

Why sound law and economics should guide competition policy in the digital economy

Contribution of ICLE to the European Commission's inquiry on 'shaping competition policy in the era of digitisation'

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I. Introduction: The rise of the digital economy, and the need for robust policy tools

The commission’s consultation on “competition policy in the era of digitisation” (“the consultation”) could not have come at a more appropriate time. Despite the vast social benefits generated by companies operating in the digital economy,¹ this economic transformation has stoked fears amongst members of the general public, the press, and policymakers. It has led to calls for interventionist policies such as heightened antitrust enforcement, sector-specific regulation, and direct intervention against industry concentration.²

Unfortunately, there is insufficient evidence and, at best, ambivalent theory to support any of these proposed policies—and in the absence of a strong basis for adopting them, the proposed policies

¹ See, e.g., Alexander Galetovic, Stephen Haber & Ross Levine, *An Empirical Examination of Patent Holdup*, 11 J. COMPETITION L. & ECON. 549, 565 (2015). (demonstrating that the quality-adjusted price of telephones, portable computers, and desktop computers plummeted between 1997 and 2013).

² See, e.g., U.S. Sen. Mark Warner, Potential Policy Proposals for Regulation of Social Media and Technology Firms, Jul. 30, 2018, available at <https://graphics.axios.com/pdf/PlatformPolicyPaper.pdf>. See also, U.S. Sen. Elizabeth Warren, “Reigniting Competition in the American Economy,” Keynote Remarks at New America’s Open Markets Program Event, June 29, 2016, available at https://www.warren.senate.gov/files/documents/2016-6-29_Warren_Antitrust_Speech.pdf. See also Commissioner Margrethe Vestager, When technology serves people (June 1, 2018), available at https://ec.europa.eu/commission/commissioners/2014-2019/vestager/announcements/when-technology-serves-people_en (“After the first thrill, when we discovered what these technologies could do, we’ve started to see that there’s a dark side as well. A side that can challenge our most basic values – our privacy, our freedom to choose, even our democracy. And we’ve started to see that it’s time for people to take control”).

would do more harm than good. Among other things, economies of scale, economies of scope, network effects, and the like may bring about larger firms and more concentrated markets *along with* considerable consumer benefits.³ And new markets necessarily imply the consolidation of some firms and the exit of others, as competitors vie to come up with the winning paradigm.⁴

Against the backdrop of this evolutionary process, it is critical that authorities avoid knee-jerk reactions that may impair the long-term welfare of consumers and firms alike.

To steer clear of these acute false positives, we urge European policymakers to base their enforcement efforts on the tried and tested “law and economics” approach. This approach seeks to maximize consumer welfare and places a heavy emphasis on evidence-based scholarship. In doing so, it promotes innovation and minimizes the costs of policy errors.⁵ Following this analytical framework will enable competition authorities to better address issues of exclusion and exploitation – as well as those of innovation and efficiency – in the digital economy.

The following paragraphs summarize some of the important findings which law and economics scholarship can bring to bear on competition policy and enforcement in this space.

II. Taking account of the uncertainty of harm, the presence of countervailing benefits & the problems of devising an effective remedy

Our shared vision of competition enforcement in the digital economy is probably best described in Harold Demsetz’ seminal paper, “Information and Efficiency: Another Viewpoint”.⁶ Demsetz famously argued that policymakers should avoid the so-called “nirvana fallacy”. This occurs when government enforcement is based on discrepancies between real-world markets and some idealized and unachievable yardstick (rather than plausible alternatives). The key insight is that there are limits to what can be achieved through state intervention, not least because of limitations on enforcers’ knowledge about the competitive dynamics of the markets they seek to regulate.⁷ In other words,

³ See, e.g., Sharat Ganapati, *Oligopolies, Prices, Output, and Productivity* (Working Paper, Feb. 11, 2018), available at <https://ssrn.com/abstract=3030966> (statistical analysis finding that industry concentration growth is *positively correlated* with productivity and real output growth and *uncorrelated* with price changes).

⁴ See Friedrich Hayek, *Competition as a Discovery Procedure*, 5 Q.J. AUSTRIAN ECON. 9, 13 (2002) (Marcellus Snow trans.). See also Steven Klepper, *Entry, Exit, Growth, and Innovation Over the Product Life Cycle*, 86 AM. ECON. R. 564 (1996). See also, David J. Teece, *Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing and Public Policy*, 15 RES. POL’Y 285 (1986). See also, Harold Demsetz, *Industry Structure, Market Rivalry, and Public Policy*, 16 J.L. & ECON. 1, 1-3 (1973).

⁵ See Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1 (1984). Regarding the application of Easterbrook’s error-cost framework to innovative markets; See Geoffrey A. Manne & Joshua D. Wright, *Innovation and the Limits of Antitrust*, 6 J. COMPETITION L. & ECON. 153 (2010).

⁶ See Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J. L. & ECON. 1 (1969).

⁷ As Richard Schmalensee writes, summing up the state of knowledge on the relationship between market structure and performance, “Inter-industry research has taught us much about how markets *look*... even if it has not shown us exactly how

policymakers should not ignore the potential drawbacks of enforcement. A practice's departure from a theoretical competitive benchmark may be inextricably linked to social benefits which it also generates. When this is the case, enforcement may do more harm than good, and effective remedies will prove elusive.

In what follows, we extend this reasoning to four areas of potential concern highlighted by the Commission in its call for contributions: anticompetitive leveraging, consumer lock-in, network effects, and data collection and use. More specifically, we challenge the idea that these necessarily lead to winner-take all situations where digital platforms exclude their rivals and exploit their users.

