIVE LIMITS OF BEHAVIOURAL ANTITRUST

a. Moral hazard

Having established the potential for great variance in effects on competition stemming from heterogeneous *ir*rationality,[1146] along with the differentiation of market contexts in which behavioural market failures might be expected to play a more powerful and enduring role, we now turn to examine why it is that antitrust *should* be limited only to those BE phenomena and markets with the potential for significantly and durably damaging entire markets. Otherwise put, BE

[1145] See Patterson, 'Coercion, Deception, and Other Demand-Increasing Practices in Antitrust Law' (n 1046) 20–26. See eg *Jefferson Parish Hospital District No 2 v Hyde*, 466 US 2, 27 (1984) (stating how consumer information failures 'may generate "market power" in some abstract sense, [but] they do not generate the kind of market power that justifies condemnation of tying'). An illuminating example in this regard is *Schachar v American Academy of Ophthalmology, Inc.*, 870 F2d 397 (7th Cir 1989). In this case, the plaintiff had developed a new ophthalmological procedure and alleged that the defendants—an ophthalmological trade association—had acted anti-competitively by publicly disparaging the procedure. However, in defining market power as the restriction of supply, Judge Easterbrook narrowed antitrust's application and hence held that the demand-side practices here could not trigger antitrust issues. See *Schachar v American Academy of Ophthalmology, Inc.*, 870 F2d 397, 400 (7th Cir 1989) ('The Academy's declaration affected only the demand side of the market, and then only by appealing to consumers' (and third-party payors') better judgment. If such statements should be false or misleading or incomplete or just plain mistaken, the remedy is not antitrust litigation but more speech—the marketplace of ideas'); *Schachar v American Academy of Ophthalmology, Inc.*, 870 F2d 397, 399 (7th Cir 1989) ('Unless one group of suppliers diminishes another's ability to peddle its wares (technically, reduces rivals' elasticity of supply), there is not even the beginning of an antitrust case…'); *Schachar v American Academy of Ophthalmology, Inc.*, 870 F2d 397, 399 (7th Cir 1989) ('[Antitrust law] condemns reductions in output that drive up prices as consumers bid for the remaining supply') *citing NCAA v University of Oklahoma*, 468 US 85, 103–107 (1984); *Broadcast Music, Inc. v CBS, Inc.*, 441 US 1, 19–20 (1979); *Indiana Grocery, Inc. v Super Valu Stores, Inc.*, 864 F2d 1409, 1413–1414 (7th Cir 1989).

[1146] See Chapter 5, Part III.

phenomena and markets with only the potential for *de minimis* effects on competition should be excluded because they can best be regarded as 'nonstructural deviations from perfect competition'[1147] and are perhaps better remedied by consumer protection. This limitation has been justified, for example, from the perspective of false positive costs and the concomitant chilling potential on business behaviour.[1148] The following analysis consequently departs from the usual supply-side analytical fulcrum relied upon for limiting antitrust enforcement's scope and instead relies upon the demand-side concern of consumer moral hazard.

Sometimes moral hazard has a role to play in regulatory policy. In financial crisis contexts, for example, regulators have sought to limit the use of state aid to failing banks because of moral hazard concerns.[1149] Empirical research also suggests that the provision of too wide a safety net for financial firms may be more than just a theoretical concern.[1150] The provision of insurance more generally has also been subjected to moral hazard concerns.[1151] Even law schools are apparently no strangers to morally hazardous behaviour.[1152] Some have even questioned the justifiability of humanitarian interventions in developing countries because the expectation of foreign state protections may increase risky (and even fraudulent) rebellion efforts.[1153]

