

REGULATING ONLINE PLATFORMS

LESSONS FROM 100 YEARS OF TELECOMMUNICATIONS REGULATION

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Policymakers are increasingly sounding the alarm on the economic and political power of online platforms, i.e. the digital intermediaries such as Google, Amazon and Facebook. This concern is fueled by recent scandals such as Cambridge Analytica, but while such events capture the public's attention, the anticompetitive behavior of these platforms is more subtle but no less harmful to consumers. Valid concerns have been raised, for example, about the way in which platforms buy out potential challengers in 'killer acquisitions' or discriminate against competitors in vertically related markets. Due to the novelty of the behavior, a coherent regulatory response has been absent. However, the behavior is not completely novel: over the past 100 years, telecom operators have been regulated to prevent the same kind of anticompetitive conduct that platforms are now being accused of. That is why this paper surveys the history of telecom regulation and transposes the various interventions to the digital sphere. The goal is to devise a taxonomy of regulatory options and to clarify the trade-offs inherent in each of them. In doing so, account is taken of both EU and U.S. law and policy in the telecom as well as the platform sphere. The result is a toolbox for regulators to rationalize their policy towards platforms, bearing in mind that the effectiveness of each intervention depends both on the kind of platform and the kind of conduct they want to target. Nevertheless, this paper clearly concludes which regulatory options should be given priority over others to spur competition in the platform economy.

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1. THE TELECOMMUNICATIONS LANDSCAPE: FROM PROVIDERS TO PLATFORMS

To understand modern telecommunications, it is instructive to examine its most prominent medium, the internet, which can be presented as a series of layers.¹ The first layer is made up of open standards (such as TCP/IP) that technically facilitate the transport of information over the internet network. The second layer consists in the telecom infrastructure that makes this transport physically possible, either through wires (copper, cable, or fiber) or wireless (satellite or terrestrial). Thirdly, there is an application layer, i.e. the services that are offered over the internet. Lastly, a content layer consists of the information that users can access through these applications.

When assessing competition in modern telecommunications, it is clear that two of these layers are particularly prone to monopolization: the physical layer and the application layer.² The *physical layer* is dominated by telecom operators, in particular internet service providers (ISPs). While the commercial internet only dates back to the 1990s, most of these firms have been around since long before its advent, given that internet infrastructure largely overlaps with telephony and television infrastructure (all three services can be provided through the same wires—a phenomenon called ‘technological convergence’). The *application layer*, then, is increasingly dominated by online platforms such as Google, Amazon, and Facebook. In essence, their business model consists of facilitating interaction between different user groups (be it buyers and sellers, or

¹ Stuart Benjamin and James Speta, *Telecommunications Law and Policy* (Carolina Academic Press 2015), 537; Kevin Werbach, ‘A Layered Model for Internet Policy’ (2002) 1 *Journal of Telecommunications & High Technology Law* 37; Annemarie Bridy, ‘Remediating Social Media: A Layer-Conscious Approach’ (2018) 24 *Boston University Journal of Science and Technology Law* 193. *See also* Joel Monegro, ‘Fat Protocols’ (*Union Square Ventures*, 8 August 2016) <<http://www.usv.com/blog/fat-protocols>> (distinguishing a protocol layer, which includes blockchain technology, and an applications layer); Steven Johnson, ‘Beyond the Bitcoin Bubble’ (*New York Times*, 16 January 2018) <<https://www.nytimes.com/2018/01/16/magazine/beyond-the-bitcoin-bubble.html>> (distinguishing a protocol, platform and blockchain layer); ‘The story of the internet is all about layers’ (*The Economist*, 28 June 2018) <<https://www.economist.com/special-report/2018/06/28/the-story-of-the-internet-is-all-about-layers>> (distinguishing a protocol layer, an application layer, and an extension layer, which includes operating systems and cloud computing).

² *See similarly* Gigi Sohn, ‘A Policy Framework for an Open Internet Ecosystem’ (2018) 2 *Georgetown Law Technology Review* 335, 335-40.

potential customers and advertisers). They are therefore said to operate in multisided markets, where every user group represents a ‘side’.³

Centralization within the physical and application (or platform) layer can make the operators ‘choke points’ or ‘bottlenecks’, where online access can easily be closed down. Accordingly, there is a risk that platforms—like ISPs—start acting like monopolists in their respective layers, e.g. by abusing their market power to exclude competitors or exploit consumers. This risk is not simply theoretical. In 2017, the European Commission (EC) found that Google had used its search engine to exclude competing comparison shopping sites from the market.⁴ The agency is now also investigating how Amazon and Apple use their online marketplaces to drive competing retailers/app developers from the market.⁵ In the U.S., the Department of Justice (DOJ) recently announced a wide-ranging review of the anticompetitive practices of the market-leading online platforms.⁶ Reportedly, the agency has already singled out Google for investigation,⁷ while the Federal Trade Commission (FTC) opened an antitrust investigation of Facebook.⁸ Meanwhile, policymakers are not watching from the sidelines: many of them consider these targeted antitrust interventions insufficient and are proposing to regulate online platforms more generally.⁹

There is thus a growing consensus that some form of regulation is required to keep the internet open and competitive. As the ISPs’ telecom infrastructure has been around since the advent of telephony, regulators have ample experience (if not always success) in keeping this layer open. The same cannot be said with regard to online platforms, which have only become a significant force over the past few years. The objective of this paper is therefore to study whether regulatory interventions at the telecom level may inspire (or caution against) interventions at the platform level. To that end, this paper starts by presenting a theoretical framework for regulation,

³ This terminology is now widely accepted but was first used in Jean-Charles Rochet and Jean Tirole, ‘Platform competition in two-sided markets’ (2003) 1 *Journal of the European Economic Association* 990.

⁴ *Google Search (Shopping)* (Case AT.39740) Commission Decision.

⁵ EC, ‘Commission opens investigation into possible anti-competitive conduct of Amazon’ (press release, 17 July 2019) IP/19/4291; Andrew Liptak, ‘Spotify vs. Apple: the latest updates’ (*The Verge*) <<https://www.theverge.com/2019/3/17/18268861/spotify-apple-antitrust-fight-latest-updates-news>>.

⁶ Department of Justice, ‘Justice Department Reviewing the Practices of Market-Leading Online Platforms’ (press release, 23 July 2019) <<https://www.justice.gov/opa/pr/justice-department-reviewing-practices-market-leading-online-platforms>> (‘the Department’s Antitrust Division is reviewing whether and how market-leading online platforms have achieved market power and are engaging in practices that have reduced competition, stifled innovation, or otherwise harmed consumers’).

⁷ Friso Bostoen, ‘U.S. antitrust agencies divide jurisdiction over Big Tech and single out Google for investigation’ (*CoRe Blog*, 14 June 2019) <<https://coreblog.lexxion.eu/doj-google-investigation/>>.

⁸ Hannah Murphy, ‘Facebook reveals new FTC antitrust investigation’ (*Financial Times*, 24 July 2019) <<https://www.ft.com/content/b82f970a-ae4b-11e9-8030-530adfa879c2>>.

⁹ The legislative institutions of the EU just adopted Regulation (EU) 2019/1150 of the European Parliament and of the Council on promoting fairness and transparency for business users of online intermediation services [2019] OJ L186/59. In the US, various policymakers are proposing some version of platform regulation. See e.g. Elizabeth Warren, ‘Here’s how we can break up Big Tech’ (*Medium*, 8 March 2019) <<https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c>>.

and then assesses the need for such regulation in the online sphere (chapter 2). Next, the paper surveys the history of telecom regulation to determine how issues that now plague the platform economy have been dealt with in the past. Given that the U.S. used to play a leading role in the regulation of telecom, many of the interventions surveyed originate from that side of the Atlantic. On the basis of this survey, I conceive the modern-day equivalent of those telecom interventions in the platform sphere. A final question is whether transposing these regulations from one layer to another is justified (chapter 3). On that point, it must already be stressed that platforms differ in many respects from the telecom operators of yore.¹⁰ Moreover, the utility regulation that those telecom operators have been subjected to was not always successful.¹¹ The idea is therefore not to subject platforms to such utility regulation, but rather to use the telecom interventions as inspiration and subsequently question the extent to which those interventions could be effective in the platform sphere.¹²

As there are many different kinds of platforms (including search engines, online marketplaces and social networks) as well as many types of anticompetitive conduct, there is no one regulatory instrument that can remedy the ills currently associated with platform power. Therefore, the main goal of this paper is to build a taxonomy of potential regulatory interventions, and to elucidate the interaction between them as well as the trade-offs inherent in each intervention. In doing so, account is not only taken of historical interventions in the telecom sphere, but—where available—also of the recent initiatives to regulate the conduct of online platforms (which are primarily found on the European side of the Atlantic). Finally, the conclusion sets out which interventions policymakers should prioritize over others.

2. REGULATING THE ONLINE SPHERE

Regulation should never be presumed necessary. That is why this section starts with an inquiry in the rationale for regulatory intervention in the economic sphere, i.e. market failure. It then examines the main types of intervention: *ex ante* vs *ex post*, and structural vs behavioral. Finally, this framework is applied to online platforms: is there a case for regulation in the online sphere, and if so, what type of regulation? It must be noted, however, that even if the data shows a *prima facie* case

¹⁰ See e.g. Susan Crawford, ‘Calling Facebook a Utility Would Only Make Things Worse’ (*Wired*, 20 April 2018) <<https://www.wired.com/story/calling-facebook-a-utility-would-only-make-things-worse/>>.

¹¹ Arguably, the break-up of Standard Oil (see *infra*, section 3.5.) and the Kingsbury Commitment (see *infra*, section 3.1.1.) offer two examples of regulatory failures.

¹² Effectiveness is defined here with the goal of antitrust law in mind, i.e. consumer welfare, conceived as low prices, high quality, wide choice, and a high level of innovation. The evaluation shall incorporate all available research—qualitative and quantitative; theoretical and empirical—with regard to the effectiveness of platform regulation. Where appropriate, analogies between the effects of telecom regulation and the potential effects of platform regulation may be drawn.

for intervention, the answer is but preliminary. Given the wealth of online platforms that exist, market failures are conduct- rather than industry-specific. The next section therefore moves from general appraisals to the regulation of specific platform conduct.

2.1. Rationale for regulatory intervention: market failure

Leaving aside value-based rationales for regulation (such as freedom of speech), market failure is the most important justification for regulatory intervention.¹³ Market power constitutes one such failure as it entails an ‘X-inefficiency’, meaning prices¹⁴ will be higher than in a competitive market.¹⁵ Of particular concern is natural monopoly, which exists when ‘the entire demand within a relevant market can be satisfied at lowest cost by one firm rather than by two or more.’¹⁶ Situations of natural monopoly thus present the most extreme case of market power, but are distinguished by the fact that monopoly is the more rather than less efficient market structure in this case.

Natural monopoly—and market power more generally—is explained, first, by economies of scale, meaning that a firm’s average cost of production declines as its output expands. Secondly, it is explained by network effects, which imply that ‘the demand for the good depends on how many other people purchase it.’¹⁷ Thus, both economies of scale and network effects constitute barriers to entry, which make it more difficult for entrants to successfully compete with incumbents. The higher these barriers to entry, the more likely monopoly becomes. However, while the case for regulation becomes more convincing the stronger a firm or market tends towards monopoly, ‘[i]t is important to recognize that in reality there is not likely to be a bright line between industries that are “natural monopolies” and those that are (imperfectly) “competitive.”’¹⁸ The challenge is therefore to situate an industry on a spectrum in order to decide whether regulation is appropriate.¹⁹

¹³ Stuart Benjamin and James Speta, *Telecommunications Law and Policy* (Carolina Academic Press 2015), 5-11.

¹⁴ Price effects are used here—and elsewhere in this paper—as a shorthand for output, quality, choice and innovation effects, which operate similarly. Just note that in the latter two cases, the relation is inverse, i.e. an increase in price would correspond to a decrease of choice or innovation.

¹⁵ The concept of ‘X-inefficiency’ was introduced in Harvey Leibenstein, ‘Allocative Efficiency vs. “X-Efficiency”’ (1966) 56 *The American Economic Review* 392.

¹⁶ Richard Posner, ‘Natural Monopoly and its Regulation’ (1968) 21 *Stanford Law Review* 548, 548.

¹⁷ For a classic work, see Michael Katz and Carl Shapiro, ‘Network externalities, Competition, and Compatibility’ (1985) 75 *The American Economic Review* 424. The definition given here is borrowed from Hal Varian, ‘Economics of Information Technology’ (2001), 31 <<http://people.ischool.berkeley.edu/~hal/Papers/mattioli/mattioli.pdf>>.

¹⁸ Paul Joskow, ‘Regulation of Natural Monopolies’ in Mitchell Polinsky and Steven Shavell (eds), *Handbook of Law and Economics* (Elsevier 2007), 1248.

¹⁹ Section 2.3 engages in this exercise with regard to online platforms.

2.2. Types of regulatory intervention

Once a need for regulation has been established, one has to determine which type of intervention would meet this need in the most effective way. In terms of scope of application, there is a choice between *ex ante* regulation (often sectoral), which prohibits certain conduct across-the-board, and *ex post* regulation (antitrust law), which prohibits certain conduct only once it results in anticompetitive effects.²⁰ When it comes to the regulation itself, there is a distinction between *structural* rules, which concern the organization of a firm (e.g. prohibiting the combination of different activities within one firm), and *behavioural* rules, which govern the conduct a firm can engage in (e.g. prohibiting cross-subsidization between those different activities).

2.2.1. *Ex ante vs ex post*

Antitrust rules are the baseline: they will apply in any case, disregarding an increasingly limited set of exceptions.²¹ As *ex ante* rules are a more intrusive tool to ensure competition, their adoption should be properly justified. Regulators often engage in this exercise on a case-by-case basis, but a general framework is absent. At least when it comes to the telecom sector, the EC provided some guidance. It put forward the so-called ‘three-criteria test’ to determine under which conditions a market may require *ex ante* regulation to safeguard competition:

- (a) *the presence of high and non-transitory structural, legal or regulatory barriers to entry;*
- (b) *a market structure which does not tend towards effective competition within the relevant time horizon, having regard to the state of infrastructure-based and other competition behind the barriers to entry;*
- (c) *competition law alone is insufficient to adequately address the identified market failure(s).*²²

In essence, the EC is carrying out a market power assessment, but rather than focusing on a *specific* operator, it focuses on the *overall* market.²³ U.S. policymaking is also based on the premise that

²⁰ This dichotomy is not strict. For example, merger control regimes—which form part of antitrust law—generally apply *before* a merger takes place, rather than when the merger results in anticompetitive effects. Conversely, *ex ante* regulation may incorporate antitrust law formulations, which can limit its application to situations where anticompetitive effects are established.

²¹ See Einer Elhauge and Damien Geradin, *Global Antitrust Law and Economics* (Foundation Press 2018), 43-51 (U.S.) and 76-77 (EU). One significant exception in the EU concerns situations that fall under the Common Agricultural Policy, but the scope of this exception was recently limited, see Case C-671/15 *Président de l’Autorité de la concurrence v. Association des producteurs vendeurs d’endives* EU:C:2017:860. Under certain conditions, regulated industries are also exempted (see further under this subsection).

²² Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, C(2014)7174 final. Based on these criteria, the EC determined that fixed and mobile call termination markets, as well as wholesale broadband access markets warrant *ex ante* regulation.

²³ See Explanatory Note accompanying the document Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with

market-wide market power justifies *ex ante* regulation.²⁴ Natural monopolies, whose market power is by definition market-wide, therefore qualify for *ex ante* regulation. Finally, it is worth noting that the adoption of *ex ante* regulation may be spurred by perceived deficiencies in antitrust. As antitrust focuses on exclusionary behavior rather than exploitative behavior such as excessive prices,²⁵ a policymaker concerned with the latter may want to adopt *ex ante* regulation.

Once *ex ante* regulation is adopted in addition to antitrust law, however, the next question is how the two branches of law relate to each other. The approach is quite different on each side of the Atlantic. The EU starts from the idea that ‘the competition rules [...] supplement [...], by an ex post review, the legislative framework adopted by the Union legislature for ex ante regulation’.²⁶ In principle, the two sets of rules are thus complementary; it is only when ‘national legislation [...] creates a legal framework which itself eliminates any possibility of competitive activity’ that the antitrust rules do not apply.²⁷ In the U.S., conversely, the view is that in the presence of *ex ante* regulation ‘the additional benefit to competition provided by antitrust enforcement will tend to be small, and it will be less plausible that the antitrust laws contemplate such additional scrutiny.’²⁸ U.S. courts therefore more quickly grant ‘regulatory immunity’, i.e. the disapplication of antitrust law in deference to *ex ante* regulation. While such a division between antitrust and other regulatory

Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Commission Staff Working Document), SWD(2014)298, 12.

²⁴ See e.g. the Cable Television Consumer Protection and Competition Act of 1992, 106 Stat. 1460, §2(a)(2) (citing ‘undue market power for the cable operator as compared to that of consumers and video programmers’ to justify regulation). See also *Turner Broadcasting System, Inc. v. FCC*, 512 U.S. 622 (1994), 633-635, confirming that Congress adopted the 1992 Cable Act because ‘the overwhelming majority of cable operators exercise a monopoly over cable service’ and rejecting the idea that *ex ante* regulation is ‘simply industry-specific antitrust [...] legislation’.

²⁵ U.S. antitrust law does not prohibit excessive prices, see *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U. S. ____ (2004), 7 (‘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. The opportunity to charge monopoly prices at least for a short period is what attracts business acumen in the first place’). In the EU, excessive prices are prohibited in principle, but cases are rarely pursued based on a similar reasoning as in the U.S. See Case C-177/16 *Autortiesību un komunikāciju konsultāciju aģentūra / Latvijas Autoru apvienība v. Konkurences padome* EU:C:2017:286 Opinion of Advocate General Wahl, para 48 (‘the market should, in principle, be able to self-correct in the short to medium term: high prices should normally attract new entrants or encourage existing competitors to expand’).

²⁶ Case C-280/08 P *Deutsche Telekom AG v. European Commission* EU:C:2010:603 [2010] ECR I-9555, para 92. See also Commission Notice on the application of the competition rules to access agreements in the telecommunications sector, 98/C 265/02, paras 57-58 (holding that *ex ante* regulation and antitrust law form ‘a coherent regulatory framework’, but that ‘[p]roper application of [the *ex ante*] rules should often avoid the need for the application of the competition rules’).

²⁷ Case C-280/08 P *Deutsche Telekom AG v. European Commission* EU:C:2010:603 [2010] ECR I-9555, paras 80-82, where the ECJ concedes that this has ‘been accepted only to a limited extent by the Court of Justice’. See also Joined Cases C-359/95 P and C-379/95 P *Commission and France v. Ladbrooke Racing* EU:C:1997:531 [1997] ECR I-6265, paras 33-34 and the case-law cited there.

²⁸ *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U. S. ____ (2004), 12. See also *Pacific Bell Telephone Co. v. linkLine Communications, Inc.*, 555 U. S. ____ (2009), Breyer, J., concurring in judgment, 2 (‘When a regulatory structure exists to deter and remedy anticompetitive harm, the costs of antitrust enforcement are likely to be greater than the benefits.’).

authorities may decrease their workload²⁹ and facilitate regulatory compliance for undertakings, disapplication of antitrust law can be problematic in case of sleepy or captured regulators.³⁰

2.2.2. *Structural vs behavioral*

A second regulatory choice is between structural and behavioral rules. This choice must be made when adopting *ex ante* regulation, but also in applying antitrust law: when a firm commits an infringement, either through merger or monopolization, the agency will impose remedies (in the EU) or seek a court judgment imposing remedies (in the U.S.),³¹ and those remedies can be either behavioral or structural. The same competitive issue can usually be solved through either type of rule. Consider a vertically integrated firm involved in both content production (upstream) and distribution (downstream). This ‘dual role’ will give the firm an incentive to discriminate against competing distributors by withholding its content.³² A regulator could solve this issue either by mandating access to the firm’s content (behavioral), or by mandating ownership separation between content and distribution (structural), in which case the independent content producer would lose any incentive to withhold its product from distributors.³³

As the above examples makes clear, structural regulation (separation) is very intrusive.³⁴ In particular, it can eliminate the efficiencies brought about by (vertical) integration, and may negatively impact investment.³⁵ At the same time, structural regulation is also considered more effective, given that it eliminates the *incentive* itself to engage in anticompetitive conduct. As behavioral regulation only prohibits firms to *act* upon their incentives, rather than eliminating them, the competent authority needs to constantly monitor compliance by the firms.³⁶

²⁹ The EC is not blind to the workload benefits either. *See* Commission Notice on the application of the competition rules to access agreements in the telecommunications sector, 98/C 265/02, para 150 (‘the Commission will aim to avoid unnecessary duplication of procedures, in particular competition procedures and national/Community regulatory procedures’).

³⁰ *See further* Friso Bostoen, ‘Margin Squeeze: Where Competition Law and Sector Regulation Compete’ (2016) 53 *Jura Falconis* 3, 47-50 (available via <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2922633>).

³¹ Agencies in both the EU and U.S. can also agree with the firm on remedies, through commitments and consent decrees, respectively.

³² Alternatively, the firm could discriminate against competing content producers by refusing to distribute their content.

³³ Similarly, faced with a merger between firms engaged in content production and distribution, an agency could seek the imposition of forced sharing obligations (behavioral), or the divestment of the content/distribution business (structural). *See further* subsection 3.1.2.

³⁴ Note that several kinds of separation exist, which vary in how significantly they interfere with business conduct (ownership separation being the most intrusive form). *See* Martin Cave, ‘Six Degrees of Separation: Operational Separation as a Remedy in European Telecommunications Regulation’ (2006) 64 *Communications and Strategies* 89.

³⁵ OECD, ‘Structural separation in regulated industries: Report on implementing the OECD Recommendation’ (2016), 9.