[1147] Arthur, 'The Costly Quest for Perfect Competition: *Kodak* and Nonstructural Market Power' (n 43) 61.
[1148] ibid 62 ('By expanding the scope of antitrust market power to include at least some forms of nonstructural market power, *Kodak* necessarily increases the severity of antitrust regulation').
[1149] European Commission, 'on the application, from 1 August 2013, of State aid rules to support measures in favour of banks in the context of the financial crisis' (Communication) OJ C 216/1, para 40 (highlighting how '[s]tate support can create moral hazard and undermine market discipline' and, as such, '[to] reduce moral hazard, aid should only be granted on terms which involve adequate burden-sharing by existing investors').
[1150] Jong-Wha Lee and Kwanho Shin, 'IMF Bailouts and Moral Hazard' (2005) SSRN Working Paper <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=640388> accessed 06 September 2021 (finding 'evidence that investor moral hazard is intensified on the countries that are more likely to be bailed out by the IMF'). cf Steven L Schwarz, 'Too Big to Fool: Moral Hazard, Bailouts, and Corporate Responsibility' (2017) 102 Minnesota Law Review 761, 765–769 (criticising the literature for a lack of evidence showing a link between bailouts and morally hazardous behaviour).
[1151] See eg Aviva Aron-Dine et al, 'Moral Hazard in Health Insurance: Do Dynamic Incentives Matter?' (2015) 97 Review of Economics and Statistics 725; J David Cummins and Sharon Tennyson, 'Moral Hazard in Insurance Claiming: Evidence from Automobile Insurance' (1996) 12 Journal of Risk and Uncertainty 29.
[1152] See eg Steven J Harper, 'Bankruptcy and Bad Behavior The Real Moral Hazard: Law Schools Exploiting Market Dysfunction' (2015) 23 American Bankruptcy Institute Law Review 347.
[1153] See eg Alan J Kuperman, 'The Moral Hazard of Humanitarian Intervention: Lessons From the Balkans' (2008) 52 International Studies Quarterly 49.

Illustrating that too much protection for individuals may not always be socially desirable are several illuminating scenarios from the Balkans. For example, when Bosnia seceded from Yugoslavia in 1992, moral hazard has been proffered as an explanation for why the Muslim community chose rebellion rather than political discourse as an action: they apparently 'believed they could prevail over the Serbs at a tolerable cost only because they expected to attract humanitarian intervention from the international community'.[1154] Similarly, in Kosovo, the reason behind why Albanian rebels chose violence has been attributed to moral hazard[1155] rather than to reasons like failing to 'expect massive retaliation',[1156] an erroneous belief that 'genocidal violence' was going to happen regardless of militant action,[1157] or an erroneous belief that the Serbs could be defeated 'at a tolerable cost without [foreign] state intervention'.[1158] The social cost of this humanitarian intervention is 'genocidal violence that otherwise would not have occurred'.[1159]

What social costs might be implicated by a legal regime that over-protects individuals from their own *ir*rational behaviour? One cost that scholars and policymakers have consistently highlighted is the potential underdevelopment of more rational, more effective decision-making.[1160] As Armstrong notes: 'The general point is that excessive consumer protection may be inimical to

[1154] ibid 60.
[1155] ibid 69 ('[T]he rebels launched their rebellion based on a belief that they could attract humanitarian intervention sufficient to attain their goal of Kosovo's independence at a tolerable cost in retaliation…').
[1156] ibid 67.
[1157] ibid 67–68.
[1158] ibid 68 ('The Albanians' early unsuccessful attempts to acquire military capability reveal that their initial pacifist strategy was born not of principle but rational calculation').
[1159] ibid 75.
[1160] Christopher Decker, 'Concepts of the Consumer in Competition, Regulatory, and Consumer Protection Policies' (2017) 13 Journal of Competition Law & Economics 151, 182 ('There can be a potential "moral hazard" problem associated with introducing policies to protect non-standard consumers. In essence, if consumers are over-protected by policies, they may not invest effort to ensure that they acquire the skills to make effective decisions in other contexts'); Mark Armstrong, 'Interactions Between Competition and Consumer Policy' (2008) MPRA Paper No 7258, 43–44 <https://econpapers.repec.org/paper/pramprapa/7258.htm> accessed 07 September 2021 ('[I]f consumers are overly protected in their market transactions, there is a danger of moral hazard and consumers may not develop the market skills to defend themselves against future exploitative conduct'); Mark Armstrong, 'Economic Models of Consumer Protection Policies' (2011) MPRA Paper No 34773, 3–4 <https://mpra.ub.uni-muenchen.de/34773/1/MPRA_paper_34773.pdfa> accessed 07 September 2021. See also Gerd Gigerenzer, *Risk Savvy: How to Make Good Decisions* (London, Penguin Books 2015).

the development of market skills in consumers'.[1161] Some formal economic models have illustrated this issue – that too much protection may dilute incentives to become more informed and, paradoxically, may actually end up harming consumers. For example, Armstrong et al find that the imposition of a price cap (a highly interventionist policy) led to a decrease in the number of informed consumers. The result was a 'weakening of competitive pressure', which allowed firms to raise prices.[1162] More specifically,

> price controls soften competition by *blunting consumers' incentives* to search for good deals. Although the direct effect of a price cap is to reduce prices, the indirect effect of reduced search lessens each firm's demand elasticity so much that prices on average go up.[1163]

Other models and studies found similar results – that a highly interventionist policy like a price cap can soften competition by reducing consumer engagement and, consequently, serve to indirectly raise prices because of increases in market power.[1164]

Theoretical models also showcase how a rational regulated group of individuals may act calculatedly and choose to invest less effort in socially desirable behaviour when braced with both *ex-ante* and *ex-post* paternalistic legal regimes.[1165] In an *ex-post* paternalistic scenario, for example, Klick and Mitchell find that

> paternalistic protection not only generates a moral hazard in which an individual underinvests in cognitive effort during the current period, but it also reduces an

[1161] Armstrong, 'Economic Models of Consumer Protection Policies' (n 1160) 4.
[1162] Mark Armstrong et al, 'Consumer Protection and the Incentive to Become Informed' (2009) 7 Journal of the European Economic Association 399, 410.
[1163] ibid 407. Note that Armsotrong et al's model was an extension of Burdett and Judd. See Kenneth Burdett and Kenneth L Judd, 'Equilibrium Price Dispersion' (1983) 51 Econometrica 955.
[1164] See eg Chaim Freshtman and Arthur Fishman, 'The "Perverse" Effects of Wage and Price Controls in Search Markets' (1994) 38 European Economic Review 1099, 1100 (finding that 'the effect of a price ceiling might be to lower the expected benefit from additional search, reduce the equilibrium amount of search activity and thus endow firms with increased market power').
[1165] Klick and Mitchell, 'Government Regulation of Irrationality: Moral and Cognitive Hazards' (n 1098) 1642–1649.

> individual's cognitive abilities in future periods relative to the situation in which no protection is provided.[1166]

This results in what the authors term a 'cognitive hazard' because insuring individuals 'against the costs of cognitive mistakes currently' raises the expectation of insurance in the future, thereby reducing cognitive investments overall.[1167]

On these foregoing points, then, the following sections demonstrate how on several levels antitrust can be a much "bigger stick" than consumer protection and, hence, an enforcement regime with a wider insurance net protecting against cognitive mistakes. We can see this on the level of *enforcement scope* and *penalties*. Consequently, the analysis provides a foundation for limiting antitrust intervention only to biases and markets that can significantly harm market structure durably.

b. Broader enforcement regime

Consider the fact that in some legal regimes, antitrust's enforcement scope may be broader than consumer protection. In the US, for instance, 'unlike the federal Lanham Act, which denies consumers standing to sue despite the direct harm they suffer from false advertising, antitrust law…allows customers to challenge the harms they experience from false advertising'.[1168] Additionally, some state consumer protection laws may be limited in their potential use of multi-state consumer class actions. This is because state-law variations may 'swamp any common issues and defeat predominance'[1169] – one of the pre-requisites to instigating a consumer class action.[1170]