³⁶ *Ibid.*

What should guide the choice for one form of regulation over the other? The OECD has issued a recommendation on structural separation *in regulated industries*. In that context (but presumably also beyond it), it instructs the regulator to ‘carefully balance the benefits and costs of structural measures against the benefits and costs of behavioural measures.’³⁷ Of course, *any* government policy should be subject to a cost-benefit analysis,³⁸ which limits the practical relevance of this recommendation. An accompanying report ‘concludes that structural separation remains a relevant remedy to advance the process of market liberalisation and notes that other areas of application could also be included such as vertically integrated industries where only some activities are subject to competitive constraints.’³⁹

Additional guidance on the choice between behavioral and structural measures can be found in antitrust law, in particular in the context of merger control. As a general matter, authorities must ensure that the chosen remedy is necessary, effective, and proportionate.⁴⁰ Based on this principle, U.S. agencies initially appeared to favor structural remedies,⁴¹ but their preference shifted towards more behavioral solutions.⁴² Recently, however, the DOJ reaffirmed its commitment to structural remedies.⁴³ In the EU, authorities have also been moving back to a preference for structural

³⁷ Recommendation of the OECD Council on Structural Separation in Regulated Industries, as amended on 23 February 2016 [C(2016)11 - C/M(2016)3], 3. The Recommendation adds that ‘[t]he benefits and costs to be balanced include the effects on competition, effects on the quality and cost of regulation, effects on corporate incentives to invest, the transition costs of structural modifications and the economic and public benefits of vertical integration, based on the economic characteristics of the industry in the country under review.’

³⁸ Cass Sunstein, *The Cost-Benefit Revolution* (MIT Press 2018), 266 p.

³⁹ OECD, ‘Structural separation in regulated industries: Report on implementing the OECD Recommendation’ (2016), 3.

⁴⁰ Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings [2004] OJ L24/1, Article 7 (on the application of these principles in the EU, see Frank Maier-Rigaud, ‘Behavioural versus Structural Remedies in EU Competition Law’ in Philip Lowe, Mel Marquis and Giorgio Monti (eds), *European Competition Law Annual 2013, Effective and Legitimate Enforcement of Competition Law* (Hart 2016), 207-224); U.S. Department of Justice, Antitrust Division, ‘Policy Guide to Merger Remedies’ (2011), 2-4.

⁴¹ This was still apparent in 2004, see U.S. Department of Justice, ‘Policy Guide to Merger Remedies’ (2004), section III.A (‘Structural Remedies are Preferred’).

⁴² The 2011 Policy Guide to Merger Remedies is much more ambivalent with regard to the preferred remedy than the 2004 version, see U.S. Department of Justice, Antitrust Division, ‘Policy Guide to Merger Remedies’ (2011), 4 (‘In certain factual circumstances, structural relief may be the best choice to preserve competition. In a different set of circumstances, conduct relief may be the best choice.’).

⁴³ Makan Delrahim, ‘Keynote Address at American Bar Association’s Antitrust Fall Forum’ (Washington, DC, 16 November 2017) <<https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-keynote-address-american-bar>> (noting that ‘behavioral remedies have proven challenging to enforce today’ and there is still some place for considering behavioral remedies, but that it is ‘a high standard to meet’). Delrahim explicitly grounds this preference in research, in particular John Kwoka and Diana Moss, ‘Behavioral Merger Remedies: Evaluation and Implications for Antitrust Enforcement’ (2012) 57 *The Antitrust Bulletin* 979.

remedies.⁴⁴ In that regard, the EC notes that behavioral remedies are not suitable for horizontal concentrations and only rarely in situations of vertical integration.⁴⁵

The bar for structural measures thus appears much lower under antitrust law than under *ex ante* regulation. This is not surprising as, firstly, antitrust remedies are imposed on a specific firm rather than the overall market (making them less intrusive), and secondly, the remedies are imposed on the artificial acquisition of market power (while organic monopolization is almost always curtailed by behavioral remedies).

2.3. Application: from telecommunication to online intermediation

Telecom operators have traditionally been subject to various forms of regulation.⁴⁶ Should platforms be subject to similar obligations? The underlying question is whether platforms exhibit the same market failures as telecom operators, i.e. market power or (natural) monopoly. When it comes to structural characteristics of market power, platforms and telecom operators certainly have a lot in common.⁴⁷

Firstly, both telecom operators and online platforms enjoy considerable *economies of scale*:⁴⁸ given that they generally incur high fixed costs⁴⁹ but low variable costs, increasing output significantly reduces per unit costs. Once a telephone network is in place, for example, the cost of connecting extra users is relatively limited. Similarly, after the technological development of an online platform, the cost of accepting more users to the platform is extremely low.⁵⁰ However, given that a new platform ‘can only be successful if a specific sales volume is achieved within a

⁴⁴ Compare Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings [2004] OJ L24/1, recital 12 (‘Structural remedies should only be imposed [...] where there is no equally effective behavioural remedy’) with Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 [2008] OJ C267/1, para 15 (‘commitments which are structural in nature [...] are, as a rule, preferable [...] inasmuch as such commitments prevent, durably, the competition concerns which would be raised by the merger as notified, and do not, moreover, require medium or long-term monitoring measures’).

⁴⁵ Commission notice on remedies acceptable under Council Regulation (EC) No 139/2004 and under Commission Regulation (EC) No 802/2004 [2008] OJ C267/1, para 17.

⁴⁶ See *infra*, section 3.

⁴⁷ The following discussion of economies of scale and network effects draws on Friso Bostoen, ‘Online platforms and vertical integration: the return of margin squeeze?’ (2018) 6 Journal of Antitrust Enforcement 355, 365-367.

⁴⁸ On their role in (online) platforms, see David Evans and Richard Schmalensee, ‘The Industrial Organization of Markets with Two-Sided Platforms’ (2007) 3 Competition Policy International 151, 165; Justus Haucap and Ulrich Heimeshoff, ‘Google, Facebook, Amazon, eBay: Is the Internet driving competition or market monopolization?’ (2014) 11 International Economics and Economic Policy 49; Bundeskartellamt, ‘The market power of platforms and networks’ (Working Paper) 2016, 54-56.

⁴⁹ See e.g. with regard to search engines *Google Search (Shopping)* (Case AT.39740) Commission Decision, para 286 (‘the establishment of a fully-fledged general search engine requires significant investments in terms of time and resources’).

⁵⁰ The variable costs will consist of (i) data centers, which can now essentially be leased due to cloud computing, making the cost variable; and (ii) platform governance, such as policing hate speech on social networks.

short period of time (“minimum scale of entry”),⁵¹ it may have to invest heavily in attracting users on both sides of the platform.⁵²

Secondly, both telecom operators and online platforms benefit from *network effects*⁵³ (also termed ‘demand-side economies of scale’), meaning that ‘[t]he value of adopting a service to an incremental user is larger when more users have already adopted.’⁵⁴ A connection to the phone network, for example, becomes more valuable as more other people own phones. Following the same dynamic, joining Facebook is more attractive when more of your acquaintances are on the platform. These kind of network effects are considered *direct*, as the relevant users are homogeneous. Platforms also benefit from *indirect* network effects: platforms facilitate interaction between two different user groups, and the value of the platform to users on one side will often depend on the number of users on the other side.⁵⁵ Buyers on Amazon.com, for example, will value its Marketplace higher when it hosts more sellers—and the other way around. As a growing number of users makes the platform more valuable, which in turn attracts more users, platforms can benefit from a ‘positive feedback loop’, which leads to a concentrated or even ‘winner takes all’ market.⁵⁶ It must be noted that multi-homing, ‘where users make parallel use of several platforms with comparable offers’ (e.g. using both Uber and Lyft), can somewhat counteract this dynamic.⁵⁷

Finally, while every firm (including telecom operators) benefits from the data it collects, online platforms particularly benefit from *learning effects*. Hal Varian holds that economies of scale and network effects ‘pale in significance compared to learning by doing, which, in my view, is the

⁵¹ Bundeskartellamt, ‘The market power of platforms and networks’ (Working Paper, English summary) 2016, 14.

⁵² Platforms need to attract users on both sides, but those users will only be attracted when there are users on the ‘other side’ of the platform, which are themselves only attracted by users on the first side—the so-called ‘chicken and egg’ problem, see Bernard Caillaud and Bruno Jullien, ‘Chicken & egg: competition among intermediation service providers’ (2003) 34 RAND Journal of Economics 309.

⁵³ As in much of the literature, ‘network effects’ is understood here to mean ‘*positive* network effects’.

⁵⁴ Hal Varian, ‘Use and Abuse of Network Effects’ (2017), 3

<https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3215488>. On the role of network effects in platform markets, see David Evans and Richard Schmalensee, ‘The Industrial Organization of Markets with Two-Sided Platforms’ (2007) 3 Competition Policy International 151, 164; Justus Haucap and Ulrich Heimeshoff, ‘Google, Facebook, Amazon, eBay: Is the Internet driving competition or market monopolization?’ (2014) 11 International Economics and Economic Policy 49 and Bundeskartellamt, ‘The market power of platforms and networks’ (Working Paper) 2016, 45-54 (indirect network effects) and 92-101 (direct network effects). For an application, see *Google/DoubleClick* (Case COMP/M.4731) Commission Decision, para 304.

⁵⁵ In some of their activities, telecom operators also serve as platforms, and therefore also benefit from indirect network effects. ISPs, for example, can be thought of as facilitating interaction between consumers and service providers over the internet (such as Netflix).

⁵⁶ Hal Varian, ‘Use and Abuse of Network Effects’ (2017), 1 and 6

<https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3215488>. See German Monopolies Commission, ‘Competition policy: the challenge of digital markets’ (Special Report) 2015, 23-4 and 88 for an application to marketplaces, and Commission, ‘Online Platforms’ (Staff Working Document) SWD(2016)172, 4-5 and 24 for an application to mobile ecosystems.

⁵⁷ Bundeskartellamt, ‘The market power of platforms and networks’ (Working Paper) 2016, 56-66.

major source of competitive advantage in technology industries.’⁵⁸ For example, ‘[t]he more queries a search engine receives from users, the better it is able to fine-tune its algorithm, which in turn affects the quality of search hits’, which in turn attracts even more search queries.⁵⁹ Entrants, which do not yet process as many search queries, will therefore find it difficult to compete.

While the strength (or even presence) of these market power indicators will differ from platform to platform, they undoubtedly contribute to the concentration we currently see in various platform markets. Amazon, for example, commands half of e-commerce sales in the U.S.⁶⁰ Google’s share of the search engine market is over 90% worldwide.⁶¹ Facebook is the undisputed leader in social networking, with a share of 67% worldwide (not counting Instagram and WhatsApp, which it owns).⁶² Microsoft dominates the market for desktop operating systems (88%), while Google and Apple divide the market for mobile operating systems (86.8% for Android, 13.2% for iOS).⁶³ Even though some of these markets might be defined differently for antitrust purposes, market definitions in the available decisions often go in the same direction.⁶⁴

There are some countervailing forces. Most notably it is argued that, due to the high degree of innovation, one dominant platform can rapidly be displaced by the next.⁶⁵ Even if correct,

⁵⁸ Hal Varian, ‘Use and Abuse of Network Effects’ (2017), 4 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3215488>. The landmark paper on learning by doing is written by Arrow, see Kenneth Arrow, ‘The Economic Implications of Learning by Doing’ (1962) 29 *The Review of Economic Studies* 155.

⁵⁹ Bundeskartellamt, ‘The market power of platforms and networks’ (Working Paper) 2016, 84. *See also Google Search (Shopping)* (Case AT.39740) Commission Decision, para 287-90 (‘because a general search service uses search data to refine the relevance of its general search results pages, it needs to receive a certain volume of queries in order to compete viably’), and Justus Haucap and Ulrich Heimeshoff, ‘Google, Facebook, Amazon, eBay: Is the Internet driving competition or market monopolization?’ (2014) 11 *International Economics and Economic Policy* 49, 60.

⁶⁰ ‘Amazon Now Has Nearly 50% of US Ecommerce Market’ (*eMarketer*, 13 July 2018) <<https://retail.emarketer.com/article/amazon-now-has-nearly-50-of-us-ecommerce-market/5b48c542ebd4000b24140992>>.

⁶¹ statcounter GlobalStats, ‘Search Engine Market Share Worldwide’ <<http://gs.statcounter.com/search-engine-market-share>>.

⁶² statcounter GlobalStats, ‘Social Media Stats Worldwide’ <<http://gs.statcounter.com/social-media-stats>>.

⁶³ IDC, ‘Smartphone Market Share – 2018Q3’ <<https://www.idc.com/promo/smartphone-market-share/os>>.

⁶⁴ On search engines, *see Google Search (Shopping)* (Case AT.39740) Commission Decision, 29-35 (defining a market for general search). On social networks, *see Bundeskartellamt, Facebook – Exploitative business terms pursuant to Section 19(1) GWB for inadequate data processing* (Case Summary B6-22/16) 15 February 2019, 3-5 (defining a market for social networks, but excluding Snapchat, Instagram and Twitter). Sometimes the market will even be defined more narrowly, *see e.g. EC, ‘Commission fines Google €4.34 billion for illegal practices regarding Android mobile devices to strengthen dominance of Google’s search engine’* (press release, 18 July 2018) IP/18/4581 (defining a market for ‘licensable mobile OS’, which means Android is included but iOS is not). Similarly, Amazon’s platform market is that of online e-commerce *intermediation*, rather than overall sales, *see Bundeskartellamt, ‘Amazon removes price parity obligation for retailers on its Marketplace platform’* (Case Report B6-46/12) 9 December 2013, 2.

⁶⁵ *See e.g. David Evans, ‘Why the Dynamics of Competition for Online Platforms Leads to Sleepless Nights but not Sleepy Monopolies’* (2017), 37 p. <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3009438>. The EC has also considered this, e.g. in *Facebook/WhatsApp* (Case M.7217) Commission Decision, para 99 (‘the consumer communications sector [...] is characterised by frequent market entry and short innovation cycles in which large market shares may turn out to be ephemeral’). *See also Microsoft/Skype* (Case COMP/M.6281) Commission Decision, para 78 and Case T-79/12 *Cisco v Commission* EU:T:2013:635, paras 65-74.

however, successive monopoly is still monopoly (although it is preferable over permanent monopoly). In addition, Nicolas Petit holds that we should not focus too much on the shares of tech giants in their core markets; rather, ‘the tech giants are conglomerates that compete three-dimensionally as oligopolists across industries, and not within itemized relevant markets where they (inevitably) are monopolists.’⁶⁶ Hal Varian echoes that ‘we see intense competition among the [major high-tech, online] firms’—‘they are all competing against each other in many different industries.’⁶⁷

There is one more concern about platforms, which is not fully captured by their market share (and its nuances), namely their gatekeeping power. The idea is that platforms essentially offer the infrastructure for digital markets and are therefore vital intermediaries for producers, retailers, app developers and advertisers looking to reach consumers.⁶⁸ Interestingly, regulatory interventions in telecom markets have been premised on the view that operators served as gatekeepers (or ‘choke points’ or ‘bottlenecks’).⁶⁹

Based on all of the above, the next section looks at whether it can make sense to transpose regulation from the physical to the platform layer in order to keep the complete internet ecosystem open. Generalizing telecom regulation, i.e. making it technology neutral, would also ‘level the playing field’ between platforms and telecom operators—an evolution desired by the latter⁷⁰ and considered by policymakers⁷¹. However, it is clear that such a generalization would not be helpful; if platforms call for regulation similar to that in the telecom sphere, the instruments should be tailored to the complexities of the platform business model.

⁶⁶ Nicolas Petit, ‘Technology Giants, the “*Moligopoly*” Hypothesis and Holistic Competition: A Primer’ (2016), 3 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2856502>.

⁶⁷ Hal Varian, ‘Use and Abuse of Network Effects’ (2017), 14 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3215488>.

⁶⁸ Lina Khan, ‘Sources of tech platform market power’ (2018) 2 *Georgetown Law Technology Review* 325, 326-328.

⁶⁹ See e.g. FCC, Order 15-24, Protecting and Promoting the Open Internet, 26 February 2016, 8 (‘broadband providers have both the incentive and the ability to act as gatekeepers standing between edge providers and consumers’).

⁷⁰ See e.g. Chema Alonso, ‘Level-playing field between Telco operators & OTTs’ (*Telefonica*, 13 June 2014) <<https://www.telefonica.com/es/web/public-policy/blog/articulo/-/blogs/level-playing-field-between-telco-operators-otts/>>, and Sam Schechner and Stu Woo, ‘Telecom Firms Call for Level Playing Field’ (*The Wall Street Journal*, 22 February 2016) <<https://www.wsj.com/articles/telecom-firms-call-for-level-playing-field-1456178403>>.

⁷¹ Ron Davies, ‘Regulating electronic communications: A level playing field for telecoms and OTTs?’ (European Parliament Briefing, September 2016), available via <[http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/586641/EPRS_BRI\(2016\)586641_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/586641/EPRS_BRI(2016)586641_EN.pdf)>.

3. TRANSPOSING PHYSICAL LAYER REGULATION TO THE PLATFORM LAYER

This section develops a taxonomy of telecom-level interventions that may be deployed at the platform level. The potential interventions under examination can be organized among different lines:

- Some measures promote competition in the *upstream*/platform market (horizontal merger control, portability), while others primarily safeguard competition in the *downstream* market (vertical merger control, non-discrimination)—certain measures can have effects for both upstream and downstream competition (forced access, break-up).
- Some measures fit better under the *antitrust* umbrella (merger control, break-up), while others better qualify as *ex ante regulation* (structural non-discrimination, portability), but many can be imposed through both regimes (behavioral non-discrimination, forced access).
- Some measures are rather *structural* (merger control, structural non-discrimination, break-up), while others are rather *behavioral* (portability, behavioral non-discrimination, forced access).

One kind of intervention common to the telecom industry will not be considered, namely rate regulation. The reason is twofold: firstly, many platforms offer their service for ‘free’ (or rather, in exchange for personal data and attention); secondly and relatedly, many platforms do not compete on price, but rather on other competitive parameters such as quality, choice, and innovation.⁷² The need for modification of the current institutional framework—i.e. the Federal Communications Commission (FCC), FTC and DOJ in the U.S.; the EC in the EU—will only be considered in passing.

3.1. Merger control

Online platforms have known immense growth over the past years, up to the point where the companies behind these platforms qualify as the world’s most valuable.⁷³ A large part of this growth has been organic, fueled by network effects and platform’s ease of entry in adjacent markets. A

⁷² See e.g. Terrell McSweeney and Brian O’Dea, ‘Data, innovation, and potential competition in digital markets – looking beyond short-term price effects in merger analysis’ (2018) CPI Antitrust Chronicle February, 7-13; Makan Delrahim, ‘All Roads Lead to Rome: Enforcing the Consumer Welfare Standard in Digital Media Markets’ (Rome, Italy, 22 May 2018) <<https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-jevons-colloquium-rome>>.

⁷³ In the second quarter of 2019, the five most valuable companies in the world (by market capitalization) were Microsoft, Amazon, Apple, Alphabet (Google) and Facebook. See Wikipedia, ‘List of public corporations by market capitalization – 2019’ <https://en.wikipedia.org/wiki/List_of_public_corporations_by_market_capitalization>.

considerable part of it, however, was artificial—realized through the acquisition of competitors or companies offering complementary services. Google leads the pack with a total of over 200 acquisitions.⁷⁴ It is easy to forget that flagship Google products ranging from Android to YouTube were not originally built but rather bought by the company. Facebook’s acquisition record (60+) is also impressive, especially as it is the youngest of the U.S. tech giants.

Some argue that these acquisitions are used as anticompetitive tools to snuff out competition. Rather than outperforming competitors, the argument goes, tech giants use their outsized war chests to buy them out through horizontal acquisitions.⁷⁵ When a platform acquires a company in a vertical relationship (i.e. integrates vertically), on the other hand, it has incentives to exclude similar companies that use its platform. In the two sections that follow, I look at how regulators have dealt with merger waves in the telecom industry, and whether it can inspire today’s regulation.

3.1.1. *Horizontal merger control*

When Alexander Graham Bell’s patents on the telephone started expiring in the 1890s, new companies began to challenge AT&T in local telephone markets. They did so successfully: between 1894 and 1907, AT&T’s market share fell from 95 to 49 percent.⁷⁶ To turn things around, AT&T started a campaign of aggressively acquiring local networks. In order to protect competition, which was delivering lower prices and greater availability of phone services, the DOJ filed suit against AT&T. The case was, however, settled quickly with the 1913 ‘Kingsbury Commitment’—named after AT&T Vice President Kingsbury, who proposed it in a letter to the Attorney General (AG).⁷⁷ Under this commitment, AT&T agreed to stop acquiring independent local telephone companies.⁷⁸

⁷⁴ Jeff Desjardins, ‘Visualizing Major Tech Acquisitions (1991-2018)’ (*Visual Capitalist*, 24 July 2018) <<https://www.visualcapitalist.com/interactive-major-tech-acquisitions/>>. See also Matt Reynolds, ‘If you can’t build it, buy it: Google’s biggest acquisitions mapped’ (*Wired*, 25 November 2017) <<https://www.wired.co.uk/article/google-acquisitions-data-visualisation-infoporn-waze-youtube-android>>.

⁷⁵ When the acquired competitor is not a current but rather a potential future competitor, these acquisitions are considered ‘conglomerate mergers’. However, as the principles of horizontal merger control apply to such acquisitions, they will be discussed under that section.

⁷⁶ Remarks of FCC Commissioner Ajit Pai at Techfreedom’s Forum on the 100th Anniversary of the Kingsbury Commitment (Washington, DC, 19 December 2013) <<https://www.fcc.gov/document/pai-remarks-100th-anniversary-kingsbury-commitment>>. Note, however, that this shift in market share was due not only to head-to-head competition between AT&T and local telephone companies, but also by an expansion of the market by the latter.

⁷⁷ The Kingsbury Commitment thus consists primarily of two letters: (i) a letter from AT&T Vice Present Nathan Kingsbury to U.S. Attorney General George McReynolds; and (ii) a reply letter from U.S. Attorney General George McReynolds to AT&T Vice President Nathan Kingsbury. President Woodrow Wilson also replied. The three letters are available via <<http://vcxc.org/kingsbury100/>>. See further Milton Mueller, *Universal Service: Competition, Interconnection and Monopoly in the Making of the American Telephone System* (MIT/AEI Press 1997), 127-131.