[1166] ibid 1649.
[1167] ibid.
[1168] See Carrier and Tushnet, 'An Antitrust Framework for False Advertising' (n 274) 1865.
[1169] *Castano v Americam Tobacco Co.*, 84 F3d 734, 741 (5th Cir 1996) ('In a multistate class action, variations in state law may swamp any common issues and defeat predominance'); *Georgine v Amchem Products, Inc.*, 83 F3d 610, 618 (3d Cir 1996) (holding that the predominance requirement for certifying a class action was not met in this case because the factual and legal differences, 'when exponentially magnified by choice of law considerations, eclipse any common issues…'); *In re American Medical Systems, Inc.*, 75 F3d 1069, 1085 (6th Cir 1996) (finding that certification was

This contrasts with an antitrust class action, where concepts like negligence that may vary across states, would not need to be considered as a matter of law. Moreover, some state consumer protection laws do not allow commercial enterprises to sue in their roles as consumers,[1171] which contrasts with antitrust where direct purchasers like business enterprises can sue for damages.[1172] Note also that many states have repealed *Illinois Brick* under "*Illinois Brick* repealer statutes",[1173] which had precluded indirect purchasers from bringing antitrust damages claims, and so may offer a much wider remit of enforcement.[1174] Thus, as Carrier and Tushnet conclude, 'antitrust [may] [provide] remedies that would otherwise be unavailable to plaintiffs who were themselves deceived by a monopolist…'[1175]

Consider also the contrasting evidentiary realities of antitrust enforcement vis-à-vis consumer protection, which may also serve to render the former a much broader and potent form of *ex-post* paternalism. In antitrust cases, the institutional use of sophisticated econometric techniques and economic analysis is now extensively relied upon to establish infringements.[1176] For example, the Federal Trade Commission (hereafter "FTC"), which is in charge of enforcing both the antitrust

improper because, among other things, '[t]he district judge…failed to consider how the law of negligence differs from jurisdiction to jurisdiction…').

[1170] Fed R Civ P 23. See eg *Comcast Corp. v Behrend*, 133 S Ct 1426, 1433 (2013) (holding that a class was improperly certified because "[q]uestions of individual damage calculations will inevitably overwhelm questions common to the class").

[1171] See eg *MacDonald v Thomas M Cooley Law School*, 724 F3d 654, 660–661 (6th Cir 2013) (holding that the Michigan Consumer Protection Act does not cover purchases for business purposes).

[1172] *Hanover Shoe, Inc. v United Show Machinery Corp.*, 392 US 481 (1968); *Illinois Brick Co v Illinois*, 431 US 720 (1977).

[1173] See eg Minnesota (Minn. Stat. § 325D.57) (providing for treble damages to be available to any person injured 'directly or indirectly'); Nebraska (Neb. Rev. Stat. § 59-821) (providing for the pass-on defence); California (Cal. Bus. & Prof. Code § 16750(a)) (providing for treble damages for 'any person who is injured in his or her business or property by reason of anything forbidden or declared unlawful by this chapter, regardless of whether such injured person dealt directly or indirectly with the defendant); Kansas (Kan. Stan. Ann. §50-161(b)) (providing treble damages for persons injured 'regardless of whether such injured person dealt directly or indirectly with the defendant'); Michigan (Mich. Comp. Laws Ann. § 445.778 (1) to (2)) (providing for direct and indirect damages actions); New York (N.Y. Gen. Bus. Law § 340) (providing for the pass-on defence when indirect purchasers are involved); Vermont (Vt. Stat. Ann. tit. 9, § 2465) (providing that the fact that the injured person has not dealt directly with the defendant is not a bar to recovery). Sometimes cases have repealed *Illinois Brick*. See eg Iowa (*Comes v Microsoft Corp.*, 646 NW2d 440, 448 (Iowa 2002)); Tennessee (*Freeman Indus., LLC v Eastman Chem. Co.*, 172 SW3d 512, 517 (Tenn. 2005)).

[1174] *Illinois Brick Co v Illinois*, 431 US 720 (1977).

[1175] Carrier and Tushnet, 'An Antitrust Framework for False Advertising' (n 274) 1866.