⁷⁸ The Kingsbury Commitment was only effective for a couple of years. In 1917, the commitment was interpreted as allowing AT&T to acquire new lines as long as it sold an equal amount of them. As a result, AT&T and local telephone companies started exchanging lines to divide markets rather than compete. See Peter Decherney, Nathan Ensmenger and Christopher Yoo, ‘Are Those Who Ignore History Doomed to Repeat It?’ (reviewing *The Master*

As noted above, today's online platforms are also on an acquisition spree, buying out firms that may compete with them in so-called 'shoot-out acquisitions', up to the point that commentators have termed the space around tech giants a 'kill zone'.⁷⁹ Facebook, for example, acquired Instagram and WhatsApp—two promising competitors in the social networking space. Moreover, these platforms are not shooting blind. Rather, they use the data gathered through their services to identify potential targets. Google, for example, can use the data collected from its Android operating system and app store to identify which startups are gaining traction. And Facebook bought Onavo, an app that tracks data usage on smartphones, and has used the aggregated data of its millions of users to direct its acquisition strategy.⁸⁰

Moreover, when a startup refuses to sell to the platform, that is not the end of it. Firstly, the tech giant may pressure the startup into selling by relying on its vast amounts of capital. When Amazon took an interest in Diapers.com (a startup providing recurring orders of diapers), for example, its owners were not immediately ready to sell. In response, Amazon started systematically undercutting the startup (through the use of pricing bots) and then introduced a new service similar to Diapers.com with huge discounts and free shipping.⁸¹ In the end, the startup founders saw no other option than to sell to Amazon. Secondly, the platform may decide to simply copy the features of the new product and subsequently rely on its established user base to win out against the entrant.⁸² Facebook is particularly notorious for doing so.⁸³ After Snapchat refused Facebook's

Switch: The Rise and Fall of Information Empires by Tim Wu' (2011) 78 *The University of Chicago Law Review* 1627, 1633-1637.

⁷⁹ Asher Schechter, 'Google and Facebook's "Kill Zone": "We've Taken the Focus Off of Rewarding Genius and Innovation to Rewarding Capital and Scale"' (*ProMarket*, 25 May 2018) <<https://promarket.org/google-facebooks-kill-zone-weve-taken-focus-off-rewarding-genius-innovation-rewarding-capital-scale/>>; 'American tech giants are making life tough for startups' (*The Economist*, 2 June 2018)

<<https://www.economist.com/business/2018/06/02/american-tech-giants-are-making-life-tough-for-startups>>;

Noah Smith, 'Big Tech Sets Up a 'Kill Zone' for Industry Upstarts' (*Bloomberg*, 7 November 2018)

<<https://www.bloomberg.com/opinion/articles/2018-11-07/big-tech-sets-up-a-kill-zone-for-industry-upstarts>>;

Hal Singer, 'Inside Tech's "Kill Zone": How to Deal With the Threat to Edge Innovation Posed by Multi-Sided Platforms' (*ProMarket*, 21 November 2018) <<https://promarket.org/inside-tech-kill-zone/>>.

⁸⁰ Deepa Seetharaman and Betsy Morris, 'Facebook's Onavo Gives Social-Media Firm Inside Peek at Rivals' Users' (*The Wall Street Journal*, 13 August 2017) <<https://www.wsj.com/articles/facebooks-onavo-gives-social-media-firm-inside-peek-at-rivals-users-1502622003>>; Erin Griffith, 'Will Facebook kill all future Facebooks?' (*Wired*, 25 October 2017) <<https://www.wired.com/story/facebooks-aggressive-moves-on-startups-threaten-innovation/>>.

⁸¹ Will Oremus, 'The Time Jeff Bezos Went Thermonuclear on Diapers.com' (*Slate*, 10 October 2013)

<<https://slate.com/technology/2013/10/amazon-book-how-jeff-bezos-went-thermonuclear-on-diapers-com.html>> (Diapers.com's 'executives took what they knew about shipping rates, factored in Procter & Gamble's wholesale prices, and calculated that Amazon was on track to lose \$100 million over three months in the diaper category alone').

⁸² For a legal analysis of such conduct, see John Obeare, 'Move Last and Take Things: Facebook and Predatory Copying' (2018) 3 *Columbia Business Law Review* 994.

⁸³ Betsy Morris and Deepa Seetharaman, 'The New Copycats: How Facebook Squashes Competition From Startups' (*The Wall Street Journal*, 9 August 2017) <<https://www.wsj.com/articles/the-new-copycats-how-facebook-squashes-competition-from-startups-1502293444>>; Elizabeth Dwoskin, 'Facebook's willingness to copy rivals' apps seen as hurting innovation' (*The Washington Post*, 10 August 2017)

<<https://www.washingtonpost.com/business/economy/facebooks-willingness-to-copy-rivals-apps-seen-as-hurting->

acquisition offer, for example, Facebook copied Snapchat's popular 'Stories' feature on its three major platforms (Facebook, Instagram, WhatsApp). Shortly thereafter, Snapchat's user growth slowed considerably.⁸⁴

The result of this acquisition/copying process, according to statements by various venture capitalists, is that startups challenging the incumbent online platforms receive less and less funding, which stymies innovation.⁸⁵ And the evidence is not just anecdotal. Oliver Wyman finds that the venture capital investment in tech, as measured by number of deals, 'has declined by 21 percent a year between 2015 and 2017, while other sectors have grown 5 percent annually in the same period.'⁸⁶ Looking at the more specific subsectors that Facebook, Google, and Amazon (FGA) operate in, Ian Hathaway finds that 'the detailed industries with a primary FGA presence are witnessing a remarkable contraction in companies entering the venture-backed pipeline.'⁸⁷ In sum, it seems that the conduct of today's tech incumbents makes it difficult for entrants to get funded, which could prevent them from emerging as serious competitors to those incumbents tomorrow.

Is it time to restrict monopolization through acquisition by online platforms, as the Kingsbury Commitment once did (or tried to do) for telephone companies? A caveat is that antitrust agencies, both in the EU and the U.S., no longer rely on their monopolization (or cartelization) provisions to challenge mergers, but now operate within detailed merger control regimes. Under these regimes, companies are obliged to notify any acquisition to antitrust agencies when it reaches certain thresholds. In the U.S., the threshold is met if the transaction value exceeds \$50 million (size of transaction test) and the sales or assets of the acquirer and target are large

innovation/2017/08/10/ea7188ea-7df6-11e7-a669-b400c5c7e1cc_story.html>; Kevin Carty, Leah Douglas, Lina Khan and Matt Stoller, '6 Ideas to Rein in Silicon Valley, Open Up the Internet, and Make Tech Work for Everyone' (*New York Magazine*, 6 December 2017) <<http://nymag.com/intelligencer/2017/12/open-markets-institute-antitrust-for-silicon-valley.html>> ('1. Stop Facebook From Spying on Its Competitors'); Billy Gallagher, 'Copycat: How Facebook Tried to Squash Snapchat' (*Wired*, 16 February 2018) <<https://www.wired.com/story/copycat-how-facebook-tried-to-squash-snapchat/>>.

⁸⁴ Josh Constine, 'Snapchat growth slowed 82% after Instagram Stories launched' (*TechCrunch*, 2 February 2017) <<https://techcrunch.com/2017/02/02/slowchat/>>; Prachi Bhardwaj, 'As Snapchat growth stalls out, Facebook Stories hits 150 million daily active users' (*Business Insider*, 18 May 2018) <<https://www.businessinsider.com/facebook-stories-versus-snapchat-users-2018-5>>.

⁸⁵ Elizabeth Dwoskin, 'Facebook's willingness to copy rivals' apps seen as hurting innovation' (*The Washington Post*, 10 August 2017) <https://www.washingtonpost.com/business/economy/facebooks-willingness-to-copy-rivals-apps-seen-as-hurting-innovation/2017/08/10/ea7188ea-7df6-11e7-a669-b400c5c7e1cc_story.html> (one venture capitalist went as far as to state: 'We don't touch anything that comes too close to Facebook, Google or Amazon'). See also Olivia Solon, 'As tech companies get richer, is it "game over" for startups?' (*The Guardian*, 20 October 2017) <<https://www.theguardian.com/technology/2017/oct/20/tech-startups-facebook-amazon-google-apple>>.

⁸⁶ Oliver Wyman, 'Assessing the impact of big tech on venture investment' (report commissioned by Facebook, 11 July 2018) <<https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2018/july/assessing-impact.pdf>>. Controlling for sector maturity, Wyman concludes that Facebook, Google, and Amazon have had no negative impact on venture capital deal value in the technology sector. However, this finding is disproven by Ian Hathaway (next footnote).

⁸⁷ Ian Hathaway, 'Platform Giants and Venture-Backed Startups' (personal blog, 12 October 2018) <<http://www.ianhathaway.org/blog/2018/10/12/platform-giants-and-venture-backed-startups>>.

enough (size of person test).⁸⁸ Moreover, the size of person test is eliminated when the transaction value exceeds \$200 million. The EU takes a different approach: its thresholds are not primarily based on the transaction's value but rather on the merging parties' turnover. Crucially, a merger only has to be notified when both the *acquirer and target* reach a large enough turnover *within the EU*.⁸⁹

Two of Facebook's acquisitions are emblematic of the current regimes. In 2012, Facebook acquired Instagram, the (now immensely popular) photo-based social network. The FTC closed its investigation into the merger with a 5-0 vote,⁹⁰ while the EC did not even have jurisdiction to scrutinize it. Two years later, Facebook acquired WhatsApp in a \$19 billion transaction. The merger went completely unchallenged by the FTC's Bureau of Competition.⁹¹ In the EU, the transaction—again—did not have to be notified to the EC as WhatsApp did not generate significant turnover in the EU (or anywhere, for that matter). The case only made it to the EC after three different Member States that were competent to review the merger agreed to transfer it. After an investigation, however, the EC did not oppose the merger.⁹²

In the EU in particular, authorities have been concerned about potential gaps in the current merger control regime. The EC organized a public consultation on the effectiveness of turnover-based thresholds to identify potentially anticompetitive merges in the tech sector, 'where the acquired company, while having generated little turnover as yet, may play a competitive role, hold commercially valuable data, or have a considerable market potential for other reasons.'⁹³ However, the EC did not pursue changes to its regime following the consultation, and now Member States have taken on the mantle. Both Germany and Austria have introduced *value*-based thresholds (as

⁸⁸ Hart-Scott-Rodino Antitrust Improvements Act of 1976, 15 U.S.C. § 18a (§7A of the Clayton Act). One of the parties must have sales or assets of at least \$100 million, the other of at least \$10 million. For further guidance, see FTC, 'To File or Not to File: When You Must File a Premerger Notification Report Form' (Introductory Guide) September 2008, 17 p.

⁸⁹ Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings [2004] OJ L24/1, Article 1. One set of criteria requires a turnover of €250 million per company; an alternative set requires a turnover of only €100 million, but this lower requirement is compensated with stricter accompanying requirements.

⁹⁰ FTC, 'FTC Closes Its Investigation into Facebook's Proposed Acquisition of Instagram Photo Sharing Program' (press release, 22 August 2012) <<https://www.ftc.gov/news-events/press-releases/2012/08/ftc-closes-its-investigation-facebooks-proposed-acquisition>>.

⁹¹ Only the FTC's Bureau of Consumer Protection sent a letter to the companies highlighting their promises on privacy. See FTC, 'FTC Notifies Facebook, WhatsApp of Privacy Obligations in Light of Proposed Acquisition' (press release, 10 April 2014) <<https://www.ftc.gov/news-events/press-releases/2014/04/ftc-notifies-facebook-whatsapp-privacy-obligations-light-proposed>>.

⁹² *Facebook/ WhatsApp* (Case M.7217) Commission Decision, paras 9-12.

⁹³ EC, 'Consultation on Evaluation of procedural and jurisdictional aspects of EU merger control' <http://ec.europa.eu/competition/consultations/2016_merger_control/index_en.html>. For an evaluation, see Catriona Hatton, David Gabathuler and Alexandre Lichy, 'Digital markets and merger control in the EU: Evolution, not revolution?' (2018) CPI Antitrust Chronicle February, 30-32.

in the U.S.) to complement their turnover-based thresholds.⁹⁴ Their competition authorities are now able to scrutinize acquisitions with a transaction value exceeding €400 and €200 million, respectively.⁹⁵

With the new thresholds, the national antitrust agencies are empowered to scrutinize acquisitions of valuable firms that do not yet realize significant turnover. Such acquisitions are ubiquitous in the digital economy, where many services focus on attracting a large base of free users before monetizing them through advertising.⁹⁶ But one may wonder whether the thresholds are really the issue. Indeed, even the WhatsApp acquisition finally made it to the EC. However, the EC then approved the merger, which many commentators consider a mistake. In isolation, it does not necessarily appear as one, but the overarching concern is that online platforms *systematically* buy out *potential* competitors. The idea is that incumbents identify promising startups in adjacent markets that may someday threaten their core market—think of Instagram becoming the next Facebook. To eliminate this threat, the incumbent simply buys the startup—conduct that, even if considered harmful, is difficult to address under current merger control standards.

Therefore, a report that will serve as the basis for the modernization of the law on abuse of market power in Germany recommends complementing the procedural reforms to merger law with substantive reforms.⁹⁷ The report identifies the issue discussed above, namely that ‘firms that are already dominant succeed to systematically identify and acquire potential future rivals at an early stage’.⁹⁸ However, it is difficult for agencies and courts to recognize such cases because—at the time of acquisition—the rival is still situated in a niche market and may only show limited

⁹⁴ §35(1a) Act against Restraints of Competition (Germany) and §9(4) Federal Act against Cartels and other Restrictions of Competition (Austria). For a discussion of the changes (in Germany), see Peter Stauber, ‘New rules for mergers in the digital economy in Germany’ (2018) CPI Antitrust Chronicle February, 56-63.

⁹⁵ To prevent covering an unduly large number of transactions that lack effects on the national market, the provisions require that the acquired undertaking ‘has substantial operations in Germany’/‘is active to a large extent on the [Austrian] market’.

⁹⁶ The agencies have such transactions firmly in mind, as is clear from guidelines they recently published: Bundeskartellamt and Bundeswettbewerbsbehörde, ‘Guidance on Transaction Value Thresholds for Mandatory Pre-merger Notification (Section 35 (1a) GWB and Section 9 (4) KartG), July 2018, 24-25 (using the acquisition of a free smartphone communication app with many users but no significant turnover as an example of new transactions covered by the merger).

⁹⁷ For the full study in German, see Heike Schweitzer, Justus Haucap, Wolfgang Kerber and Robert Welker, ‘Modernisierung der Missbrauchsaufsicht für marktmächtige Unternehmen’ (Projekt im Auftrag des Bundesministeriums für Wirtschaft und Energie) 29 August 2018. A shorter version is available in English: Heike Schweitzer, Justus Haucap, Wolfgang Kerber and Robert Welker, ‘Modernising the law on abuse of market power – Summary of the report’s recommendations’ (Report for the Federal Ministry for Economic Affairs and Energy), available via <<https://www.bmwi.de/Redaktion/DE/Publikationen/Wirtschaft/modernisierung-der-missbrauchsaufsicht-fuer-marktmaechtige-unternehmen.html>>. For a discussion, see Rupprecht Podszun, ‘How to Reform the Law on Abusive Practices: The study that will serve as a basis for the reform of abusive practices in Germany (and Europe?)’ (2018) CPI Europe Column September.

⁹⁸ Heike Schweitzer, Justus Haucap, Wolfgang Kerber and Robert Welker, ‘Modernising the law on abuse of market power – Summary of the report’s recommendations’ (Report for the Federal Ministry for Economic Affairs and Energy), para 8.

horizontal overlap with the incumbent. The authors therefore propose to amend the substantive merger provision in order to allow the antitrust agency to consider, before approving or blocking a merger, ‘the existence of an overall strategy of a dominant company to systematically acquire fast-growing companies with a recognizable and considerable potential to become competitors in the dominated market in the future.’⁹⁹ Some take the criticism on the proposal by Google’s chief economist as a sign it may actually be effective.¹⁰⁰

As the new value-based thresholds have only been in force since mid-2017, and substantive changes to merger control law have yet to pass, it is difficult to assess the effectiveness of these measures—let alone weigh it against the increased administrative burden they necessarily come with. It will, however, be interesting to track the work of Germany’s antitrust agency as it becomes a legal laboratory for increased intervention in platform acquisitions. On a more practical level, however, it is difficult to imagine the agency blocking the acquisition by a major U.S. tech firm of a U.S. startup.

In the U.S., which is—given its wealth of both major and minor tech firms—best placed to police these acquisitions, things are not moving as fast. Certainly, there have been political proposals to tighten merger control law, with the occasional nod to online platforms.¹⁰¹ Such proposals can draw on recent scholarship highlighting the positive effects on innovation associated with the selective prevention of startup acquisitions.¹⁰² The FTC, for its part, has been holding a series of hearings on ‘Competition and Consumer Protection in the 21st Century’, dedicating one day to acquisitions of nascent and potential competitors in digital technology markets.¹⁰³ Many of

⁹⁹ Ibid. The report adds: ‘It may be an indication for such future competition that the company to be acquired – while only being a niche competitor to the dominant firm – is active in a market that addresses the same basic needs as the acquirer. Instead of looking at relatively narrowly defined markets, the Federal Cartel Office could therefore look at a broader category of competitive relationships which may better capture the reality of fast-changing markets in the presence of potentially disruptive activities.’

¹⁰⁰ See Victor Gojdka, ‘An der Leine’ (*Süddeutsche Zeitung*, 4 September 2018) <<https://www.sueddeutsche.de/wirtschaft/wettbewerbsrecht-an-der-leine-1.4116270>>.

¹⁰¹ ‘Klobuchar, Senators Introduce Legislation to Modernize Antitrust Enforcement’ (press release, 14 September 2017) <<https://www.klobuchar.senate.gov/public/index.cfm/2017/9/klobuchar-senators-introduce-legislation-to-modernize-antitrust-enforcement>> (‘the Merger Enforcement Improvements Act improve the agencies’ ability to assess the impact of merger settlements, require studies of new issues, and provide adequate funding for antitrust agencies to meet their obligations to protect American consumers’); ‘A Better Deal - Crack Down on Corporate Monopolies & the Abuse of Economic and Political Power’, available via <<https://abetterdeal.democraticleader.gov/the-proposals/crack-down-on-abuse-of-power/>> (the plan includes tightening merger enforcement, increasing post-merger review, and creating ‘a 21st century “Trust Buster” to stop abusive corporate conduct and the exploitation of market power where it already exists’).

¹⁰² Carl Shapiro, ‘Antitrust in a time of populism’ (2018) 61 *Journal of Industrial Organization* 714, 741 (‘there would be a big payoff in terms of competition and innovation if the DOJ and FTC could selectively prevent mergers that serve to solidify the positions of leading incumbent firms, including dominant technology firms, by eliminating future challengers’).

¹⁰³ FTC, ‘Hearing #3: Multi-Sided Platforms, Labor Markets, and Potential Competition’ (Hearings on Competition and Consumer Protection in the 21st Century – transcript, 17 October 2018)

the discussants agreed that the U.S. legal framework on potential competition was robust,¹⁰⁴ but that its enforcement by the agencies was lacking. While it remains to be seen what will happen at the FTC, the DOJ seems to disagree: Principal Deputy Assistant AG Andrew Finch recently cautioned that we ‘need to be careful about making it too difficult for startups to be acquired. If we remove one of the important “exit strategies” for entrepreneurs, we may unintentionally reduce incentives to invest in the first place.’¹⁰⁵—a hypothesis I examine more closely under the next section.

3.1.2. *Vertical merger control*

Contrary to horizontal mergers, the main concern with vertical mergers is not the accumulation of market power, but rather foreclosure. Once a company owns not only the distribution channels for a good or service, but also produces goods or services itself, it has an incentive to (i) deny rival producers access to its distribution network (*customer foreclosure*); and/or (ii) refuse to supply rival distributors with goods or services (*input foreclosure*). As a result, the competitiveness of those rivals can be impaired.¹⁰⁶ Such effects depend, however, on the market power of the vertically integrated entity over distribution/inputs. At the same time, as vertical mergers allow for the integration of complementary products or services, they provide substantial scope for efficiencies (more so than horizontal mergers).¹⁰⁷

The last few years have seen a wave of telecom operators integrating vertically (especially in the U.S.), i.e. expanding from the distribution of content into its production. This process of vertical integration was usually not organic, but rather artificial, i.e. through mergers. In this respect,

<https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_3_10-17-18_0.pdf>.

¹⁰⁴ As set out, for example, in U.S. Department of Justice and the Federal Trade Commission, ‘Horizontal Merger Guidelines’ (2010) and U.S. Department of Justice, ‘Non-horizontal Merger Guidelines’ (1984).

¹⁰⁵ Andrew Finch, ‘Concentrating on Competition: An Antitrust Perspective on Platforms and Industry Consolidation’ (Washington, DC, 14 December 2018) <<https://www.justice.gov/opa/speech/principal-deputy-assistant-attorney-general-andrew-finch-delivers-keynote-address-capitol>>.

¹⁰⁶ In the extreme, competitors would have to be active at both levels (e.g. production and distribution) in order to compete effectively. *See* U.S. Department of Justice, ‘Non-horizontal Merger Guidelines’ (1984), 4.2 and EC, ‘Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings’ OJ C265/6, paras 29-77.