[1176] See Michael R Baye and Joshua D Wright, 'How to Economize Consumer Protection' February (2018) The Antitrust Source 1.

and consumer protection laws, deploys staff economists and uses economic analysis as a standard practice in its enforcement of the antitrust rules.[1177] This contrasts with institutional practice in consumer protection cases. For consumer protection issues evidence is usually more subjective in nature, relying on surveys and opinions.[1178]

The enforcement consequences of this narrower evidentiary toolkit illustrate how consumer protection can be a "smaller stick" than antitrust. Note that in *LabMD*, for instance, the Court granted the defendant's motion for a stay pending appeal based partly on the fact that the FTC's showing of consumer harm was 'only speculative'.[1179] Further, the FTC relied on various dictionary definitions of the word "likely" in assessing the likelihood of harm, with the Court implying a lack of sophistication in such a methodology choice.[1180] Similar conclusory analyses held little success also in *D-Link*, where the Court dismissed the claim with leave to amend based partly on the fact that the FTC made 'out a mere possibility of injury at best'.[1181] The lack of any identification of consumer harm was even more 'striking' given that the FTC professed itself to have undertaken 'a thorough investigation before filing the complaint'.[1182]

[1177] ibid 1 ('Bureau of Competition staff lawyers and the economists in the Bureau of Economics commonly work together to use economic analysis to identify, analyze, and prosecute cases. These analyses often involve statistical and econometric techniques that facilitate decision-making based on scientific evidence based on likely harm to competition or consumers').
[1178] ibid 1 ('[T]he typical approach to a consumer protection matter relies upon a combination of surveys and subjective opinions to establish the facts relevant to a consumer protection dispute…').
[1179] *LabMD, Inc. v Federal Trade Commission*, 678 Fed App'x 816, 821 (11th Cir 2016).
[1180] *LabMD, Inc. v Federal Trade Commission*, 678 Fed App'x 816, 821 (11th Cir 2016) ('The FTC looked to different dictionaries and found different definitions of the word "likely." It is through this approach that it argues that its construction is correct, considering the statute's context as a whole. *Even respecting this process*, our reading of the same dictionaries leads us to a different result') (emphasis added).
[1181] *Federal Trade Commission v D-Link Systems, Inc.*, 2017 WL 4150873, 5 (United States District Court, Northern District of California, September 19, 2017) ('The FTC does not identify a single incident where a consumer's financial, medical or other sensitive personal information has been accessed, exposed or misused in any way, or whose IP camera has been compromised by unauthorized parties, or who has suffered any harm or even simple annoyance and inconvenience from the alleged security flaws in the DLS devices. The absence of any concrete facts makes it just as possible that DLS's devices are not likely to substantially harm consumers, and the FTC cannot rely on wholly conclusory allegations about potential injury to tilt the balance in its favor').
[1182] *Federal Trade Commission v D-Link Systems, Inc.*, 2017 WL 4150873, 5 (United States District Court, Northern District of California, September 19, 2017).

While the foregoing analyses perhaps show the potential for under-enforcement if consumer protection institutions were to govern antitrust issues, it counterintuitively may be a desirable state of affairs from the perspective of moral hazard in the context of the regulation of *ir*rationality. Braced with a much less imposing and paternalistic enforcement regime, consumers may feel less protected and, hence, may invest in developing themselves into more rational decision-makers. On the other hand, a more protectionist regime could serve to perpetuate the opposite effect, with the result being lower levels of societal rationality. This re-emphasises the concern for cognitive hazards – that is, the frustration of rational development because of paternalistic interferences.[1183]

c. Higher penalties

Another reason why consumers may feel more protected under an antitrust regime and hence invest less in the development of their own rationality is the significant difference in punitive measures between antitrust and consumer protection. The magnitude of these penalties and their concomitant chilling effect on business conduct has often been cited as a reason for limiting the scope of antitrust enforcement to practices that only cause significant harm to markets.[1184] Less has been said, however, about its potential 'interference with competitive market forces [which] may adversely affect the development of rational behavior'.[1185]

[1183] Klick and Mitchell, 'Government Regulation of Irrationality: Moral and Cognitive Hazards' (n 1098) 1626 ('Moral hazards arise because paternalistic regulations reduce an individual's motivation to act deliberately and carefully, and motivation level mediates many psychological biases. What we term "cognitive hazards" arise when paternalistic regulations interfere with information searches, educational investments, and feedback that would occur in the absence of paternalistic interventions and that are important to the individual's development of effective decision- making skills and strategies').