¹⁰⁷ In particular, vertical mergers may decrease transaction costs, allow for better coordination, and—most importantly—eliminate double marginalization (i.e. the charging of mark-ups at each level of the supply chain). *See* U.S. Department of Justice, ‘Non-horizontal Merger Guidelines’ (1984), 4.24 and EC, ‘Guidelines on the assessment of non-horizontal mergers under the Council Regulation on the control of concentrations between undertakings’ OJ C265/6, paras 13-14.

two mergers—of Comcast with NBC Universal (NBCU), and of AT&T with Time Warner (TW)—stand out, and may be useful to inform our approach to vertical integration by online platforms.¹⁰⁸

The *Comcast/NBCU* merger brought together the largest U.S. cable operator and ISP (i.e. distributor of content) with a significant player in the market for video programming (i.e. content). The DOJ and FCC were concerned that Comcast-NBCU (i) would withhold programming from rival distributors (input foreclosure); and (ii) refuse access to its distribution systems to rival programmers (customer foreclosure). The agencies therefore imposed conditions on the merger in order to safeguard access to both programming and distribution.¹⁰⁹ When it comes to programming, these conditions took the form of a specific arbitration process to resolve any disputes that would arise about licensing terms. When it comes to distribution, the conditions prohibited discrimination in programming on the basis of affiliation or non-affiliation with Comcast-NBCU.¹¹⁰

AT&T and Time Warner (TW) followed suit in a merger bringing together a telecom giant with one of the world's largest media organizations—another distribution-content combination. This time, however, the DOJ sued to block the merger (its first vertical merger litigation in forty years). Its theory of harm relied mainly on the combined AT&T-TW entity's ability to negotiate a higher price for its 'must-have content' (such as CNN and HBO) with rival distributors. It would be empowered to do so: if rival distributors walked away without an agreement and TW content became unavailable on their channels (a 'blackout'), their customers might switch to DirecTV (AT&T's main distribution channel). A vertically integrated AT&T-TW could thus only win, through either higher prices or more customers. While the district judge ruled against the DOJ¹¹¹

¹⁰⁸ For a broader overview that also includes EU cases, see Cristina Caffarra, Gregory Crawford and Helen Weeds, 'Kabuki dances or Rube Goldberg machines? Vertical analyses of media mergers' (2018) CPI Antitrust Chronicle August 7.

¹⁰⁹ United States District Court for the District of Columbia, Case 1:11-cv-00106, *United States v. Comcast* (all case documents available via <<https://www.justice.gov/atr/case/us-and-plaintiff-states-v-comcast-corp-et-aland-fcc>>) and FCC, MB Docket No. 10-56, Comcast Memorandum Opinion and Order, 18 January 2011 (all case documents available via <<https://www.fcc.gov/proceedings-actions/mergers-transactions/comcast-corporation-and-nbc-universal-mb-docket-10-56>>). For insight into the merger process and its aftermath, see Susan Crawford, *Captive Audience* (Yale University Press 2013), 123-140.

¹¹⁰ Comcast was also prohibited from discriminating against unaffiliated online video distributors when transmitting their traffic to Comcast broadband customers, in line with Open Internet requirements (net neutrality).

¹¹¹ United States District Court for the District of Columbia, Civil Case No. 17-2511, *United States v. AT&T*. For a discussion, see Christopher Yoo, 'The district court's AT&T/Time Warner decision: Insights into the law of vertical integration' (2018) CPI Antitrust Chronicle August 15. For criticism of the judgment, see Steven Salop, 'The AT&T/Time Warner merger: how Judge Leon garbled Professor Nash' (2018) 6 *Journal of Antitrust Enforcement* 459.

(and was confirmed by the court of appeals),¹¹² recent developments including blackouts¹¹³ and price hikes¹¹⁴ corroborate the DOJ's theory.

Online platforms are also busy integrating vertically. More often than not, however, platform's entry into adjacent markets is organic. This trend is supported by platform's ease of entry into such markets by building on their market power at the level of the platform¹¹⁵ (see further under section 3.2). But artificial entry is no rarity. Amazon, for example, made headlines when it bought the grocery chain Whole Foods in a \$13.7 billion deal that was quickly approved by the FTC.¹¹⁶ Whether organic or artificial, the result of vertical integration is the same: the platform does not only offer the digital infrastructure for the distribution of products or services (upstream), but also some of those products or services themselves (downstream).¹¹⁷ Given that online platforms are most likely to have market power in the upstream market, customer foreclosure is the main concern.

In particular, the platform infrastructure can be used to discriminate against downstream providers in favor of its own offering. Amazon could, for example, start limiting its grocery delivery program to products from Whole Foods, rather than offering multiple supermarkets/producers the opportunity to sell their wares online.¹¹⁸ Such concerns are not purely speculative. After all, Amazon did stop distributing Nest's smart home products through its Marketplace after it acquired the competing manufacturer Ring.¹¹⁹ Then again, the anticompetitive effects of such foreclosure

¹¹² United States Court of Appeals, Case No. 18-5214, *United States v. AT&T*.

¹¹³ HBO denied its content to Dish Network in a dispute over distribution terms, see Elizabeth Winkler, 'How HBO's Blackout on Dish Could Affect AT&T' (*The Wall Street Journal*, 26 November 2018) <<https://www.wsj.com/articles/how-hbos-blackout-on-dish-could-affect-at-t-1543235401>>.

¹¹⁴ Todd Shields, 'DirecTV to Hike Prices After Owner AT&T Promised Cheaper Bills' (*Bloomberg*, 14 March 2019) <<https://www.bloomberg.com/news/articles/2019-03-14/directv-to-hike-prices-after-owner-at-t-promised-cheaper-bills>>.

¹¹⁵ Howard Shelanski, 'Information, innovation, and competition policy for the Internet' (2013) 161 *University of Pennsylvania Law Review* 163, 1676-7; Massimiliano Kadar, 'European Union competition law in the digital era' (2015), 5-6 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2703062>; Orly Lobel and Kenneth Bamberger, 'Platform Market Power' (2018) 32 *Berkeley Technology Law Journal* 1151, 1187-1189; Lina Khan, 'What makes tech platforms so powerful?' in Guy Rolnik (ed.), *Digital Platforms and Concentration* (ProMarket e-book 2018), 15.

¹¹⁶ Federal Trade Commission, 'Statement of Acting Director of the Bureau of Competition on the Agency's Review of Amazon.com, Inc.'s Acquisition of Whole Foods Market Inc.' (press release, 23 August 2017) <<https://www.ftc.gov/news-events/press-releases/2017/08/statement-federal-trade-commissions-acting-director-bureau>>.

¹¹⁷ Distribution is traditionally seen as a *downstream* market. However, when businesses need buy access to a network, for example to then resell it (a common practice in telecommunications), this is usually considered an *upstream* transaction. However, neither situation is exactly analogous to that of platforms, which do not 'buy' and 'resell' the products/services of third parties. In what follows, I will use 'upstream' when denoting the platform service, and 'downstream' for the goods/services offered through the platform. In any case, the 'upstream'/'downstream' distinction is only terminological; what matters is distinguishing two links in a chain.

¹¹⁸ At least in those markets where Whole Foods is active.

¹¹⁹ Chris Welch, 'Amazon will soon stop selling all Nest products' (*The Verge*, 3 March 2018) <<https://www.theverge.com/2018/3/3/17074844/amazon-stopping-nest-sales>>.

depend on Amazon's market power (which in term depends on how the relevant market is defined—is there enough of a difference, for example, between online and offline distribution?).

There are, however, reasons to think online platforms may be more effective at foreclosing rivals than distributors of programming. Firstly, the media market is more differentiated, with strong consumer preferences for various content. Comcast may want to stop showing HBO's *Game of Thrones* to draw viewers to an NBCU alternative, but customers passionate about that series will not easily forgive Comcast. Smart door bells, by contrast, do not incite the same kind of passion in consumers. Secondly, platforms have more effective (and more concealed) ways to exclude competing downstream products or services. On top of increasing their distribution fee for those products, they can push competitors down the ranking of search results (whether on a search engine or online marketplace),¹²⁰ and can impose various kinds technical restrictions limiting free distribution.¹²¹

In the EU, we have seen a reappraisal of the potential harms of vertical mergers, and a concomitant increase in enforcement.¹²² In the U.S., such an evolution is also discernable. There have been various calls from both academia¹²³ and politics¹²⁴ for stricter vertical merger enforcement, driven in no small part by concerns about discriminatory exclusion by online platforms. The DOJ started answering those calls with its antitrust suit against AT&T-TW. And during the aforementioned FTC hearings on competition in the 21st century, there was a lively debate on whether the agencies' Vertical Merger Guidelines¹²⁵ should be revised to spur stricter enforcement.¹²⁶ This debate is already producing platform-specific proposals: in particular, four

¹²⁰ Anticompetitive demotion in search results of rival comparison shopping services was at the basis of the EC's *Google Shopping* decision: *Google Search (Shopping)* (Case AT.39740) Commission Decision.

¹²¹ Consider, for example, how Apple limits the ways in which Spotify is allowed to communicate with its iOS subscribers. These restrictions are at the heart of a recent antitrust complaint launched by Spotify against Apple, see Daniel Ek, 'Consumers and Innovators Win on a Level Playing Field' (Spotify newsroom, 13 March 2019) <<https://newsroom.spotify.com/2019-03-13/consumers-and-innovators-win-on-a-level-playing-field/>>.

¹²² Paul Johnson and Anthony Gamble, 'The rediscovery of vertical merger enforcement?' (2018) CPI Antitrust Chronicle August 39.

¹²³ Steven Salop, 'Invigorating Vertical Merger Enforcement' (2018) 127 Yale Law Journal 1962, and Lina Khan, 'Amazon's Antitrust Paradox' (2017) 126 Yale Law Journal 710. With regard to Amazon/Whole Foods specifically, see Lina Khan, 'Amazon Bites Off Even More Monopoly Power' (*New York Times*, 21 June 2017) <<https://www.nytimes.com/2017/06/21/opinion/amazon-whole-foods-jeff-bezos.html>>.

¹²⁴ Generally, see Ali Breland 'Dems push for stricter antitrust rules amid merger boom' (*The Hill*, 10 December 2017) <<http://thehill.com/policy/technology/364035-dems-push-for-stricter-antitrust-rules-amid-megadeals>>. With regard to Amazon/Whole Foods specifically, see Alexis Madrigal, 'A Silicon Valley Congressman Takes on Amazon' (*The Atlantic*, 19 June 2017) <<https://www.theatlantic.com/technology/archive/2017/06/ro-khanna-amazon-whole-foods/530805/>>.

¹²⁵ U.S. Department of Justice, 'Non-horizontal Merger Guidelines' (1984).

¹²⁶ FTC, 'Hearing #5: Vertical Merger Analysis and the Role of the Consumer Welfare Standard in U.S. Antitrust Law' (Hearings on Competition and Consumer Protection in the 21st Century – transcript, 1 November 2018) <https://www.ftc.gov/system/files/documents/public_events/1415284/ftc_hearings_session_5_transcript_11-1-18.pdf>. Steven Salop in particular advocates for such a revision. See Steven Salop, 'Reinvigorating Vertical Merger Enforcement' (2018) 127 Yale Law Journal 1962.

prominent antitrust academics are calling for the adoption of a ‘dominant platform presumption’.¹²⁷ According to this presumption, the acquisition of a downstream firm by a dominant platform would be *prima facie* illegal, given that the platform’s market power enables it to exclude competitors of the downstream firm from the market. Before acquiring the downstream firm, the platform would therefore have to rebut this anticompetitive presumption.

A new, evidence-based focus on vertical merger enforcement is to be welcomed, as it was unduly weakened by largely disproven Chicago School economics. However, for the problem at hand—anticompetitive practices by online platforms—vertical merger enforcement’s impact will be limited, as platform’s vertical integration often happens through organic expansion rather than acquisition. Further, while stricter scrutiny of (vertical) mergers may spur venture capital investment and innovation in the startup sphere (see *supra*, section 3.1.1.), it could also have a negative impact on the startup ecosystem. As many startup founders and venture capitalists now consider acquisition (rather than IPO) their most likely liquidity event/exit, erecting roadblocks on this route may dampen entrepreneurial investment and innovation.¹²⁸ Finally, the necessity of blocking/conditioning vertical mergers depends not only on the possibility and ubiquity of post-merger exclusionary conduct, but also on other (antitrust) rules to remedy such conduct. If effective rules exist to police platform exclusion, this weakens the case for proactive enforcement of vertical mergers (which can produce significant efficiencies, see *supra*). Before passing final judgment on the issue, we must therefore look at the effectiveness of rules against discriminatory exclusion by online platforms, which we do in the next section.

3.2. Non-discrimination

Vertical integration changes the incentives of a firm and thereby opens the door for discrimination—a dynamic that is prevalent in the telecom industry. Many firms started by owning the infrastructure (upstream) that allows for the conduit of content of other firms (downstream): internet service providers offer the conduit for online content, while cable television providers offer the conduit for programming. However, telecom firms have shown a tendency to integrate vertically, meaning they also start producing the downstream content itself. The Comcast-NBCU and AT&T-TW mergers discussed earlier (see *supra*, section 3.2.2.) are two prominent examples.

¹²⁷ Jonathan Baker, Nancy Rose, Steven Salop and Fiona Scott Morton, ‘Five Principles for Vertical Merger Enforcement Policy’ (2019) Georgetown Law Faculty Publications, 18, available via <<https://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=3166&context=facpub>>. See also Jonathan Baker, Nancy Rose, Steven Salop and Fiona Scott Morton, ‘Principles and presumptions for U.S. vertical merger enforcement policy’ (*Competitive Edge*, 7 May 2019) <<https://equitablegrowth.org/competitive-edge-principles-and-presumptions-for-u-s-vertical-merger-enforcement-policy/>>.

¹²⁸ Daniel Sokol, ‘Vertical Mergers and Entrepreneurial Exit’ (2018) 70 Florida Law Review 1357.

Once a firm provides both conduit and content, it has an incentive to favor its own content, or in other words, to discriminate against the content of competing providers. Of course, the competitive harm of such discrimination will depend on the market power of the firm; if there are enough other means to get content to consumers, being foreclosed from one conduit will not significantly hamper a firm's ability to compete. Moreover, discrimination can take various forms, from the more obvious (flatly refusing to carry content of competitors) to the more subtle (hindering consumers' access to competitors' content, e.g. by slowing it down or making it difficult to find).

We now see a similar dynamic of vertical integration in digital markets.¹²⁹ Increasingly, online platforms do not only provide the online infrastructure (e.g. an app store, online marketplace or search engine), but also the content distributed through that infrastructure (e.g. apps, goods or more specialized search services). For example, Apple—through its App Store—is said to restrict access to Spotify, a music streaming app that competes with its own service Apple Music. Apple does so by levying high fees on Spotify subscriptions, delaying approval of upgrades, and prohibiting the communication of promotions.¹³⁰ Similarly, Amazon—through its Marketplace—offers not only a sales channel for online retailers, but also distributes its own products. When its products compete with those of retailers on the platform, Amazon ostensibly skews its ranking algorithm in favor of its own offering.¹³¹ The empirical literature on this type of conduct is as of yet limited but growing. Wen Wen and Feng Zhu have studied what happens when Google (which runs the app store on Android phones) enters into competition with app developers. Their conclusions are mixed: on the one hand, 'affected developers reduce innovation and raise the prices for the affected apps'; on the other hand, 'their incentives to innovate are not completely suppressed'—rather, 'they shift innovation to unaffected and new apps.'¹³² Other researchers have found that the story is equally ambiguous in the case of Amazon: 'While Amazon's entry discourages affected third-party sellers from subsequently pursuing growth on the platform, it

¹²⁹ Gigi Sohn, 'A Policy Framework for an Open Internet Ecosystem' (2018) 2 *Georgetown Law Technology Review* 335, 339.

¹³⁰ Spotify has filed a complaint with the European Commission, but the latter has not yet decided to open a formal investigation. See Thibault Larger and Laura Kayali, 'Spotify picks antitrust fight with Apple' (*Politico*, 13 March 2019) <<https://www.politico.eu/article/spotify-picks-antitrust-fight-with-apple/>>.

¹³¹ Julia Angwin and Surya Mattu, 'Amazon Says It Puts Customers First. But Its Pricing Algorithm Doesn't' (*ProPublica*, 20 September 2016) <<https://www.propublica.org/article/amazon-says-it-puts-customers-first-but-its-pricing-algorithm-doesnt>>. The EC is currently investigating such conduct, see EC, 'Commission opens investigation into possible anti-competitive conduct of Amazon' (press release, 17 July 2019) IP/19/4291.

¹³² Wen Wen and Feng Zhu, 'Threat of Platform-Owner Entry and Complementor Responses? Evidence from the Mobile App Market' (2019) *Strategic Management Journal* (online pre-publication). They add: 'Given that many apps already offer similar features, Google's entry threat may thus reduce wasteful development efforts.'

increases product demand and reduces shipping costs for consumers.¹³³ In a study funded by Yelp, finally, Michael Luca and Tim Wu find that the quality of Google's search results actually decreases when they contain more of Google's own vertically related content rather than those of competing services.¹³⁴

The following subsections discuss how discrimination has been regulated in the telecom industry, and whether and how it can inspire modern platform regulation. The regulation of discrimination generally involves some kind of separation between conduit (upstream) and content (downstream), and such separation can be mandated either behaviorally or structurally. Below, both forms of regulatory intervention are assessed and finally weighed against each other.¹³⁵

3.2.1. *Non-discrimination through behavioral separation*

In the 1990s, the U.S. Congress was concerned with the 'bottleneck monopoly power' of cable tv distributors: as they served as the conduit between content providers (programmers) and consumers while possessing market power in many geographical markets, they could essentially decide which content reached consumers.¹³⁶ Moreover, many cable tv distributors were vertically integrated and offered their own content ('affiliated content'), giving them an incentive to discriminate against competing ('unaffiliated') content. Congress therefore adopted §616 of the 1992 Cable Act, mandating the FCC to adopt regulations preventing cable tv distributors from discriminating against unaffiliated content in distribution decisions, at least when such discrimination 'unreasonably restrain[s] the ability of an unaffiliated [provider] to compete fairly'.¹³⁷ The FCC obliged and created a specific complaint mechanism for content providers believing they were subject to such discrimination.¹³⁸ The regulatory intervention thus had two components: a

¹³³ Feng Zhu and Qihong Liu, 'Competing with complementors: an empirical look at Amazon.com' (2018) 39 *Strategic Management Journal* 2618, 2618.

¹³⁴ Michael Luca, Tim Wu et al., 'Does Google Content Degrade Google Search? Experimental Evidence' (2016) HBS Working Paper 16-035, 46 p. (They find that 'users are roughly 40% more likely to engage with universal search results (which receive favored placement) when the results are organically determined relative to when they contain only Google content').

¹³⁵ Note that a behavioral prohibition of discrimination by platforms would, in many cases, equate to an interoperability obligation—another regulatory intervention that is gaining support from policymakers. One conception of interoperability implies the obligation on platforms to give (competing) online services non-discriminatory access (against reasonable remuneration) to a platform and in particular the APIs that govern the interaction between that platform (the consumers using it) and those services. For one example of alleged discrimination that would be solved by interoperability, consider how Apple decided to prohibit Spotify from using its API to recommend podcasts to its iOS subscribers. *See* Spotify's complaint to the EC, set out on a dedicated microsite <<https://www.timetoplayfair.com/timeline/>> ('So we announce two podcast acquisitions we are super excited about, and all of a sudden Apple arbitrarily decides to prohibit use of its API to recommend podcasts to users').

¹³⁶ *See* United States Court of Appeals for the District of Columbia Circuit, Case No. 12-1337, *Comcast Cable Communications v FCC*, 28 May 2013 (Kavanaugh, concurring), 3.

¹³⁷ 47 U.S.C. §536(a)(3).

¹³⁸ 47 C.F.R. §76.1302.

substantive one (the prohibition of anticompetitive discrimination) and an institutional one (the administrative rather than judicial procedure for aggrieved parties).

More recently, net neutrality regulations were adopted on both sides of the Atlantic¹³⁹ (and subsequently abandoned in the U.S.).¹⁴⁰ The EU Regulation, which is still in force, mandates that ISPs ‘shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver’.¹⁴¹ Again, (part of) the concern is vertical integration and the incentives that come with it: ISPs could be tempted to discriminate against online services that compete with their own downstream offering. They could, for example, slow down the service of YouTube and Netflix to draw users to their own video service.¹⁴² Supervision of such conduct and enforcement of the regulation is left up to ‘national regulatory authorities’.¹⁴³

As set out in the previous section, discrimination by online platforms of firms that compete with their downstream operations are now also becoming a concern. Accordingly, there have been calls for regulation, and the EU has assumed the mantle of answering them. Two initiatives, one *ex ante* and one *ex post*, illustrate the approach well. In July 2019, the EU institutions adopted a regulation that governs *ex ante* the relation between platforms and their business users.¹⁴⁴ The regulation does not prohibit discrimination (or ‘differentiated treatment’) of the businesses on the platform relative to the platform’s downstream operations, but it does require platforms to include a description of such practices in their terms and conditions.¹⁴⁵ Secondly, the EC has targeted certain forms of discrimination *ex post* through the more surgical application of antitrust law. In its 2017 *Google Search* decision, the EC found that Google had used its search engine to favor one of its vertically related services, namely Google Shopping; in other words, Google has discriminated

¹³⁹ Regulation (EU) 2015/2120 of the European Parliament and of the Council laying down measures concerning open internet access [2015] OJ L310/1; FCC, Order 15-24, Protecting and Promoting the Open Internet, 26 February 2016.

¹⁴⁰ FCC, Order 17-166, Restoring Internet Freedom Order, 14 December 2017.

¹⁴¹ Regulation (EU) 2015/2120 of the European Parliament and of the Council laying down measures concerning open internet access [2015] OJ L310/1, Article 3.3.

¹⁴² The Dutch competition authority has already warned ISPs not to alter video traffic: ACM, ‘ACM warns telecom companies about net neutrality’ (press release, 12 July 2016). This concern was also at the heart of the net neutrality condition imposed on the Comcast-NBCU merger. *See* DOJ, ‘Justice Department Allows Comcast-NBCU Joint Venture to Proceed with Conditions’ (press release, 18 January 2018).

¹⁴³ Regulation (EU) 2015/2120 of the European Parliament and of the Council laying down measures concerning open internet access [2015] OJ L310/1, Article 5.

¹⁴⁴ Regulation (EU) 2019/1150 of the European Parliament and of the Council on promoting fairness and transparency for business users of online intermediation services [2019] OJ L186/59. For a discussion of the Regulation, *see* Friso Bostoen, ‘The Commission proposes a Regulation on platform-to-business trading practices’ (*CoRe Blog*, 25 May 2018) <<https://coreblog.lexxion.eu/the-commission-proposes-a-regulation-on-platform-to-business-trading-practices/>>.