[1184] See eg Carrier and Tushnet, 'An Antitrust Framework for False Advertising' (n 274) 1848 (describing how the application of antitrust law requires harm to the 'market as a whole' along with other requirements like market definition, monopoly power, and the potential need to rebut pro-competitive justifications in exclusionary cases. However once 'these stringent measures are satisfied, antitrust comes down hard on the defendant, who is potentially liable for treble damages, attorneys' fees, and costs'); Harvard Law Review Association, 'Deception as an Antitrust Violation' (n 1106) 1243 (describing how in the context of deception the prospect of 'treble damages in antitrust cases…could deter companies from truthful and pro-competitive speech (such as ordinary advertising) due to their fear that it will be mistaken for deception'). See also Areeda and Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application* (n 312) ¶ 780 ('[T]he prospect of treble damages will attract many barely colorable challenges if § 2 comes to recognize [business torts] as exclusionary').

[1185] Klick and Mitchell, 'Government Regulation of Irrationality: Moral and Cognitive Hazards' (n 1098) 1640.

Consider in this respect the significant difference in administrative fines between antitrust and consumer protection. In the European Union (hereafter "EU"), for example, substantial fines may be imposed for antitrust infringements.[1186] Under Article 23(2) Regulation 1/2003, fines may be imposed for up to ten percent of an undertaking's turnover in the preceding business year.[1187] This amount overshadows even the EU's recent push towards what has been described as 'high financial penalties for breaching consumer law…'[1188] Under Directive (EU) 2019/2161, EU member states must now enable the possibility of imposing a maximum fine of four percent annual turnover.[1189] Where information on annual turnover is unavailable, the maximum fine shall be €2 million.[1190] This latter number pales in comparison, for instance, to some of the more recent (and famous) competition law fines: more than €100 million fine against Google levied by the Italian antitrust authority;[1191] €35 million fine against three steel forging companies levied by the German antitrust authority;[1192] €2.93 billion fine against truck producers levied by the European Commission;[1193] and €1.06 billion fine against Intel levied by the European Commission.[1194]

[1186] Whish and Bailey, *Competition Law* (n 52) Ch 7 ('Article 23(2) provides for very substantial fines to be imposed where undertakings infringe Articles 101 and 102 TFEU…').
[1187] Council Regulation (EC) 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles [101] and [102] of the Treaty [2003] OJ L1/1, art 23(2).
[1188] DLA Piper, 'Consumer Law Enforcement – Recent EU/UK Legislative Developments and Future Prospects' *DLA Piper* (28 April 2020) <https://www.dlapiper.com/en/uk/insights/publications/2020/04/consumer-law-enforcement/> accessed 08 September 2021.
[1189] Council Directive 2019/2161 of 27 November 2019 amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011 83/EU of the European Parliament and of the Council as regards the better enforcement and modernisation of Union consumer protection rules [2019] OJ L328/7, art 1(4).
[1190] Council Directive 2019/2161 of 27 November 2019 amending Council Directive 93/13/EEC and Directives 98/6/EC, 2005/29/EC and 2011 83/EU of the European Parliament and of the Council as regards the better enforcement and modernisation of Union consumer protection rules [2019] OJ L328/7, art 1(5).
[1191] AGCM, 'Google Fined Over 100 Million for Abuse of Dominant Position' *Autorità Garante Della Concorrenza E Del Mercato* (13 May 2021) <https://en.agcm.it/en/media/press-releases/2021/5/A529> accessed 08 September 2021.
[1192] Bundeskartellamt, 'Bundeskartellamt Imposes Fines on Steel Forging Companies' *Bundeskartellamt* (04 February 2021) <https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2021/04_02_2021_Stahlschmieden.html> accessed 08 September 2021.
[1193] European Commission, 'Antitrust: Commission Fines Truck Producers €2.93 Billion for Participating in a Cartel' *Europa* (19 July 2016) < https://ec.europa.eu/commission/presscorner/detail/en/IP_16_2582> accessed 08 September 2021.
[1194] European Commission, 'Antitrust: Commission Imposes Fine of €1.06 bn on Intel for Abuse of Dominant Position; Orders Intel to Cease Illegal Practices' *European Commission* (13 May 2009) <https://ec.europa.eu/commission/presscorner/detail/en/IP_09_745> accessed 08 September 2021, annulled on remand Case T-286/09 RENV *Intel Corp. Inc. v European Commission* EU:T:2022:19.