¹⁴⁵ Regulation (EU) 2019/1150 of the European Parliament and of the Council on promoting fairness and transparency for business users of online intermediation services [2019] OJ L186/59, Article 7.

against competing comparison shopping services.¹⁴⁶ While Google showed Google Shopping on top of the search results, competitors appeared on average only on page four. To remedy this illegal advantage, the EC ordered Google ‘to comply with the simple principle of giving equal treatment to rival comparison shopping services and its own service’.¹⁴⁷ In other words, the EC imposed a non-discrimination obligation. In the U.S., the FTC also looked into Google’s conduct, but ended up closing the case¹⁴⁸ (against the recommendation of its staff).¹⁴⁹ However, the DOJ has recently started laying the groundwork for a new investigation into Google’s search practices.¹⁵⁰

These interventions by the EC can certainly have an impact. Obliging platforms to spell out discriminatory practices in their terms and conditions might make them think twice about adopting them in the first place. And the *Google Search* decision can deter similar conduct, especially as EU Commissioner Vestager has stated that it can serve ‘as a framework to analyse the legality of such conduct’ in the future.¹⁵¹ However, the EC’s regulatory initiatives also have their deficiencies. Transparency is valuable but its conditioning effects remain untested and might be rather limited. The *Google Search* case took the EC seven years. By the time Google had to change its conduct, most of the competitors hurt by it were already driven out of the market and thus not around to benefit from the change.¹⁵² Interest groups have therefore urged the EC to make broader use of its power to impose interim measures to protect competition while awaiting a final decision,¹⁵³ and the EC now finally seems prepared to do so.¹⁵⁴ However, as a result of the perceived inaction on

¹⁴⁶ *Google Search (Shopping)* (Case AT.39740) Commission Decision C(2017)4444.

¹⁴⁷ Commission, ‘Commission fines Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service’ (press release, 27 June 2017) IP/17/1784 (quotation); *Google Search (Shopping)* (Case AT.39740) Commission Decision, para 699 (the remedy must ‘ensure that Google treats competing comparison shopping services no less favourably than its own comparison shopping service within its general search results pages’).

¹⁴⁸ Statement of the FTC, File Number 111-0163, *In the Matter of Google Inc.* (statement), 3 January 2013 (the FTC concluded that Google’s new algorithmic ranking policy was adopted ‘to improve the quality of its search results, and that any negative impact on actual or potential competitors was incidental to that purpose’).

¹⁴⁹ See Brody Mullins, Rolfe Winkler and Brent Kendall, ‘Inside the U.S. Antitrust Probe of Google’ (*The Wall Street Journal*, 19 March 2015) <<https://www.wsj.com/articles/inside-the-u-s-antitrust-probe-of-google-1426793274>>.

¹⁵⁰ Brent Kendall and John McKinnon, ‘Justice Department Is Preparing Antitrust Investigation of Google’ (*The Wall Street Journal*, 1 June 2019) <<https://www.wsj.com/articles/justice-department-is-preparing-antitrust-investigation-of-google-11559348795>>.

¹⁵¹ ‘Commissioner Vestager on Commission decision to fine Google €2.42 billion for abusing dominance as search engine by giving illegal advantage to own comparison shopping service’ (statement, 27 June 2017) STATEMENT/17/1806.

¹⁵² In addition, the competitors that were still around have complained that the changes Google implemented (a shift to an auction mechanism for comparison shopping results) are insufficient and in contravention of the *Google Search* decision. See Open Letter to Commissioner Vestager from 14 European comparison shopping services (22 November 2018), available via <<http://www.searchneutrality.org/google/comparison-shopping-services-open-letter-to-commissioner-vestager>>.

¹⁵³ See e.g. BEUC, ‘Shaping Competition Policy in the Era of Digitalisation’ (response to public consultation, 28 September 2018), 8 available via <https://www.beuc.eu/publications/beuc-x-2018-084_beuc_response_shaping_of_competition_policy.pdf>.

¹⁵⁴ In June 2019—for the first time in 18 years—the EC has announced its intention to impose interim measures on a company, namely the chipmaker Broadcom: EC, ‘Commission opens investigation into Broadcom and sends

the U.S. side and inadequate action on the EU side, proposals have been put forward to more effectively police platform discrimination. Two proposals—one more institutional, one substantive—are worth discussing.

Inspired by the 1992 Cable Act and net neutrality regulation, Hal Singer proposes applying a non-discrimination standard to online platforms, and to have disputes adjudicated by an administrative law judge or ‘Net Tribunal’.¹⁵⁵ His basic argument is that antitrust should maximize total innovation, regardless of whether it is carried out at the core (the platform) or the edge (the businesses using the platform). However, it is very difficult to weigh these kinds of innovation against each other. When Facebook appropriates Snapchat’s Story feature or Apple restricts Spotify in favor of Apple Music (see *supra*), does the consumer win or lose in the long run? When there are no price or output effects—the traditional, easy-to-measure parameters of consumer welfare—antitrust agencies and courts are not well-equipped to assess such behavior. In those limited cases where a court *is* able to recognize innovation harms (such as when Microsoft excluded the Netscape browser in favor of Internet Explorer), it takes too long (Netscape was no longer a viable competitor by the end of the trial).¹⁵⁶ The solution consists in a specialized tribunal that could more quickly adjudicate a limited standard, namely non-discrimination. In contrast to antitrust suits (under the monopolization standard of Sherman Act §2), the complainant would not have to show market power; it would simply have to show discrimination and the harm resulting from it. As this evidentiary burden is lower than under antitrust law, the remedy would also be narrower: injunctive relief rather than treble damages or even a break-up. Singer calculates that the duration of cases could be reduced by nearly 50 percent.¹⁵⁷ He recently defended his proposal before the FTC.¹⁵⁸

Statement of Objections seeking to impose interim measures in TV and modem chipsets markets’ (press release, 26 June 2019) IP/19/3410. In France, by contrast, the competition authority does frequently impose interim measures. It recently did so in relation to Google’s ad practices: Autorité de la concurrence, ‘The Autorité de la concurrence has ordered interim measures against Google’ (press release, 31 January 2019)

<http://www.autoritedelaconcurrence.fr/user/standard.php?id_rub=697&id_article=3343&lang=en>.

¹⁵⁵ Hal Singer, ‘Paid Prioritization and Zero Rating: Why Antitrust Cannot Reach the Part of Net Neutrality Everyone Is Concerned About’ (2017) *Antitrust Source* August 1; Hal Singer, ‘Inside Tech’s “Kill Zone”: How to Deal With the Threat to Edge Innovation Posed by Multi-Sided Platforms’ (*ProMarket*, 21 November 2018)

<<https://promarket.org/inside-tech-kill-zone/>>; Kevin Caves and Hal Singer, ‘When the Econometrician Shrugged: Identifying and Plugging Gaps in the Consumer Welfare Standard’ (2018) *George Mason Law Review* (forthcoming), 31 p., available via <https://www.ftc.gov/system/files/documents/public_comments/2018/08/ftc-2018-0049-d-0008-147630.pdf>.

¹⁵⁶ United States Court of Appeals for the District of Columbia Circuit, 253 F.3d 34, *United States v. Microsoft Corporation*, 28 June 2001.

¹⁵⁷ Based on a comparison of cases adjudicated by the administrative law judge under §616 of the 1992 Cable Act with cases adjudicated by antitrust courts.

¹⁵⁸ FTC, ‘Hearing #3: Multi-Sided Platforms, Labor Markets, and Potential Competition’ (Hearings on Competition and Consumer Protection in the 21st Century – transcript, 17 October 2018), 93-99

<https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_3_10-17-18_0.pdf>.

A Net Tribunal adjudicating a non-discrimination standard involves adapting both the institutional and substantive legal framework. Substantively, limiting the inquiry to discrimination absolves complainants from proving that the defendant has *absolute market power*—a difficult (and costly) task. In Germany, the legislature has also recognized the difficulty of showing market power,¹⁵⁹ but it solved this issue in a different way. §20 of the German Competition Act holds that ‘[u]ndertakings with *superior market power* in relation to small and medium-sized competitors [SMEs] may not abuse their market position to impede such competitors directly or indirectly in an unfair manner.’¹⁶⁰ In other words, for anticompetitive conduct (such as discrimination) against SMEs to be abusive, it suffices for a complainant to show that the defendant holds *relative market power*. The German legislature recently clarified that, when assessing the market power of platforms, the antitrust agency will pay particular attention to direct and indirect network effects, multi-homing, switching costs, and access to competitively relevant data.¹⁶¹ A report that will serve as the basis for the modernization of the law on abuse of market power in Germany now recommends going one step further. Firstly, the report recommends anchoring ‘*intermediation power*’ as an independent, third form of power in Germany competition law (next to supply-side/seller and demand-side/buyer power).¹⁶² This proposal is specifically aimed at vertically integrated platforms that seek to distort competition in neighboring markets. Secondly, recognizing that even large undertakings can become dependent on platforms, the report recommends generalizing the abuse of relative market power provision beyond SMEs.¹⁶³ And when it does come to SMEs, whose innovative potential is considered particularly relevant in the digital economy, the provision should be applied more flexibly.¹⁶⁴ Finally, the report recommends intervening already below the threshold of (relative or absolute) market power in case of ‘unilateral behaviour that is not justified on grounds of competition on the merits and which is found to have a dangerous probability to promote “tipping” (i.e. capture of the market by one undertaking due to network effects).’¹⁶⁵

One can imagine how the new German standards would more effectively capture the discriminatory conduct of platforms described above. Say, an e-commerce platform with a market share of 30% (below the German presumption of dominance of 40%) bans an independent seller

¹⁵⁹ And more broadly: the fact that market power is not always required to exclude or exploit other businesses.

¹⁶⁰ Act against Restraints of Competition, §20 (own emphasis).

¹⁶¹ Act against Restraints of Competition, §18. For a discussion, see Carsten Koenig, ‘Digital Economy, Antitrust Damages, and More: The 9th Amendment to the German Competition Act’ (2017) 1 European Competition and Regulatory Law Review 261.

¹⁶² Heike Schweitzer, Justus Haucap, Wolfgang Kerber and Robert Welker, ‘Modernising the law on abuse of market power – Summary of the report’s recommendations’ (Report for the Federal Ministry for Economic Affairs and Energy), para 6.

¹⁶³ Ibid, para 3.

¹⁶⁴ Ibid, para 4.

¹⁶⁵ Ibid, para 5.

of products that the platform also sells itself, or an app store with a similar market share restricts subscriptions to a popular music streaming app that competes with its own equivalent. Under the new rules, both of these forms of conduct can be illegal. However, one may wonder whether these *substantive* standards were the problem in the first place. Exclusionary conduct is practiced mostly by platforms that have been found to be dominant;¹⁶⁶ non-dominant platforms mostly do not have the power to do so in the first place. The real problem may be that antitrust agencies do not have the resources to investigate enough of these cases; even when they do, the online seller or app developer's business may have perished before any intervention takes place. Aside from an *institutional* adaptation of antitrust law (be it a Net Tribunal or the broader use of interim measures), a solution *beyond* antitrust law may therefore be more helpful, which brings us to the next section.

3.2.2. *Non-discrimination through structural separation*

If the previous section leads to one conclusion, it is that the *ex post*, behavioral regulation of exclusionary and in particular discriminatory conduct by online platforms has its deficiencies. Institutional and substantive amendments of antitrust law have been put forward (e.g. by Hal Singer and in Germany), but some argue that even these will not fully resolve the problem. Instead, they propose to intervene through *ex ante*, structural regulation. As explained under section 2, structural rules are more effective as they do not require monitoring, in contrast to the case-by-case assessments required under antitrust law. However, *ex ante* rules are also significantly more intrusive (as every firm needs to abide by them), making the threshold for adopting them higher: market power—and the conduct it leads to—needs to be a systemic rather than an occasional problem. Based on the network and learning effects platforms benefit from, the 'winner-takes-all' dynamic they lead to, and the crucial intermediary role fulfilled by platforms, one could build a case that exclusionary use of market power is a systemic problem in platform markets. From this perspective, an *ex ante*, structural solution may seem appropriate.

The most obvious solution in this category is inspired, once more, by telecom regulation. In 1982, the Bell Company entered into a consent decree with the DOJ, which determined that the telecom incumbent would be broken up into seven Regional Bell Operating Companies (RBOCs) and one long-distance company (AT&T).¹⁶⁷ The RBOCs were local monopolists while AT&T and its competitors provided the complementary infrastructure for long-distance phone calls. The consent decree prohibited RBOCs from entering the long-distance market in their regions—a so-called 'line of business restriction'. The idea was that RBOCs, if so allowed, would have an incentive

¹⁶⁶ See footnote 64.

¹⁶⁷ *United States v. AT&T*, 552 F. Supp. 131 (D.D.C. 1982).

to leverage their monopoly power from the local to the long-distance market, thereby foreclosing competition. They would have the power to do so: as long-distance carriers relied on RBOCs for local network access, the RBOCs could discriminate against those carriers in favor of their own long-distance operations.¹⁶⁸ The line of business restrictions embedded in the consent decree prevented the RBOCs from monopolizing the long-distance market and successfully fostered competition,¹⁶⁹ after which the restrictions were eased through the 1996 Cable Act.¹⁷⁰ Note that the Bell regime constitutes one of two forms of structural separation: apart from completely prohibiting entry into distinct lines of business, one can also mandate that such entry is allowed but only through structurally separate affiliates.

The description of the Bell regime described above focuses on long-distance calls, but the RBOCs were also prohibited from entering into other markets, such as those for telephone equipment and information services. In his book *The Master Switch*, Tim Wu argues that ‘it is no coincidence that the period [after the Bell consent decree] marked one of the greatest and longest booms in the history of information industries.’¹⁷¹ He therefore argues regulating communications industries through a ‘Separations Principle’—‘a salutary distance between each of the major functions or layers of the information.’¹⁷² In practice, this would mean that ‘those who develop information, those who own the network infrastructure on which it travels, and those who control the tools or venues of access must be kept apart from one another.’¹⁷³ The goal is to prevent a situation ‘where a single firm takes ownership of a fully integrated information monopoly that crosses multiple markets.’¹⁷⁴

Wu was mainly concerned with media markets, where information was the primary commodity. According to his Separations Principle, a combination of a media company (‘those who develop information’) with an ISP (‘the network infrastructure on which it travels’) would be particularly problematic. While such concerns remain relevant today (*cf.* the ISP-media mergers discussed *supra*, section 3.1.2.), vertical integration by online platforms—and the consequent potential for exclusion—is now taking center stage. Lina Khan has therefore been building on

¹⁶⁸ The RBOCs would be able to do so as they set the ‘originating fee’ for long-distance phone calls. By increasing this fee to long-distance carriers (or by decreasing their own long-distance rates, after entry), RBOCs could ‘squeeze’ them out of the market. *See* Nicholas Economides, ‘Telecommunications Regulation: An Introduction’ in Richard Nelson, *The Limits of Market Organization* (Russel Sage Foundation 2005), 56-58.

¹⁶⁹ *See* *ibid.*; Kennet Arrow, Dennis Carlton, Hal Sider, ‘The Competitive Effects of Line-of-business Restrictions in Telecommunications’ (1995) 16 *Managerial and Decision Economics* 301; Daniel Spulber, ‘Deregulating Telecommunications’ (1995) 12 *Yale Journal of Regulation* 25.

¹⁷⁰ Telecommunications Act of 1996, 110 Stat. 56, §271.

¹⁷¹ Tim Wu, *The Master Switch: The Rise and Fall of Information Empires* (Knopf 2010), 313.

¹⁷² *Ibid.*, 304.

¹⁷³ *Ibid.*

¹⁷⁴ *Ibid.*

Wu's Separation Principle to specify its application to the platform economy.¹⁷⁵ Khan seeks to target the problem discussed above, namely that 'a platform's involvement across multiple related lines of business can give rise to conflicts of interest by creating circumstances in which a platform has an incentive to privilege its own business and disadvantage other companies.'¹⁷⁶ Rather than policing these conflicts of interests, she seeks to prevent them in the first place, by 'banning a dominant firm from entering any market that it already serves as a platform—in other words, from competing directly with the businesses that depend on it.'¹⁷⁷ As a consequence, app stores would have to spin off their app businesses, while Amazon would have to separate its marketplace from its retail business.¹⁷⁸

While the regulatory intervention proposed by Khan may seem drastic, it has recently garnered the political support of Sen. Elizabeth Warren. Warren blames big tech companies for 'using proprietary marketplaces to limit competition.'¹⁷⁹ Apart from Amazon, Google catches her ire, as the company 'allegedly snuffed out a competing small search engine by demoting its content on its search algorithm, and it has favored its own restaurant ratings over those of Yelp.'¹⁸⁰ Warren later added Apple to the list too, stating that: 'Either they run the platform [the App Store] or they play in the store. They don't get to do both at the same time.'¹⁸¹ Warren refers to the decline in startup funding as a proxy for innovation to explain the negative effects of these practices (*cf. supra*, section 3.1.1.). She has committed to combatting them 'by passing legislation that requires large tech platforms to be designated as "Platform Utilities" and broken apart from any participant on that platform.'¹⁸² Large tech platforms or 'platform utilities'¹⁸³ would thus be prohibited from

¹⁷⁵ Lina Khan, 'Amazon's Antitrust Paradox' (2017) 126 *Yale Law Journal* 710, 793-797; Lina Khan, 'Sources of tech platform market power' (2018) 2 *Georgetown Law Technology Review* 325, 332-333; Lina Khan, 'The Separation of Platforms and Commerce' (2019) 119 *Columbia Law Review* 973.

¹⁷⁶ Lina Khan, 'Amazon's Antitrust Paradox' (2017) 126 *Yale Law Journal* 710, 793.

¹⁷⁷ *Ibid.*

¹⁷⁸ For an example of such a regime, one only has to look at India, where the government introduced rules that prohibit retailers from selling items through vendors they hold an equity stake in. As a result, Amazon had to pull its own products (e.g. the Echo speakers) from its Marketplace. See James Vincent, 'Amazon and Walmart hit hard after new e-commerce rules in India restrict sales' (*The Verge*, 1 February 2019)

<<https://www.theverge.com/2019/2/1/18206538/amazon-walmart-flipkart-india-e-commerce-rules-regulation-chaos>>.

¹⁷⁹ Elizabeth Warren, 'Here's how we can break up Big Tech' (*Medium*, 8 March 2019)

<<https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c>>.

¹⁸⁰ *Ibid.* For support, Warren references Charles Duhigg, 'The Case Against Google' (*New York Times*, 20 February 2018) <<https://www.nytimes.com/2018/02/20/magazine/the-case-against-google.html>> (a reference to the EC's *Google Search* decision might have made more sense) and Conor Dougherty, 'Inside Yelp's Six-Year Grudge Against Google' (*New York Times*, 1 July 2017) <<https://www.nytimes.com/2017/07/01/technology/yelp-google-european-union-antitrust.html>>.

¹⁸¹ Nilay Patel, 'Elizabeth Warren Wants to Break Up Apple, Too' (*The Verge*, 9 March 2019)

<<https://www.theverge.com/2019/3/9/18257965/elizabeth-warren-break-up-apple-monopoly-antitrust>>.

¹⁸² Elizabeth Warren, 'Here's how we can break up Big Tech' (*Medium*, 8 March 2019)

<<https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c>>.

¹⁸³ Defined as: 'Companies with an annual global revenue of \$25 billion or more and that offer to the public an online marketplace, an exchange, or a platform for connecting third parties', see *ibid.*

owning both the platform itself and any participants on that platform. They ‘would be required to meet a standard of fair, reasonable, and nondiscriminatory dealing with users.’ Smaller tech platforms¹⁸⁴ would also have to abide by this standard, but would not be required to structurally separate. If platforms would breach these obligations, they would not only be liable for damages caused by unfair or discriminatory conduct, they would also have to pay a fine of 5 percent of annual revenue.¹⁸⁵ The corporate consequences of putting this proposal into practice cannot be overstated. As Warren recognizes:

*Amazon Marketplace, Google’s ad exchange, and Google Search would be platform utilities under this law. Therefore, Amazon Marketplace and Basics, and Google’s ad exchange and businesses on the exchange would be split apart. Google Search would have to be spun off as well.*¹⁸⁶

The upside? According to Warren: ‘Small businesses would have a fair shot to sell their products on Amazon without the fear of Amazon pushing them out of business. Google couldn’t smother competitors by demoting their products on Google Search.’¹⁸⁷ However, the proposal was immediately met with criticism that is not without merit.¹⁸⁸ Ben Thompson takes a nuanced view. On the one hand, he does recognize the underlying problem, noting for example that ‘Apple has quite clearly leveraged the fact it owns the platform to compete with Spotify’.¹⁸⁹ On the other hand, he seriously worries about the implications for consumers: would iPhones be shipped without apps at all, given that iOS/the App Store would have to be separated from Apple’s app business? An independent iOS/App Store could, of course, pre-install apps from independent app companies, but this would probably decrease the security/privacy as well as the integrated nature of the ecosystem, which are some of Apple’s biggest selling points.¹⁹⁰ Herbert Hovenkamp, for his

¹⁸⁴ Defined as ‘those with annual global revenue of between \$90 million and \$25 billion’, *see ibid.*

¹⁸⁵ To put this in perspective, the EC can impose fines of up to 10% of a company’s annual revenue, but in practice the amount is usually significantly lower. *See* Council Regulation (EC) No 1/2003 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty [2003] OJ L1/1, Article 23.

¹⁸⁶ Elizabeth Warren, ‘Here’s how we can break up Big Tech’ (*Medium*, 8 March 2019) <<https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c>>.

¹⁸⁷ *Ibid.*

¹⁸⁸ *See e.g.* Ben Thompson, ‘Where Warren’s Wrong’ (*Stratechery*, 12 March 2019) <<https://stratechery.com/2019/where-warrens-wrong/>>; Mike Masnick, ‘Elizabeth Warren Wants to Break Up Amazon, Google And Facebook; But Does Her Plan Make Any Sense?’ (*TechDirt*, 8 March 2019) <<https://www.techdirt.com/articles/20190308/10591041767/elizabeth-warren-wants-to-break-up-amazon-google-facebook-does-her-plan-make-any-sense.shtml>>; Matthew Lane, ‘The Trade-Offs in Sen. Warren’s Plan: Strict Separation has its Costs’ (*Disruptive Competition Project*, 15 April 2019) <<http://www.project-disco.org/competition/041519-the-trade-offs-in-sen-warrens-plan-strict-separation-has-costs/>>.

¹⁸⁹ Ben Thompson, ‘Where Warren’s Wrong’ (*Stratechery*, 12 March 2019) <<https://stratechery.com/2019/where-warrens-wrong/>>.

¹⁹⁰ Apple would still be able to control the installation of apps through the App Store approval process, given that Warren only proposes a separation of the App Store and the apps sold by Apple in that store, not between iOS and the App Store. Ben Thompson seems to suggest the contrary, which appears to take Warren’s proposal one step too far. *See ibid.*: ‘[T]here is significant consumer benefit [to] Apple controlling the installation of apps. There is a big benefit to suppliers (app developers) as well: the app market on PCs died in large part due to security concerns,

part, worries about the effects of Warren's plan on consumer prices.¹⁹¹ Because, while vertical integration may lead to exclusion of downstream competitors, it certainly leads to lower prices and thus increased competitive pressure on those rivals.¹⁹² Amazon, for example, cut prices at Whole Foods after acquiring the grocery chain,¹⁹³ while its Amazon Basics batteries perform as well as those of competing brands at a fraction of the price.¹⁹⁴ Finally, it must be noted once more (*cf. supra*, section 3.1.2.) that acquisition is a dominant business strategy in the tech startup scene. Indeed, startups may not even have a stand-alone path to profitability; rather, their utility can only be truly realized by integration in the ecosystem of one of the established online platforms. A separation regime would prevent such vertical acquisitions, and therefore has the potential to not only prevent the consumer-friendly integration of complementary products, but also to dampen investment in startups and thus hurt innovation.¹⁹⁵ A handful of first reactions by venture capitalists seem to corroborate the latter hypothesis.¹⁹⁶

3.2.3. Conclusion

The (news) stories about how a platform enters a downstream market that its platform serves and subsequently uses its digital infrastructure to push out competitors are numerous enough to cause legitimate concern.¹⁹⁷ The empirical literature on this issue is, however, limited and ambiguous (see

which Apple obviated with the App Store to the tremendous benefit of every participant in the ecosystem. Senator Warren's proposal would make the App Store worse for everyone.'

¹⁹¹ Herbert Hovenkamp, 'The Warren Campaign's Antitrust Proposals' (*The Regulatory Review*, 25 March 2019) <<https://www.theregreview.org/2019/03/25/hovenkamp-warren-campaigns-antitrust-proposals/>>.

¹⁹² These lower prices are explained by (i) the elimination of double marginalization: since Amazon does not have to pay its own Marketplace commission fees, there is effectively no retail/distribution market-up (although this can be seen, in itself, as an unfair competitive advantage); and (ii) house brands' lack of price premiums that result from trademarks or entrenched brands.

¹⁹³ Jennifer Kaplan and Matthew Boyle, 'Amazon Cuts Whole Foods Prices as Much as 43% on First Day' (*Bloomberg*, 28 August 2017) <<https://www.bloomberg.com/news/articles/2017-08-28/amazon-cuts-prices-at-whole-foods-as-much-as-50-on-first-day>>; Craig Giammona, 'Amazon's Whole Foods Price Cuts Brought 25% Jump in Shoppers' (*Bloomberg*, 11 September 2017) <<https://www.bloomberg.com/news/articles/2017-09-11/amazon-s-whole-foods-price-cuts-brought-25-jump-in-customers>>.

¹⁹⁴ Amy Livingston, 'Best Batteries' (*consumersearch*, 17 July 2017) <<https://www.consumersearch.com/batteries>>.

¹⁹⁵ For the work underlying this argument, see Daniel Sokol, 'Vertical Mergers and Entrepreneurial Exit' (2018) 70 *Florida Law Review* 1357. For a discussion in the context of separation regimes, see Matthew Lane, 'The Trade-Offs in Sen. Warren's Plan: Strict Separation has its Costs' (*Disruptive Competition Project*, 15 April 2019) <<http://www.project-disco.org/competition/041519-the-trade-offs-in-sen-warrens-plan-strict-separation-has-costs/>>.

¹⁹⁶ Jonathan Shieber, 'Venture investors and startup execs say they don't need Elizabeth Warren to defend them from big tech' (*TechCrunch*, 8 March 2019) <<https://techcrunch.com/2019/03/08/venture-investors-and-startup-exec-say-they-dont-need-elizabeth-warren-to-defend-them-from-big-tech/>> (e.g. 'If big companies like Google, Facebook, and Amazon are prevented from acquiring startups, that actually reduces competition. The reason is that if there is less M&A due to legal uncertainty, there is a reduced incentive for angels & VCs to fund those startups in the first place.').

¹⁹⁷ Only in relation to Amazon, see e.g. Jennifer Rankin, 'Third-party sellers and Amazon – a double-edged sword in e-commerce' (*The Guardian*, 23 June 2015) <<https://www.theguardian.com/technology/2015/jun/23/amazon-marketplace-third-party-seller-faustian-pact>>; Spencer Soper, 'Got a Hot Seller on Amazon? Prepare for E-Tailer to Make One Too' (*Bloomberg*, 20 April 2016) <<https://www.bloomberg.com/news/articles/2016-04-20/got-a-hot> -

supra, section 3.2.). The reason for this may, once more, be found in the incentives. An online marketplace—such as Amazon’s—cannot discriminate against too many of its sellers, as this could negatively affect the health of its ecosystem: a platform with a reputation for exclusion may not attract or retain enough participants to give it the necessary volume and diversity.¹⁹⁸ It is difficult to say which incentives will dominate: those to capture more of the value in the ecosystem through vertical exclusion, or those to preserve the overall health of the ecosystem. The on-going investigations into the potentially exclusionary conduct by Amazon¹⁹⁹ and Apple²⁰⁰ may bring us closer to the answer. Until then, the focus should be on speeding up these investigations, which can already be done through the broader use of interim measures while anticipating more fundamental institutional changes. However, the balance of the evidence does not currently favor structural separation, and it is difficult to see how this would change in the future given the various procompetitive efficiencies of vertical integration. While such efficiencies exist, however, there is no guarantee whatsoever that they in every case outweigh the anticompetitive effects, which are

seller-on-amazon-prepare-for-e-tailer-to-make-one-too>; Olivia Solon and Julia Carrie Wong, ‘Jeff Bezos v the world: why all companies fear “death by Amazon”’ (*The Guardian*, 24 April 2018) <<https://www.theguardian.com/technology/2018/apr/24/amazon-jeff-bezos-customer-data-industries>>; Jay Greene and Laura Stevens, “‘You’re Stupid If You Don’t Get Scared’: When Amazon Goes From Partner to Rival” (*The Wall Street Journal*, 1 June 2018) <<https://www.wsj.com/articles/how-amazon-wins-1527845402>>; Leticia Miranda, ‘Amazon Sellers Say The Tech Giant Is Crushing Them With Competitive Pricing’ (*BuzzFeed News*, 7 June 2018) <<https://www.buzzfeednews.com/article/leticiamiranda/amazon-sellers-say-the-tech-giant-is-crushing-them-with-jdyrW1KZj>>; Julia Creswell, ‘How Amazon Steers Shoppers to Its Own Products’ (*The New York Times*, 23 June 2018) <<https://www.nytimes.com/2018/06/23/business/amazon-the-brand-buster.html>>.

¹⁹⁸ However, as Hal Singer notes, ‘that calculus goes awry when a platform enjoys monopoly power and can take its customers for granted.’ See FTC, ‘Hearing #3: Multi-Sided Platforms, Labor Markets, and Potential Competition’ (Hearings on Competition and Consumer Protection in the 21st Century – transcript, 17 October 2018), 93 <https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_3_10-17-18_0.pdf>.

¹⁹⁹ Amazon has been entangled in a large number of investigations; some of those have been recently resolved. For an overview, see Friso Bostoen, ‘Amazon cases on the move: Bundeskartellamt closes proceedings while European Commission opens formal investigation’ (*CoRe Blog*, 18 July 2019) <<https://coreblog.lexxion.eu/amazon-cases-on-the-move/>>. At least three investigations are still pending: (1) EU: EC, ‘Commission opens investigation into possible anti-competitive conduct of Amazon’ (press release, 17 July 2019) IP/19/4291; (2) Italy: Autorita’ Garante della Concorrenza e del Mercato: ‘Amazon: avviata istruttoria su possibile abuso di posizione dominante in marketplace e-commerce e servizi di logistica’ (press release, 16 April 2019) <<http://www.agcm.it/media/comunicati-stampa/2019/4/Amazon-avviata-istruttoria-su-possibile-abuso-di-posizione-dominante-in-marketplace-e-commerce-e-servizi-di-logistica>>; (3) Luxembourg: Conseil de la concurrence, ‘Enquête sur les services de plateforme en ligne’ (press release, 1 April 2019) <<https://conurrence.public.lu/dam-assets/fr/actualites/2019/2019-4-1-Communique-services-en-ligne-.pdf>>.

Two investigations were recently closed (with concessions by Amazon): (1) Germany: Bundeskartellamt, ‘Bundeskartellamt obtains far-reaching improvements in the terms of business for sellers on Amazon’s online marketplaces’ (press release, 17 July 2019) <https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2019/17_07_2019_Amazon.html>; (2) Austria: Bundeswettbewerbsbehörde, ‘BWB informs: Amazon modifies its terms and conditions’ (press release, 17 July 2019) <https://www.bwb.gv.at/en/news/detail/news/bwb_informs_amazon_modifies_its_terms_and_conditions-1/>.

²⁰⁰ On the EU probe, see Thibault Langer and Laura Kayali, ‘Spotify picks antitrust fight with Apple’ (*Politico*, 13 March 2019) <<https://www.politico.eu/article/spotify-picks-antitrust-fight-with-apple/>>. The Dutch competition authority has recently also started an investigation, see Authority for Consumers & Markets, ‘ACM launches investigation into abuse of dominance by Apple in its App Store’ (press release, 11 April 2019) <<https://www.acm.nl/en/publications/acm-launches-investigation-abuse-dominance-apple-its-app-store>>.

particularly pronounced in platform markets. Therefore, there appears to be room for a behavioral measure that preserves those efficiencies while also providing a basis for intervention whenever the anticompetitive effects take the upper hand. However, a number of antitrust precedents (e.g. potential decisions on Amazon and Apple, in addition to the *Google Search* decision) could—through increased deterrence—have the same effect as a behavioral *ex ante* rule. Moreover, as anticompetitive effects are difficult to assess in discrimination scenarios (given that they involve innovation, quality and choice rather than price), mitigating the burden of proof on the complainant is advised. Again, however, this can be done through an evolving interpretation of *ex post* antitrust law as well as the adoption of an *ex ante* behavioral rule.

3.3. Data portability

One problem with online platforms that has not been discussed yet is that even when a competitor with a superior platform enters the market, its odds of success are rather slim. The reason is that users are ‘locked in’ to the incumbent platform. This is due in part to network effects, meaning that the utility of the platform increases with the number of users (see *supra*, section 2.3.), which makes moving to a less popular platform unattractive. Even if a superior social network—e.g. one more protective of user privacy—entered the market, for example, users wouldn’t easily make the switch because all of their friends are already on Facebook. Users could, in theory, all make the switch at the same time, but a collective action problem prevents them from doing so.²⁰¹ This is why the #DeleteFacebook movement that followed the Cambridge Analytica scandal quickly ran out of steam.²⁰² There is a related, equally important impediment to switching from one platform to another: all of a user’s data is siloed on that platform, and the user cannot take it anywhere else. Moving social networks thus means losing all your pictures, posts, likes and conversations. And an Uber driver switching to Lyft loses his hard-earned reputation score—the standard for trust online. Taken together, networks effects and data centralization thus create high switching costs for users, locking them into the incumbent platform. This cements the market power of those platforms, which in turn increases the risk that platforms will abuse it.

However, user lock-in has prevented competition in the telephone industry before. In the past, when users wanted to switch telecom providers, they could not keep their old number but would get a new one. This cost of switching prevented many consumers from doing so and thus insulated carriers from a healthy dose of competition. This changed when regulators in the EU and

²⁰¹ Garth Saloner, Andrea Shepard and Joel Podolny, *Strategic Management* (Wiley 2001), 313.

²⁰² See Tiffany Hsu, ‘For Many Facebook Users, a “Last Straw” That Led Them to Quit’ (*The New York Times*, 21 March 2018) <<https://www.nytimes.com/2018/03/21/technology/users-abandon-facebook.html>>.

U.S. introduced number portability, i.e. the right to retain your phone number when switching providers.²⁰³ This policy change spurred greater competition between telecom providers, which led to a decrease in prices and an increase in consumer welfare.²⁰⁴

While the data users have ceded to platforms is greater than the 8 or 10 digits of a phone number, one could consider extending the principle of portability to the digital economy. In fact, the EU has already done so by enshrining a right to data portability in the General Data Protection Regulation (GDPR):

*The data subject shall have the right to receive the personal data concerning him or her, which he or she has provided to a controller, in a structured, commonly used and machine-readable format and have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided[.]*²⁰⁵

The California Consumer Privacy Act also includes a right to data portability (albeit a slightly weaker version).²⁰⁶ However, while the issue has caught the attention of members of Congress²⁰⁷ and federal authorities²⁰⁸, there does not seem to be sufficient support to extend the right nationally.

Even once adopted, there are significant challenges to implementing the right to data portability. Some of its applications are rather easy: downloading your Apple Music playlists and

²⁰³ In the EU, *see* Directive 2002/22/EC of the European Parliament and of the Council on universal service and users' rights relating to electronic communications networks and services (Universal Service Directive) [2002] OJ L108/51, considerations 40-42 and Article 30. In the U.S., *see* FCC, 'Porting: Keeping Your Phone Number When You Change Providers' <<https://www.fcc.gov/consumers/guides/porting-keeping-your-phone-number-when-you-change-providers>>.

²⁰⁴ Daegon Cho, Pedro Ferreira and Rahul Telang, 'The Impact of Mobile Number Portability on Price, Competition and Consumer Welfare' (2016) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2265104>.

²⁰⁵ Regulation (EU) 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data [2016] OJ L119/1, Article 20. The Regulation even adds that 'the data subject shall have the right to have the personal data transmitted directly from one controller to another, where technically feasible.' For an excellent discussion on the interpretation of this provision, *see* Paul De Hert, Vagelis Papakonstantinou, Gianclaudio Malgieri, Laurent Beslay and Ignacio Sanchez, 'The right to data portability in the GDPR: Towards user-centric interoperability of digital services' *Computer Law & Security Review* (2018) 34 *Computer Law & Security Review* 193.

²⁰⁶ California Consumer Privacy Act of 2018, 1798.100(d): 'A business that receives a verifiable consumer request from a consumer to access personal information shall promptly take steps to disclose and deliver, free of charge to the consumer, the personal information required by this section. [T]he information shall be in a *portable* and, to the extent technically feasible, in a readily useable format that allows the consumer to transmit this information to another entity without hindrance.' (own emphasis)

²⁰⁷ *See e.g.* Mark Warner, 'Potential Policy Proposals for Regulation of Social Media and Technology Firms' (White Paper), 15-16, available via <https://regmedia.co.uk/2018/07/30/warner_social_media_proposal.pdf> ('The US could adopt rules mirroring GDPR, with key features like data portability').

²⁰⁸ *See e.g.* Noah Joshua Phillips, Opening Keynote of the Future of Privacy Forum: 9th Annual Privacy Papers for Policymakers (Washington, DC, 6 February 2019), 4 <https://www.ftc.gov/system/files/documents/public_statements/1452828/phillips_-_fpf_opening_keynote_2-6-19.pdf> (He notes: 'Data portability is a frequent theme in privacy regulation. Some people think of it as an outcome that will empower consumers and foster competition.' However, he also calls for more research.).

porting them to Spotify should not raise difficulties.²⁰⁹ However, it is a lot more difficult to see how you could download all your Facebook data and use this huge file as an input for a competing social network. Firstly, there is a practical impediment to doing so: if users still face high costs (effort) in porting their data from one platform to another, we are back at square one. Secondly, there is a technical problem: porting data from one platform to another requires common standards, and such standards do not exist yet.²¹⁰

Even Mark Zuckerberg is a proponent of data portability, and he agrees that the experience should be seamless: ‘True data portability should look more like the way people use our platform to sign into an app’.²¹¹ As this can only happen when there is a common set of standards, Facebook has teamed up with Microsoft, Google and Twitter on the ‘Data Transfer Project’—a project with the ambition to create ‘an open-source, service-to-service data portability platform so that all individuals across the web could easily move their data between online service providers whenever they want.’²¹² The ambition is to build a common framework that can connect any two online service providers, enabling a seamless, direct, and user-initiated portability of data between the two platforms.²¹³ However, it remains to be seen whether the Data Transfer Project is a good faith push for portability or an effort by incumbents to delay or capture the process.

While the right to data portability has been adopted in the EU, it is too early to evaluate its impact. Of course, there is always a risk that an *ex ante* regulatory intervention that applies without distinction ends up benefitting incumbents rather than entrants. This has to do with regulatory capture, which—according to Tim Wu—is especially prevent in the communications industry.²¹⁴ Even more so, it has to do with the compliance costs of regulation: as incumbents are best placed to bear those costs, regulation may actually cement their market power.²¹⁵ However, this seems

²⁰⁹ Note, however, that playlists on a music streaming service may not qualify as *personal* data under the GDPR. The point here is to illustrate the technical difficulty of portability.

²¹⁰ Helena Ursic, ‘Unfolding the New-Born Right to Data Portability: Four Gateways to Data Subject Control’ (2018) 15 *Scripted* 42, 67-68 (‘The success of data portability as a right will be correlated with the success of standardisation initiatives’).

²¹¹ Mark Zuckerberg, ‘Four Ideas to Regulate the Internet’ (Facebook newsroom, 30 March 2019) <<https://newsroom.fb.com/news/2019/03/four-ideas-regulate-internet/>>.

²¹² See <<https://datatransferproject.dev/>>. For context, see Russel Brandom, ‘Google, Facebook, Microsoft, and Twitter partner for ambitious new data project’ (*The Verge*, 20 July 2018) <<https://www.theverge.com/2018/7/20/17589246/data-transfer-project-google-facebook-microsoft-twitter>>.

²¹³ This would be in line with the obligation of the Regulation (EU) 2016/679 of the European Parliament and of the Council on the protection of natural persons with regard to the processing of personal data and on the free movement of such data [2016] OJ L119/1, Article 20, para 2 (‘In exercising his or her right to data portability pursuant to paragraph 1, the data subject shall have the right to have the personal data transmitted directly from one controller to another, where technically feasible’).

²¹⁴ Tim Wu, *The Master Switch: The Rise and Fall of Information Empires* (Vintage 2010), 384 p.

²¹⁵ There are some signs of such dynamics with regard to the GDPR, see Björn Greiff, ‘Study: Google is the biggest beneficiary of the GDPR’ (*Cliqz*, 10 October 2018) <<https://cliqz.com/en/magazine/study-google-is-the-biggest-beneficiary-of-the-gdpr>>.

unlikely in the case of data portability, which mainly imposes costs on incumbents; entrants may have to invest in *receiving* data from those incumbents, but this should be more than worth the investment. A more relevant concern is that mandating data portability could dampen incentives to invest and thus stymie innovation.²¹⁶ However, such concern only tells half of the story: while it is true that the incentives of incumbents—which have to share certain data they gathered—may decrease, the incentives of entrants—who now have a chance of success—will actually increase.²¹⁷ Given the current state of platform markets and the potential benefits of deconcentration, this trade-off appears to weigh in favor of instituting a workable data portability policy.

3.4. Forced access

Legislators in both the U.S. and the EU have sought to liberalize their telecom sector by forcing incumbents to give entrants access to their network. In the U.S., the 1996 Telecommunications Act obliged dominant network operators to give competitors access to their physical infrastructure on ‘rates, terms, and conditions that are just, reasonable, and nondiscriminatory’.²¹⁸ This made it possible for entrants, for whom it was not economically viable to duplicate the incumbent’s network, to nevertheless compete with the incumbent in providing end-users with telecom services (including internet access). Based on a similar reasoning, the EU has been requiring telecom operators with significant market power to give competitors access to their local networks.²¹⁹ This *ex ante* regulatory framework has been complemented with antitrust enforcement. In the EU, when a telecom incumbent did not comply with its obligations (e.g. by not providing sufficient access or only doing so on unreasonable terms), the EC would step in and fine the firm for a ‘refusal to supply’.²²⁰ U.S. courts have been more reluctant to burden regulated firms with additional antitrust enforcement, at least when it comes to refusals to supply, but their complementary has nevertheless

²¹⁶ Again, there are some signs of such effects deriving from the GDPR, *see* Jian Jia, Ginger Jin, Liad Wagman, ‘The short-run effects of GDPR on technology venture investment’ (*Vox – CEPR Policy Portal*, 7 January 2019) <<https://voxeu.org/article/short-run-effects-gdpr-technology-venture-investment>>.

²¹⁷ However, one could still argue that even these entrants have less of an incentive to invest, because—if they ever become the incumbent—they will have to abide by data portability obligations.

²¹⁸ Telecommunications Act of 1996, 110 Stat. 56, §251(c). The incumbent (or ‘local exchange carrier’) had to offer competitors (i) interconnection between networks; (ii) access to ‘unbundles network elements’; and (iii) wholesale telecom services that they could resell.

²¹⁹ Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop, OJ L 336/4, which was replaced with Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services [2000] OJ L337/37.