Noteworthy also is the prospect of mandatory treble damages in the United States (hereafter "US"),[1195] which has been described as 'an unusually generous statute to plaintiffs'.[1196] Consumers harmed by antitrust infringements may bring private damages actions against the infringing firm(s). If they are successful—a prospect made all the more likely by broad discovery rules[1197]—the damages awarded are then automatically multiplied three-fold,[1198] with the aim being to provide a magnified deterrent effect on future violators.[1199] Moreover, the US government is also entitled to treble damages if it itself is a victim of an antitrust infringement.[1200]Attorney fees are also reimbursed if the plaintiff is successful.[1201]

Thus, in light of such litigation-inducing incentives and abilities,[1202] consumers may feel less need to correct their own *ir*rational behaviour. Knowing *ex-ante* that *ex-post* they can get compensated and then some, the incentive to engage in developing rational tendencies may become diluted.

[1195] Clayton Act, Ch 323, § 4, 38 Stat 730, 731 (1914) (codified as amended at 15 USC § 15(a) (2006)).
[1196] Keith N Hylton, *Antitrust Law: Economic Theory & Common Law Evolution* (Cambridge University Press 2009) Ch 3, 49 (describing treble damages as 'unusually generous' and how, as a consequence, '[i]t is no wonder that the federal courts have been on guard for plaintiffs who have tried to convert ordinary business torts (and even mundane gripes) into antitrust claims').
[1197] See Federal Rules of Civil Procedure, Rules 26–37. See also Thomas Obersteiner, 'Private Antitrust Enforcement in the US and the EU – A Comparison of Key Issues' (2019) SSRN Working Paper, 19 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3468473> accessed 08 September 2021.
[1198] Robert H Lande, 'Are Antitrust "Treble" Damages Really Single Damages' (1993) 54 Ohio State Law Journal 115, 115 ('Everybody "knows" that antitrust violations lead to mandatory treble damages and attorneys' fees').
[1199] *Mitsubishi Motors Corp. v Soler Chrysler-Plymouth, Inc.*, 473 US 614, 635 (1985) ('The treble-damages provision wielded by the private litigant is a chief tool in the antitrust enforcement scheme, posing a crucial deterrent to potential violators').
[1200] 15 USC § 15a ('Whenever the United States is hereafter injured in its business or property by reason of anything forbidden in the antitrust laws it may sue therefor in the United States district court for the district in which the defendant resides or is found or has an agent, without respect to the amount in controversy, and shall recover threefold the damages by it sustained and the cost of suit'). cf Harry First and Spencer Weber Waller, 'Pairing Public and Private Antitrust Remedies' (2019) NYU Law and Economics Research Paper No 19-23 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3417356> accessed 08 September 2021 (noting the limited use of private damages actions by the US government).
[1201] 15 USC § 15a. See also Edward D Cavanagh, 'Attorneys' Fees in Antitrust Litigation: Making the System Fairer' (1988) 57 Fordham Law Review 51.
[1202] Note that as many as 95 percent of antitrust cases have at one point been privately enforced. See eg Steve Salop and Lawrence White, 'Private Antitrust Litigation: An Introduction and Framework' in Lawrence White (ed) *Private Antitrust Litigation: New Evidence, New Learning* (Cambridge, MIT Press 1988).