²²⁰ *See Slovak Telekom* (Case AT.39523) Commission Decision C(2014)7465. In principle, national regulators were tasked with policing compliance with the access obligations, but they did not always do so effectively, which is when the EC would step in.

been confirmed.²²¹ The idea underlying the EU and U.S. refusal to supply doctrines is that there are certain facilities that are essential for rivals to be able to compete but which cannot practicably be duplicated. In those cases, the owner of those facilities should grant access to competitors when feasible.

The idea is now growing that certain platforms provide the essential infrastructure for online interactions that range from commerce to communication. Should these online platforms be considered essential facilities that must grant access to competitors? EU Commissioner Vestager has suggested that ‘maybe we need to rethink the notion of essential facilities in the digital sphere’.²²² In the U.S., Sen. Mark Warner has proposed designating certain online platforms as essential facilities that must provide access to third parties on fair, reasonable and non-discriminatory terms.²²³ To assess such proposals, it is useful to make a distinction between two kinds of platform access. Firstly, one could mandate access to the *platform* infrastructure itself, determining, for example, that app developers should have access to the two dominant app stores. Such access could solve a discrimination problem as it would imply that the app stores owners cannot start excluding the apps of independent app developers once they start competing with the app store owners’ own apps. Secondly, one could oblige platforms to give third parties access to their *data*, which would primarily promote competition in the platform market. An important reason for Google’s superior search engine is that it has processed billions of search queries and learned from those; if an entrant in the search market would have access to this data, it could more easily develop into a viable competitor.²²⁴ Different kinds of access (to the platform or to its data) can thus solve different problems (a vertical/discrimination or horizontal/market power problem).

While the essential facilities doctrine starts from the same idea in the EU and the U.S., its interpretation has diverged: in the U.S., it has become increasingly difficult to prove a refusal to supply, while in the EU, courts are more open to recognizing refusal to supply claims.²²⁵ Tellingly,

²²¹ *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U. S. ____ (2004), 7 (‘the 1996 Act preserves claims that satisfy existing antitrust standards’). Note that, in what follows, I deal with the U.S. refusal to supply and essential facilities doctrines in one breath, although there are subtle differences. *See ibid.* (‘To the extent respondent’s essential facilities argument is distinct from its general [refusal to supply] argument...’). The landmark case on essential facilities doctrine (in the telecom sector) is *MCI Communications Corp. v. AT&T*, 708 F.2d 1081 (7th Cir. 1983).

²²² Not in an official document, however, but at the Q&A after a conference speech, see <<https://twitter.com/BenVanRompuy/status/989472658390769664>>.

²²³ Mark Warner, ‘Potential Policy Proposals for Regulation of Social Media and Technology Firms’ (White Paper), 23, available via <https://regmedia.co.uk/2018/07/30/warner_social_media_proposal.pdf>.

²²⁴ *See* Cédric Argenton and Jens Prüfer, ‘Search Engine Competition with Network Externalities’ (2012) 8 *Journal of Competition Law & Economics* 73.

²²⁵ Andrea Renda, ‘Competition–regulation interface in telecommunications: What’s left of the essential facility doctrine’ (2010) 34 *Telecommunications Policy* 23, 24 (‘while the essential facilities doctrine is spreading, some advanced countries started to significantly depart from its application, either reneging

the U.S. Supreme Court has refused to recognize price squeeze as a form of monopolization,²²⁶ while the EU courts have done so.²²⁷ Price squeeze can be considered a ‘milder’ form of refusal to supply where the dominant firm does allow competitors to access its network, but increases its price in this upstream market until it becomes impossible for an equally efficient competitor to trade profitably on the downstream market.²²⁸ EU law also recognizes ‘constructive’ refusals to supply, which ‘involve the imposition of unreasonable conditions in return for the supply’.²²⁹ These divergences may hint at a more fundamental difference in antitrust traditions. While the EU, in contrast to the US, has always shied away from the nuclear option of break-ups, it has not been afraid to deal with monopoly through forced access—a point made recently by Commissioner Vestager.²³⁰ In what follows, I will therefore focus on the EU legal framework when discussing the trade-offs in imposing access obligations on dominant platforms, but the assessment can be transposed at least in part across the Atlantic.

As we know from the telecom sector, if one chooses to force access, a choice has to be made between doing so *ex ante* through regulation or *ex post* through antitrust law (or a combination of both). The default is the law as it stands, i.e. the essential facilities doctrine, so the question is really whether this doctrine should be broadened or complemented with *ex ante* regulation. Currently, the conditions under which a refusal to supply by a dominant firm can be considered abusive are:

- (i) the refusal relates to a facility that is objectively necessary to be able to compete effectively on a downstream market, meaning it has no substitutes and is not replicable;²³¹
- (ii) the refusal is likely to lead to the elimination of effective competition on the downstream market; and
- (iii) the refusal is likely to lead to consumer harm, which is not offset by countervailing efficiencies.²³²

completely (like the US) or expanding its interpretation (the EU)?). *See further* Spencer Weber Waller and William Tasch, ‘Harmonizing Essential Facilities’ (2010) 76 *Antitrust Law Journal* 741.

²²⁶ *Verizon Communications Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U. S. ____ (2004).

²²⁷ Case C-280/08 P *Deutsche Telekom AG v. European Commission* EU:C:2010:603 [2010] ECR I-9555.

²²⁸ Alternatively, the dominant firm can choose to lower its retail price. Either strategy results in entrants’ profit margins being squeezed.

²²⁹ Communication from the Commission — Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45, para 81.

²³⁰ Natasha Lomas, ‘Don’t break up big tech—regulate data access, says EU antitrust chief’ (*TechCrunch*, 11 March 2019) <<https://techcrunch.com/2019/03/11/dont-break-up-big-tech-regulate-data-access-says-eu-antitrust-chief/>>.

²³¹ On this condition, *see particularly* Case C-7/97 *Oscar Bronner v Mediaprint* EU:C:1998:569 [1998] ECR I-7791, paras 40-46.

²³² Communication from the Commission — Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45, paras 81 and 83-89.

In addition, when the refusal concerns intellectual property, it must prevent the appearance of a new product²³³ or at least limit technical development.²³⁴ These conditions must guide antitrust agencies in making a difficult trade-off. On the one hand, mandating access to a facility can spur innovation by entrants, who can make use of the facility to provide competing services downstream. On the other hand, forced access can decrease incentives to innovate upstream, both for the incumbent (which profits less from its innovation when it has to be shared) and of entrants (which are not motivated to develop their own facilities).²³⁵ To prevent entrants from simply free-riding on the investment of the incumbent, a fair price for access has to be determined, but antitrust agencies do not always have the expertise to engage in this exercise (and courts even less so). With this framework in mind, let us examine platform access and data access in turn.

Platform access. Are online platforms essential facilities to which their business users should be guaranteed access?²³⁶ As a preliminary remark, it is worth noting that platforms rarely flat-out refuse to provide businesses with access to their facilities.²³⁷ More often, platforms make it hard for those businesses to compete with the platform's own downstream operations by imposing ever more stringent conditions. However, the legal assessment remains the same, as such conduct can be considered a constructive refusal to supply (or a price squeeze when the conditions are price-related). To make this assessment a bit more practical, consider app stores: should they be forced to give app developers a sales channel for their apps (when they conform to the stores' security and content rules)? Firstly, app stores do seem 'objectively necessary'. Given their integration in mobile operating systems (OS), app stores are the only way for developers to reach customers. Moreover, it is unfeasible for developers to create their own facility, as app stores (i) require a significant up-front investment and benefit from economies of scale; and (ii) operate under strong

²³³ Joined cases C-241/91 P and C-242/91 P, *Radio Telefis Eireann (RTE) and Independent Television Publications Ltd (ITP) v Commission* ('Magill') EU:C:1995:98 [1995] ECR I-743, para 54.

²³⁴ Case T-201/04 *Microsoft v Commission* EU:T:2007:289 [2007] ECR II-3601, para 647.

²³⁵ Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45, para 75 ('The knowledge that they may have a duty to supply against their will may lead dominant undertakings [...] not to invest, or to invest less, in the activity in question. Also, competitors may be tempted to free ride on investments made by the dominant undertaking instead of investing themselves.').

²³⁶ Note that imposing an interoperability obligation on platforms would, in many cases, also provide a similar solution for online services that are denied access to the platform. Indeed, in its first decision regarding Microsoft, the EC found that Microsoft had illegally refused to supply Sun Microsystems with interoperability information (i.e. the information constituted an essential facility). See *Microsoft* (Case COMP/C-3/37.792) Commission Decision. When it comes to platforms, refusals to supply and interoperability obligations are thus closely linked. On the relation between non-discrimination and interoperability obligations, see footnote 135.

²³⁷ For some examples in the app store market, however, see Stuart Dredge, 'ERA Says Apple's HMV App Ban Raises "Serious Issues Of Competition"' (*Musically*, 22 October 2013) <<http://musically.com/2013/10/22/era-says-apples-hmv-app-ban-raises-serious-issues-of-competition/>> and Jack Nicas, 'Apple Cracks Down on Apps That Fight iPhone Addiction' (*New York Times*, 27 April 2019) <<https://www.nytimes.com/2019/04/27/technology/apple-screen-time-trackers.html>>.

network effects (more customers means more developers means more customers, and so on). Secondly, lack of access can eliminate competition in the downstream market. A developer whose product is not allowed in Apple's App Store has no chance to compete for 65% of consumer spending on apps.²³⁸ Moreover, as the EC considers the app stores of Apple and Google to operate in different markets,²³⁹ being banned from either app store equates to being excluded from a complete downstream market. Thus, there is an argument that app stores constitute essential facilities under the current test. However, while economies of scale and network effects govern every platform market,²⁴⁰ app stores are an extreme example of a platform market being *completely* dominated by one or at most two firms (depending on whether one considers Apple and Google in the same market).²⁴¹ Most other platform markets are less concentrated. The fact that Amazon commands half of e-commerce sales in the U.S., for example, means that online sellers clearly have alternative channels for their products.²⁴² Therefore, in order to guarantee access in such platform-to-business relations, one would have to either broaden the essential facilities doctrine or adopt *ex ante* regulation. However, the case for neither of those two options appears particularly convincing. Firstly, the current essential facilities doctrine is based on a delicate trade-off between upstream and downstream innovation. Broadening the essential facilities doctrine would upset this balance in platform markets and beyond. Secondly, platforms usually do not ban businesses, but rather start discriminating against them after their own entry into the downstream market. Thus, a non-discrimination standard would more directly target the problem (see *supra*, section 3.2.).

Data access. In contrast to the question of platforms as essential facilities, the question of data as essential facility has been discussed at length. The debate was facilitated greatly by Inge Graef, who published her Ph.D. thesis on the subject in 2016, and concluded that data can—in certain cases—be considered an essential facility under EU competition law.²⁴³ The German and French competition authorities have also weighed in on the subject, observing in a joint report that data

²³⁸ Own calculation using SensorTower data provided via Randy Nelson, 'Global App Revenue Grew 23% in 2018 to More Than \$71 Billion on iOS and Google Play' (*SensorTower*, 16 January 2019) <<https://sensortower.com/blog/app-revenue-and-downloads-2018>>.

²³⁹ EC, 'Commission fines Google €4.34 billion for illegal practices regarding Android mobile devices to strengthen dominance of Google's search engine' (press release, 18 July 2018) IP/18/4581.

²⁴⁰ The importance of these characteristics for an essential facility assessment is explicitly recognized by the EC, see Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings [2009] OJ C45, footnote 58 ('In general, an input is likely to be impossible to replicate when it involves a natural monopoly due to scale or scope economies [or] where there are strong network effects').

²⁴¹ EC, 'Commission fines Google €4.34 billion for illegal practices regarding Android mobile devices to strengthen dominance of Google's search engine' (press release, 18 July 2018) IP/18/4581.

²⁴² 'Amazon Now Has Nearly 50% of US Ecommerce Market' (*eMarketer*, 13 July 2018) <<https://retail.emarketer.com/article/amazon-now-has-nearly-50-of-us-ecommerce-market/5b48c542ebd4000b24140992>>.

²⁴³ Inge Graef, *EU Competition Law, Data Protection and Online Platforms: Data as Essential Facility* (Wolters Kluwer 2016), 440 p. For a U.S. perspective, see Zachary Abrahamson, 'Essential Data' (2014) 124 *Yale Law Journal* 867.

can meet the standards of the EU case law if it is ‘truly unique and [...] there is no possibility for the competitor to obtain the data that it needs to perform its services.’²⁴⁴ However, critics argue that data is non-rivalrous (the same data can be given to and used by many different firms) as well as widely available, meaning it will never be unique.²⁴⁵ Others argue that access to data misses the point: it is not data collection but rather data processing that gives certain firms a competitive edge.²⁴⁶ In other words, the success of Google’s search engine is not a result of the millions of daily search queries that it learns from but is rather due to its superior search algorithm. Accordingly, the effects of mandating access to data will be limited. Finally, if data is considered an essential facility, the remedy would consist in granting competitors access to that data. However, as much of this data is personal, privacy laws (in particular the GDPR) make implementing this remedy complicated.²⁴⁷ While the academic debate on this issue is rich, the theory of data as essential facility has gone largely untested in practice.²⁴⁸ Nevertheless, there are calls for change. Most significantly, the issue is the focus of the aforementioned report on the modernization of Germany’s law on abuse of market power.²⁴⁹ Its authors affirm that a refusal to supply data over which a firm has exclusive control and which is essential to competitors can already be qualified as abusive under EU competition law.²⁵⁰ At the same time, they hold that the threshold for finding a refusal to supply data may be lower than in cases involving a refusal to grant access to infrastructures or to intellectual property rights, in particular when such a refusal relates to data which is generated virtually incidentally and without special investment.²⁵¹ In that case, the underlying reasoning goes, negative effects on an incumbent’s incentives to innovate should be limited. However, Rupprecht Podszun worries that competition law remedies will only work under exceptional circumstances

²⁴⁴ Autorité de la concurrence and Bundeskartellamt, ‘Competition Law and Data’ (Joint Report, 2016), 18.

²⁴⁵ Catherine Tucker, ‘Digital Data, Platforms and the Usual [Antitrust] Suspects: Network Effects, Switching Costs, Essential Facility’ (2019), 13-15 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3326385>.

²⁴⁶ Giuseppe Colangelo and Mariateresa Maggiolino, ‘Big data as misleading facilities’ (2017) 13 European Competition Journal 249, 251 (‘the economic utility of big data does not depend on the data as such but on the material and intellectual resources that a firm invests in developing the analytics necessary to draw reliable and grounded inferences out of those data’).

²⁴⁷ See Janith Aranze, ‘Big data is not a typical essential facility, Ezrachi says’ (*Global Competition Review*, 17 January 2019) <<https://globalcompetitionreview.com/article/1179326/big-data-is-not-a-typical-essential-facility-ezrachi-says>>.

²⁴⁸ In one case on interim measures, the French Competition Authority has considered certain data held by a French energy company essential. However, as this decision was based largely on the fact that the data was gathered when the company held a state monopoly, it can hardly serve as a precedent. See Autorité de la concurrence, Décision n° 14-MC-02 du 9 septembre 2014 relative à une demande de mesures conservatoires présentée par la société Direct Energie dans les secteurs du gaz et de l’électricité. An EC investigation has also prompted Reuters to commit to providing certain firms with access to its data feed. See *Reuters Instrument Codes* (Case AT.39654) Commission Decision.

²⁴⁹ Heike Schweitzer, Justus Haucap, Wolfgang Kerber and Robert Welker, ‘Modernising the law on abuse of market power – Summary of the report’s recommendations’ (Report for the Federal Ministry for Economic Affairs and Energy), paras 9-13.

²⁵⁰ *Ibid*, para 10. It must be noted that their analysis and conclusion apply primarily to access by competitors in adjacent markets, rather than in the firm’s core market.

²⁵¹ *Ibid*.

and on a case-by-case basis, while involving long procedures. Therefore, he proposes to establish a broader framework for access to essential data, which would ensure (among other things) a speedy ombudsman-system for granting access and determining remuneration.²⁵² Others have gone one step further and proposed a ‘progressive data-sharing mandate’, according to which every company above a certain size (e.g. 10% of the market) that systematically collects and analyzes data would have to let other companies in the same market access a subset of its data.²⁵³ It is difficult, as of yet, to draw strong conclusions from this debate. While there is something to be said for a flexible application of the conditions of the essential facilities doctrine when it comes to data, incentives to invest should be safeguarded. On balance, it appears more fruitful to make sure consumers can take their data to competing services (i.e. portability) rather than obliging platforms to cede that data to those competitors (i.e. forced access).²⁵⁴

3.5. Break-up

Unlike the EU, the U.S. has a history of breaking up monopolies.²⁵⁵ After the Sherman Anti-Trust Act was adopted in 1890, it was used—as its name suggests—to prevent and dismantle a number of trusts.²⁵⁶ In 1911, for example, the Supreme Court found that Standard Oil had taken control of more than 90% of the oil industry and was using this monopoly position anticompetitively, i.e. to fix prices and exclude competitors. Therefore, the Court ordered its dissolution into 34 separate companies.²⁵⁷ After an initial wave of trustbusting, the enthusiasm for break-ups died down, until the end of the 20th century. As discussed under section 3.2.2., in 1982, the Bell Company entered into a consent decree with the DOJ according to which its telephone monopoly was split up regionally into seven ‘Baby Bells’.²⁵⁸ Much like in the case of Standard Oil, however, a wave of consolidation followed: the seven Baby Bells merged into two, namely AT&T and Verizon.²⁵⁹ The

²⁵² Rupperecht Podszun, ‘Innovation, Variety & Fair Choice – New Rules for the Digital Economy’ (Expert Opinion for Finanzplatz München Initiative, December 2017), 40-44 <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3243403>.

²⁵³ Viktor Mayer-Schönberger and Thomas Ramege, *Reinventing Capitalism in the Age of Big Data* (Basic Books 2018), 288 p. For a summary, see Viktor Mayer-Schönberger and Thomas Ramege, ‘A Big Choice for Big Tech: Share Data or Suffer the Consequences’ (*Foreign Affairs*, September/October 2018) <<https://www.foreignaffairs.com/articles/world/2018-08-13/big-choice-big-tech>>.

²⁵⁴ Of course, the counterargument is that consumers have nowhere to take their data since competitors cannot grow without access to data in the first place. While this may be true in cases where learning effects are particularly pronounced, this is not the rule.

²⁵⁵ See extensively Tim Wu, *The Curse of Bigness* (Columbia Global Reports 2018).

²⁵⁶ See e.g. *Northern Securities Company, et al., Apts. v. United States*, 193 U.S. 197 (1907); *The Standard Oil Company of New Jersey, et al. v. The United States*, 221 U.S. 1 (1911); *United States v. American Tobacco Company*, 221 U.S. 106 (1911).

²⁵⁷ *The Standard Oil Company of New Jersey, et al. v. The United States*, 221 U.S. 1 (1911).

²⁵⁸ *United States v. AT&T*, 552 F. Supp. 131 (D.D.C. 1982).

²⁵⁹ For a detailed graph illustrating the trajectory of consolidation, see Thomas Gryta, Keach Hagey, Dana Cimilluca and Amol Sharma, ‘AT&T Reaches Deal to Buy Time Warner for \$85.4 Billion’ (*The Wall Street Journal*, 22 October

last subject of a break-up order was Microsoft.²⁶⁰ The DOJ had filed suit against the company for anticompetitively maintaining its monopoly in the OS market (Windows) by destroying threats in downstream application markets (such as Netscape's browser, which competed with Microsoft's Internet Explorer).²⁶¹ The district court validated this theory of harm and ordered Microsoft to be split up in an 'OS Business' and an 'Applications Business'.²⁶² The circuit court, however, upheld only part of the claim and vacated the break-up remedy.²⁶³ Given this appeals judgment (and a change of administration), the DOJ ended up settling with Microsoft.²⁶⁴

The last court-ordered break-up thus dates back to the start of the 20th century. Nevertheless, calls to break up the large tech platforms now pervade public discourse.²⁶⁵ To rationalize this discourse, it is useful to distinguish between three kinds of break-ups: horizontal break-ups, vertical break-ups, and break-ups of past acquisitions (i.e. undoing them).

The idea underlying *horizontal break-ups* is simple: market power/lack of competition is the source of many ills, including anticompetitive conduct; if we break-up a dominant company, its different divisions will have to compete against each other, which will incentivize good behavior. While there is generally truth to this theory, horizontal break-ups of platforms such as Facebook and Amazon are not a good idea. Remember from section 2.3. that platforms benefit from direct and indirect network effects: their value to users increases as the number of users increases, either on the same side or on the other side of the platform. The more of your acquaintances are present on Facebook, the more valuable the social network is; the more sellers offer their goods on Amazon Marketplace, the greater its utility to buyers. Therefore, a break-up of these platforms

2016) <<https://www.wsj.com/articles/at-t-reaches-deal-to-buy-time-warner-for-more-than-80-billion-1477157084?ns=prod/accounts-wsj>>.

²⁶⁰ For discussions of this case, see Nicholas Economides, 'The Microsoft Antitrust Case' (2001) 1 *Journal of Industry, Competition and Trade* 7 and Samuel Noah Weinstein, 'United States v. Microsoft Corp' (2002) 17 *Berkeley Technology Law Journal* 273.

²⁶¹ The theory was that, as internet browsers constituted 'middleware' that could at some point start running applications across multiple OS, they effectively posed a threat to the Windows OS.

²⁶² For the substantive judgment, see *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30 (D.D.C. 2000). For the judgment on remedies, see *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000).

²⁶³ *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001).

²⁶⁴ Civil Action No. 98-1232 (CKK), Civil Action No. 98-1233 (CKK) (D.D.C. 2001).