CONCLUSION

In identifying the limits of Behavioural Antitrust, previous chapters have proffered two restrictions on antitrust enforcement that would result in a more optimal enforcement policy. First, context-sensitivity seems warranted given the more powerful and enduring role BE may be expected to play in digital platform markets as compared with other, more hospitable learning environments not characterised by dense concentrations of aggregate market demand. Given that BE is a demand-side market failure, on some level this context-sensitivity is unsurprising because at one point in time it was suggested that other kinds of demand-side market failures be subjected solely to a "fact-specific" antitrust enforcement policy.[1203] Second, the potential for great heterogeneity amongst biases in terms of their competitive effects arguably needs to be appreciated and recognised if an optimal antitrust policy is desired. The consequences of protecting consumers too much may have far-reaching social costs regarding cognitive development. Markets in the long-run, therefore, may be subjected to less consumer rationality and, consequently, become more prone to behavioural market failures in the form of behaviourally exploitative behaviour. As such, this Chapter has argued that enforcement may be justifiably limited only to those biases and environments with the potential to significantly damage entire markets[1204] durably.

[1203] See Jacobs, 'Market Power Through Imperfect Information: The Staggering Implications of *Eastman Kodak Co. v. Image Technical Services* and a Modest Proposal for Limiting Them' (n 211) 368 et seq.
[1204] Note that of course "entire" market may depend on your definition and one could imagine sub-markets but which are still in their own right the centre of aggregate demand.

REFLECTIONS

Demand-side market failures—that is, demand-side deviations from perfect competition—have a record of generating debate and anxiety within antitrust discourse and enforcement. They differ to orthodox supply-side restrictions of competition, which can have a more direct and immediate effect on market structure and, hence, aggregate demand. This is the pre-requisite for antitrust enforcement – what some leading treatises refer to as '*market* harm'[1205] and what apex courts refer to as 'the protection of *competition* [rather than] competitors'.[1206] One can see, for example, how a monopolist's refusal-to-supply an indispensable input results in a direct hit with market-wide consequences: the firm requesting the input will be foreclosed if the input is not granted and the input cannot be easily replicated.

So demand-side market failures' contingent capacities to significantly damage entire markets durably—what some have termed "antitrust" market power—should on one view be unsurprising because their market-wide impacts are more indirect and require extra steps. Deception for instance would require consumers at a market-wide level to fall foul to the false statements and, even then, this market-wide impact must not be capable of being corrected over a non-transient period of time.[1207] One can therefore imagine different contexts and scenarios where the directness of the market harm could become more or less exacerbated – for example markets with high search costs, markets where firms can easily obfuscate information, markets involving complex products, or markets where the *true* quality of a product or service is revealed only after a period of time. This highlights the need for knowing *ex-ante* the boundary conditions under which market-wide harm may be expected to manifest and if it is likely to be self-corrected.

[1205] Areeda and Hovenkamp, *Antitrust Law: An Analysis of Antitrust Principles and Their Application* (n 312) ¶ 706f8.
[1206] *Brown Shoe Co, Inc v United States*, 370 US 294, 320 (1962).
[1207] See Harvard Law Review Association, 'Deception as an Antitrust Violation' (n 1106).

This thesis has proffered behavioural markets failures—which are demand-side market failures—in digital platform markets as one illustration of where such market failures might be expected to transform from a *de minimis* market failure into a "substantial" and "sustainable" market failure.[1208] Digital platform markets would seem to contain necessary and sufficient conditions for this to happen: (1) consumers are "inputs" and, hence, aggregate demand becomes concentrated across just a small number of firms; (2) each firm has continuous, ubiquitous, and sophisticated control over this demand, all of which can lead to more insidious and pernicious distortions of demand at a market-wide level; and (3) the distortions are on one view unlikely to become corrected given the context in which they are manifesting – a market that is cognitively taxing, complex, obscure and, crucially, can be immediately made *more* taxing, complex, and obscure at the will of the platform firm. It is with these conditions in mind, along with a normative underpinning of such conditions,[1209] that the emerging demand-side market failure of cognitive foreclosure can be made "workable".

[1208] See Chapter 2; Chapter 3.
[1209] See Chapter 7.

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