²⁶⁵ See e.g. Steven Strauss, 'Is it time to break up the big tech companies?' (*The Los Angeles Times*, 30 June 2016) <<https://www.latimes.com/opinion/op-ed/la-oe-strauss-digital-robber-barons-break-up-monopolies-20160630-snap-story.html>>; Jonathan Taplin, 'Is It Time to Break Up Google?' (*The New York Times*, 22 April 2017) <<https://www.nytimes.com/2017/04/22/opinion/sunday/is-it-time-to-break-up-google.html>>; Paula Dwyer, 'Should America's Tech Giants Be Broken Up?' (*Bloomberg*, 20 July 2017) <<https://www.bloomberg.com/news/articles/2017-07-20/should-america-s-tech-giants-be-broken-up>>; Tim Harford, 'The case for ending Amazon's dominance' (*The Financial Times*, 19 January 2018) <<https://www.ft.com/content/aba8d444-fb94-11e7-a492-2c9be7f3120a>>; Barry Lynn and Matt Stoller, 'Facebook must be restructured. The FTC should take these nine steps now' (*The Guardian*, 22 March 2018) <<https://www.theguardian.com/commentisfree/2018/mar/22/restructure-facebook-ftc-regulate-9-steps-now>>; Chris Hughes, 'It's Time To Break Up Facebook' (*The New York Times*, 9 May 2019) <<https://www.nytimes.com/2019/05/09/opinion/sunday/chris-hughes-facebook-zuckerberg.html>>.

would hurt consumers by decreasing the number of users. Moreover, such a break-up would probably not be very durable, as network effects would naturally draw users to the most popular platform until a ‘winner takes all’ (or at least most).²⁶⁶ Note also that a break-up would not necessarily solve some of the issues that prompt calls for break-up in the first place.²⁶⁷ It has been remarked, for example, that ‘there is little evidence that would suggest that larger firms violate data protection and privacy standards in a more systematic fashion than smaller firms’.²⁶⁸ In other words, three Facebables would not necessarily be more protective of privacy than the current Facebook. Finally, these platforms have initially acquired success by offering a superior product (at least in their core market); punishing them for this feat could chill incentives to innovate in the future.²⁶⁹

A *vertical break-up*, then, is essentially equivalent to a structural separation regime—both the merits and pitfalls of such an intervention are thus similar (*cf. supra*, section 3.2.2.). The platform, once broken off from its downstream operations, would have no incentive to exclude downstream competitors; rather, it would be focused on optimizing participation on its platform. For example, the company Amazon Marketplace would have no reason to favor the products of the independent company ‘Amazon Basics’ in its search rankings. At the same time, such a break-up would destroy the efficiencies derived from vertical integration (which are especially salient in the mobile industry, for example). Finally, incentives to innovative could be dampened. In contrast to a horizontal break-up, however, platforms’ incentives to innovate remain equal. Rather, incentives to innovate in the startup scene could be dampened when the risk of break-ups makes acquisition by a large tech platform a less attractive proposition both for the platform and the startup.²⁷⁰

Finally, the FTC has the power to conduct retrospective merger analyses (i.e. give mergers a second look after they have been consummated); should it find substantial anticompetitive effects,

²⁶⁶ Carl Shapiro, ‘Antitrust in a time of populism’ (2018) 61 *Journal of Industrial Organization* 714, 744.

²⁶⁷ See *similarly* Andrew Finch, ‘Concentrating on Competition: An Antitrust Perspective on Platforms and Industry Consolidation’ (Washington, DC, 14 December 2018) <<https://www.justice.gov/opa/speech/principal-deputy-assistant-attorney-general-andrew-finch-delivers-keynote-address-capitol>> (‘Nor is it clear that breaking up big platforms would necessarily resolve the concerns people are voicing, which often tend not to be related to competition itself.’).

²⁶⁸ Justus Haucap, ‘The Facebook Decision: First Thoughts’ (*D’Kart Blog*, 7 February 2019) <<https://www.d-kart.de/the-facebook-decision-first-thoughts-by-haucap/>>.

²⁶⁹ Andrew Finch, ‘Concentrating on Competition: An Antitrust Perspective on Platforms and Industry Consolidation’ (Washington, DC, 14 December 2018) <<https://www.justice.gov/opa/speech/principal-deputy-assistant-attorney-general-andrew-finch-delivers-keynote-address-capitol>> (‘Breaking up or regulating successful firms as if they were public utilities threatens to reduce incentives to innovate’).

²⁷⁰ For this argument, see Daniel Sokol, ‘Vertical Mergers and Entrepreneurial Exit’ (2018) 70 *Florida Law Review* 1357; Matthew Lane, ‘The Trade-Offs in Sen. Warren’s Plan: Strict Separation has its Costs’ (*Disruptive Competition Project*, 15 April 2019) <<http://www.project-disco.org/competition/041519-the-trade-offs-in-sen-warrens-plan-strict-separation-has-costs/>>; Jonathan Shieber, ‘Venture investors and startup execs say they don’t need Elizabeth Warren to defend them from big tech’ (*TechCrunch*, 8 March 2019) <<https://techcrunch.com/2019/03/08/venture-investors-and-startup-execs-say-they-dont-need-elizabeth-warren-to-defend-them-from-big-tech/>>.

it can impose remedies, including a *divesture of the past acquisition*.²⁷¹ Such divesture orders are, however, extremely rare. The closest modern example concerns the merger between two hospitals in Illinois.²⁷² After the merger was consummated, the FTC's Administrative Law Judge found that the acquisition resulted in higher prices and ordered the divesture of the acquired hospital. On appeal, the Commission agreed that the acquisition was anticompetitive but considered divesture too costly of a remedy; instead, it imposed a behavioral remedy. However, while retrospective analyses and especially divestitures are rare, substantial post-merger price increases are common.²⁷³ Accordingly, calls for the FTC to invest more resources in retrospective analyses of mergers have been growing in recent years.²⁷⁴

These calls have been growing more specific and invariably gravitate towards Facebook's acquisition of Instagram.²⁷⁵ Tim Wu has been particularly vocal about the need to break Instagram (as well as WhatsApp) off from Facebook.²⁷⁶ Wu argues that the FTC's non-opposition to the acquisition was a big mistake driven by a fundamental misunderstanding of digital competition.²⁷⁷ He calls on the FTC or DOJ to recognize that the acquisition was anticompetitive and illegal when

²⁷¹ See e.g. Joseph Farrell, Paul Pautler, Michael Vita, 'Economics at the FTC: Retrospective Merger Analysis with a Focus on Hospitals' (2009) 35 *Review of Industrial Organization* 369.

²⁷² For an overview of the proceedings, see FTC, *Evanston Northwestern Healthcare Corporation and ENH Medical Group, Inc.* <<https://www.ftc.gov/enforcement/cases-proceedings/0110234/evanston-northwestern-healthcare-corporation-enh-medical-group>>.

²⁷³ John Kwoka, *Mergers, Merger Control, and Remedies* (MIT Press 2014); Matthew Weinberg, 'The Price Effects of Horizontal Mergers' (2008) 4 *Journal of Competition Law & Economics* 433; Orley Ashenfelter, Daniel Hosken, Matthew Weinberg, 'Did Robert Bork Understate the Competitive Impact of Mergers? Evidence from Consummated Mergers' (2014) 57 *The Journal of Law and Economics* 67. These works cite various studies observing post-merger price increases, but note that not every one of these mergers was necessarily reviewed by the relevant antitrust agencies.

²⁷⁴ See e.g. John Kwoka and Mark Jarsilic, 'Evidence-Based Policy in Antitrust: The Need for Ongoing Merger Retrospectives' (*ProMarket*, 20 April 2017) <<https://promarket.org/evidence-based-policy-antitrust-need-ongoing-merger-retrospectives/>>. See also the various calls during a recent FTC hearing: FTC, 'Hearing #3: Multi-Sided Platforms, Labor Markets, and Potential Competition' (Hearings on Competition and Consumer Protection in the 21st Century – transcript, 17 October 2018) <https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_3_10-17-18_0.pdf>.

²⁷⁵ See the various discussion of this acquisition (and the merits of a retrospective analysis) during FTC, 'Hearing #3: Multi-Sided Platforms, Labor Markets, and Potential Competition' (Hearings on Competition and Consumer Protection in the 21st Century – transcript, 17 October 2018) <https://www.ftc.gov/system/files/documents/public_events/1413712/ftc_hearings_session_3_transcript_day_3_10-17-18_0.pdf>.

²⁷⁶ Tim Wu, *The Curse of Bigness* (Columbia Global Reports 2018), 132-133; Tim Wu, 'The case for breaking up Instagram and Facebook' (*Washington Post*, 28 September 2018) <https://www.washingtonpost.com/outlook/2018/09/28/case-breaking-up-facebook-instagram/?utm_term=.b6c85cce7a77>.

²⁷⁷ FTC, 'FTC Closes Its Investigation into Facebook's Proposed Acquisition of Instagram Photo Sharing Program' (press release, 22 August 2012) <<https://www.ftc.gov/news-events/press-releases/2012/08/ftc-closes-its-investigation-facebooks-proposed-acquisition>>. As Tim Wu served at the FTC at that time, he puts part of the blame upon himself.

it happened, and to file a suit in federal court asking for a divestiture.²⁷⁸ The idea is that, should Facebook have a serious competitor like Instagram, it would have an incentive to ‘do better’ in terms of product innovation but also when it comes to privacy—if not, it could actually lose users as they would have somewhere else to go. In theory, this procompetitive dynamic sounds plausible.²⁷⁹ Moreover, divestitures of past acquisitions—especially when they have not been integrated²⁸⁰—are substantially easier to implement than those of internal expansions: the lines of the divestiture do not have to be determined *de novo* but are already clearly drawn.

However, this analysis leaves out one crucial point, which is the counterfactual: Instagram is immensely popular now, but would it have been so without Facebook’s investments in the app? In other words, would Instagram have grown into a serious competitor on its own? The answer to this question might very well be positive. Should it be answered in the negative, however, the case for divestiture becomes a lot weaker, as that would mean Facebook never destroyed a competitive threat through acquisition. Rather, through its investment in its acquisition, it *created* a competitor—would it then be right to pit them against each other? While the Facebook example is instructive, the issue is a general one. On the one hand, divestitures of acquisitions are more palatable as this growth was artificial in the first place (in contrast to divestitures of organically developed divisions of a company such as Amazon Basics). On the other hand, after an acquisition, it becomes difficult to distinguish proper growth by the acquired company from growth propelled by the acquiring company.

The DOJ, for its part, has no appetite for break-ups.²⁸¹ Signals from the FTC are more mixed. Joseph Simons, its Chairman, listed the FTC’s lack of retrospective merger studies as the no. 1 problem facing the agency.²⁸² He later created a Technology Task Force within the FTC dedicated to ‘monitoring competition in U.S. technology markets, investigating any potential anticompetitive

²⁷⁸ Kaitlyn Tiffany, ‘A simple plan to dissolve Facebook, Google, and Amazon’ (*Vox*, 8 November 2018) <<https://www.vox.com/the-goods/2018/11/8/18076440/facebook-monopoly-curse-of-bigness-tim-wu-interview>>.

²⁷⁹ However, especially when it comes to the effects of a break-up on privacy, the views are mixed. For an in-depth and positive assessment, see Dini Srinivasan, ‘The Antitrust Case Against Facebook’ (2019) 16 *Berkeley Business Law Journal* (forthcoming), available via <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3247362>. For a more skeptical view, see Seth Rosenblatt, ‘Privacy impact of Big Tech breakup far from clear’ (*The Parallax*, 31 May 2019) <<https://the-parallax.com/2019/05/31/privacy-impact-big-tech-breakup/>>.

²⁸⁰ Integration is, however, on the way for Facebook, Instagram, and WhatsApp—a (perhaps strategic) move that will complicate a divestiture. See Mike Isaac, ‘Zuckerberg Plans to Integrate WhatsApp, Instagram and Facebook Messenger’ (*The New York Times*, 25 January 2019) <<https://www.nytimes.com/2019/01/25/technology/facebook-instagram-whatsapp-messenger.html>>.

²⁸¹ Andrew Finch, ‘Concentrating on Competition: An Antitrust Perspective on Platforms and Industry Consolidation’ (Washington, DC, 14 December 2018) <<https://www.justice.gov/opa/speech/principal-deputy-assistant-attorney-general-andrew-finch-delivers-keynote-address-capitol>> (‘I am skeptical of the drastic calls for breaking up firms’).

²⁸² Fawn Johnson, ‘Fair Play: Merger Lovers, Beware the New FTC’ (*Bloomberg BNA*, 11 February 2018) <<https://www.bna.com/fair-play-merger-b57982088601/>>.

conduct in those markets, and taking enforcement actions when warranted.²⁸³ In particular, the task force would be involved in ‘reviews of consummated technology mergers’.²⁸⁴ Elizabeth Warren wants to go one step further: the poster for her big tech campaign reads ‘it’s time to break up Amazon, Google, and Facebook’.²⁸⁵ The actual proposal is more nuanced. Warren criticizes how online platforms have been allowed to purchase their potential competitors without opposition from antitrust agencies. She reminds us that ‘America has a long tradition of breaking up companies when they have become too big and dominant—even if they are generally providing good service at a reasonable price.’²⁸⁶ In that vein, Warren vows that her administration will appoint regulators who are committed to using existing antitrust tools to unwind anticompetitive mergers, including:

- *Amazon: Whole Foods; Zappos*
- *Facebook: Whats.App; Instagram*
- *Google: Waze; Nest; DoubleClick*

This, she hopes, ‘will put pressure on big tech companies to be more responsive to user concerns, including about privacy.’²⁸⁷

In his dissent in the first break-up case in the U.S., Justice Oliver Wendell Holmes wrote that ‘[g]reat cases, like hard cases, make bad law’—a statement that holds true today.²⁸⁸ One major issue facing break-ups is the practicality of it. Nobel Prize winner Jean Tirole, for example, has stated that, while he is not opposed to a tech break-up, he has yet to see a well formulated proposal of how this would be done.²⁸⁹ This holds particularly true for break-ups (either horizontal or vertical) of platforms that have reached their current size organically rather than through acquisitions. When it comes to acquisitions, the case for divestiture becomes stronger. There are fewer practical difficulties, as the break-up lines are drawn already, and the negative effect on incentives to innovative is more limited.²⁹⁰ However, one still has to consider a break-up’s effect on the efficiencies that were generated through the acquisition. These will generally be greater in case of a vertical acquisition that allows for the integration of complementary products, rather than a

²⁸³ FTC, ‘FTC’s Bureau of Competition Launches Task Force to Monitor Technology Markets’ (press release, 26 February 2019) <<https://www.ftc.gov/news-events/press-releases/2019/02/ftcs-bureau-competition-launches-task-force-monitor-technology>>.

²⁸⁴ *Ibid.*

²⁸⁵ Elizabeth Warren, ‘Here’s how we can break up Big Tech’ (*Medium*, 8 March 2019) <<https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c>>.

²⁸⁶ *Ibid.*

²⁸⁷ *Ibid.* See footnote 267-8 on the plausibility of a break-up spurring greater privacy protection.

²⁸⁸ *Northern Securities Co. v. United States*, 193 U.S. 197 (1904) (Holmes, dissenting).

²⁸⁹ Matt Richards, ‘Big tech platforms could be broken up, says Nobel-winning economist’ (*Global Competition Review*, 18 January 2019) <<https://globalcompetitionreview.com/article/1179394/big-tech-platforms-could-be-broken-up-says-nobel-winning-economist>>.

²⁹⁰ Rather than negatively affecting the platform’s incentives to innovate, a divestiture of an acquisition mainly affects incentives to innovate in the startup market—a less direct and thus presumably smaller effect.

horizontal acquisition that primarily adds to the platform's size. According to this assessment, the argument for undoing Facebook's past acquisitions is certainly the strongest, but—based on the reasoning set out above—it may still not be strong enough (as of yet).

4. CONCLUSION

This paper has shown that the competitive issues that currently result from the market power held by platforms are not new. Indeed, regulators have dealt with similar issues in the telecom industry over the past 100 years. One benefit from looking at this variety of precedents is being able to put together a comprehensive taxonomy of potential regulatory interventions. In addition, the benefit of hindsight allows us to evaluate the effects of such interventions. Of course, the regulation of old technologies cannot and should not simply be transposed to the platforms that currently dominate the online landscape. However, the methodology of this paper, which consists in classifying and evaluating regulatory interventions (section 3) on the basis of a clear framework (section 2) does provide a guiding light—even if at times a faint one—where it is often absent otherwise.

Many regulators are not waiting until more guidance is available, which can be forgiven. After all, the question of *when* to regulate technology presents an exceedingly difficult dilemma: 'Regulate too early and you risk stymieing innovators; wait too long and you risk losing the opportunity to regulate a technology or service before it becomes widespread, potentially harming consumers or markets in the interim.'²⁹¹ Given that regulators are actively proposing and adopting regulation in the platform sphere, this paper also examined the variety of instruments already on the table in the EU and the U.S. It became clear that many of those instruments closely track their precedents in the telecom sphere, at least conceptually. Therefore, this paper evaluated these instruments both against the lessons learned from telecom history (recognizing both the similarities and differences between providers and platforms) and against the—often limited—evidence (be it empirical or theoretical) that is available on contemporary issues and interventions. In particular, this paper has sought to clarify the trade-offs inherent in each intervention. The fact that these trade-offs generally do not concern price effects but rather effects on innovation as well as quality and choice make quantifying the trade-off significantly more difficult. Based on the current evidence, however, this paper has tried to at least point regulators in the right direction.

²⁹¹ Shrupti Shah, Rachel Brody and Nick Olson, 'The regulator of tomorrow: Rulemaking and enforcement in an era of exponential change' (Report, 2015), 3. *See also* Mark Fenwick, Wulf Kaal and Erik Vermeulen, 'Regulation Tomorrow: What Happens When Technology Is Faster than the Law?' (2017) 6 *American University Business Law Review* 561, 571-572.

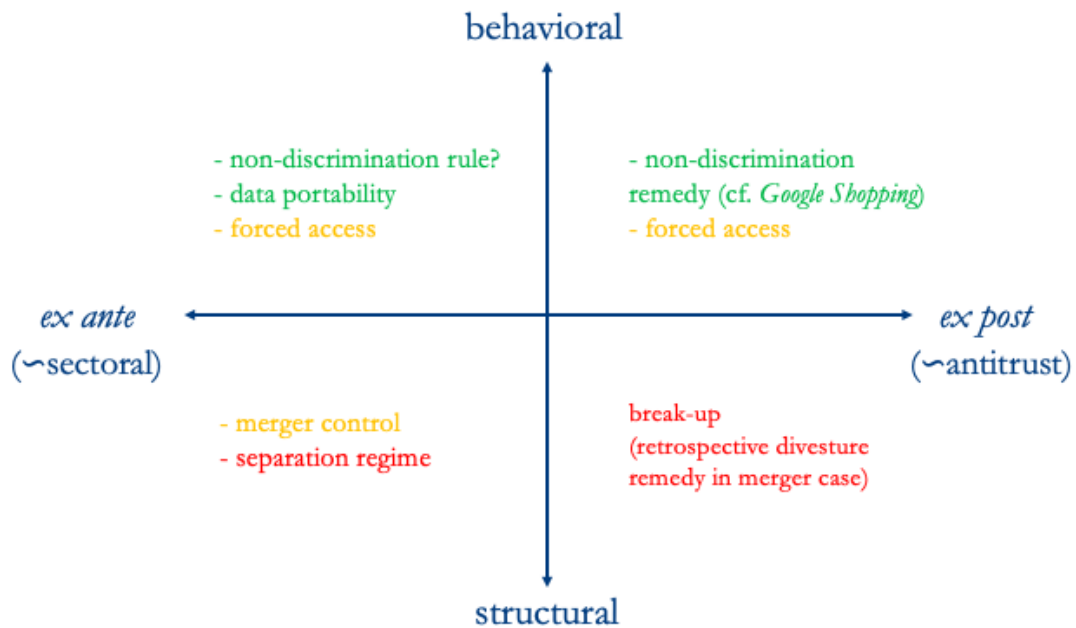


Figure 1. Matrix of potential regulatory interventions and their desirability

One important conclusion is that the heterogeneity of platform businesses and practices requires a multi-faceted response. There are too many kinds of platforms, with differing degrees of market power, which engage in a wide variety of potentially abusive practices, to solve the perceived issues with one instrument. That is why this paper has paid particular attention to the complementarity of various instruments as well as the question which instruments should take precedence over others. While the potential (and proposed) interventions range from cautious to far-reaching, this paper recommends caution, which is not to be confused with the inaction we currently see (especially in the U.S.).

In particular, a well-developed right to data portability has the potential to spur competition between platforms, which may resolve various ills associated with the lack of it. One such ill, namely platform discrimination, is especially widespread and therefore justifies separate intervention. This paper supports a behavioral intervention. In the EU, we are already seeing such an intervention with the EC's *Google Search* decision and the on-going investigations into Amazon and Apple, which all target some form of platform discrimination. Without prejudging their outcome, it can certainly be said that these investigations will help clarify how widespread and harmful these discriminatory practices are exactly. Depending on the answer, and the effects of having a number of precedents on platform discrimination, the application of *ex post* antitrust law may benefit from a complementary *ex ante* non-discrimination rule. While institutional concerns largely fell out of the scope of this paper, these substantive adjustments should be accompanied by institutional reform to speed up enforcement.

Finally, platform power must also be dealt with at its origin. After all, vertical integration through acquisition by platforms is the starting point for discriminatory practices, while horizontal acquisitions increase the platform's market power, which can be at the heart of a variety of abusive practices. Antitrust agencies must be mindful of the fact that the systematic acquisition of entrants can have the effect of eliminating future competition. Of course, while potential competition (i.e. the benefit of future competition) should carry more weight than it currently does, it must still be weighed against the efficiencies of integration, which are especially salient in vertical mergers. When it comes to such vertical mergers, however, non-discrimination remedies can safeguard those efficiencies while also preventing harmful post-merger conduct. In case of horizontal mergers, then, Facebook's acquisition of Instagram should serve as a warning (if not a cautionary tale) for antitrust agencies. At the same time, the case for undoing this merger as well as others does not appear strong enough. *A fortiori*, breaking up online platforms that developed organically does not at all appear advisable.

Of course, the author of this paper faces the same dilemma as regulators, meaning the proposals promoted here may constitute either too much too soon or too little too late. If there is one way to overcome this dilemma, however, it is regulatory experimentation supported up by the latest evidence. It can only be applauded that we are starting to see such experimentation on both sides of the Atlantic.