A. The absence of clear anticompetitive harm

A necessary, though not sufficient, condition for antitrust intervention is that a practice should be substantially likely to foster anticompetitive harm. Though there are disagreements regarding the exact goal of competition law (and thus the harms which it seeks to prevent), there is a wide consensus that it is designed to protect competition rather than competitors.⁸ Accordingly, it is well-established that the mere exit of competitors from the market is insufficient to draw competition liability, in the absence of certain accompanying factors.⁹ It is also relatively uncontroversial that a practice's potential effect on prices and output should play a role in this analysis.

With this in mind, a growing body of scholarship suggests that the competitive effects of leveraging, lock-in, and network effects are highly ambiguous. Indeed, such practices are regularly exhibited by non-dominant firms, suggesting that inferring monopoly power from these practices is inappropriate.¹⁰ For this reason we argue that European competition authorities should rely on detailed, case-by-case assessments, avoiding any presumption¹¹ that these phenomena are inherently harmful to competition or that their presence is sufficient to establish dominance.

Leveraging refers to a series of potentially anticompetitive practices (such as tying, rebates, and refusals to supply) whereby a firm extends its dominance from one market to another. Crucially, these

markets work." See Richard Schmalensee, *Inter-Industry Studies of Structure and Performance*, in 2 HANDBOOK OF INDUSTRIAL ORGANIZATION 951, 1000 (Richard Schmalensee & Robert Willig eds., 1989).

⁸ See European Commission, 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, Official Journal EU, C 45/7 (2009), at n. 5, §6 ("[T]he Commission is mindful that what really matters is protecting an effective competitive process and not simply protecting competitors").

⁹ See Case C-209/10, *Post Danmark A/S v Konkurrencerådet*, ECLI:EU:C:2012:172, §22 ("Competition on the merits may, by definition, lead to the departure from the market or the marginalisation of competitors that are less efficient and so less attractive to consumers...").

¹⁰ See, e.g., Joshua D. Wright, *Defining and Measuring Search Bias: Some Preliminary Evidence*, ICLE White Paper 2011-01 (Nov. 2011), available at <https://laweconcenter.org/resource/defining-and-measuring-search-bias-some-preliminary-evidence/>.

¹¹ See Cyril Ritter, *Presumptions in EU Competition Law*, 6 J. ANTITRUST ENFORCEMENT 189, 189 (2018) ("presumptions could be defined [] as [] several types of logical leaps, automatisms, burden-shifting mechanisms and predispositions").

practices will not always allow a firm to restrict output; they may even have the opposite effect.¹² This remains true even in those instances where competitors are forced to exit the market.¹³ Given these findings, authorities should (at the very least) limit their interventions to cases where it is clear that a practice will lead to lower output and higher prices.

Caution in concluding that conduct amounts to anticompetitive leveraging is particularly important within the digital economy where platforms must coordinate the behavior of two (or more) distinct groups of users or inputs.¹⁴ Doing so usually entails some measure of coercion, ranging from simple terms of use (which dictate how users on one side are to behave) to more radical solutions such as vertical integration. Smartphones present a striking example of this range of coordination measures, from Apple's decision to vertically integrate iOS with its own devices, to Google's use of a web of contractual provisions to steer the behavior of OEMs implementing Android OS.¹⁵ In this context, a firm asserting control over one part of a platform ("leveraging") may simply reflect its effort to maximize the utility of its users by coordinating decisions across the platform, facilitating cross-subsidization, etc.. When such conduct increases output and improves consumer welfare it should not be deemed impermissible leveraging.

Along similar lines, imposing "competitive neutrality" obligations upon vertically integrated firms may have numerous undesirable consequences. Most notably, it may encourage firms to opt for closed systems *ex ante*, and may also hinder the competitive position of firms that have not done so.¹⁶ In both cases, consumers may ultimately be faced with less competition and inferior products. Moreover, equal treatment obligations may have ambiguous effects, both in terms of prices and investments.¹⁷

Lock-in occurs when various costs make it prohibitive for an "installed base" of consumers to switch to a rival's product.¹⁸ These costs primarily stem from network effects, contractual provisions and

¹² In the presence of complementary goods, output is higher and prices are lower under a single monopolist rather than two "duopolists". See, e.g., Nicholas Economides & Steven C. Salop, *Competition and Integration Among Complements, and Network Market Structure*, 40 J. INDUS. ECON. 1,105, 106 (1992). See also, Joseph J. Spengler, *Vertical Integration and Antitrust Policy*, 58 J. POL. ECON. 347 (1950)

¹³ See Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AM. ECON. R. 837, 839 (1990) (concluding that tying has ambiguous welfare effects, even in those cases where it leads to the foreclosure of competitors).

¹⁴ See, e.g., Paul Belleflamme & Martin Peitz, *Managing Competition on a Two-sided Platform*, AMSE Working Paper (2018), available at <https://halshs.archives-ouvertes.fr/halshs-01833106> (noting that platforms must deal with both cross-group and within-group external effects).

¹⁵ See Robert H Bork & J Gregory Sidak, *What Does the Chicago School Teach About Internet Search and the Antitrust Treatment of Google?*, 8 J. COMPETITION L. & ECON. 663, 699 (2012).

¹⁶ See, e.g., Daniel A. Crane, *Search Neutrality as an Antitrust Principle*, 19 GEO. MASON L. REV., 1199, 1209 (2011).

¹⁷ This has notably been shown in the context of the net neutrality debate. See, e.g., Gary S. Becker, Dennis W. Carlton & Hal S. Sider, *Net Neutrality and Consumer Welfare*, 6 J. COMPETITION L. & ECON. 497 (2010).

¹⁸ See generally Joseph Farrell & Paul Klemperer, *Coordination and Lock-in: Competition with Switching Costs and Network Effects*, 3 HANDBOOK OF INDUSTRIAL ORGANIZATION (Mark Armstrong & Robert H. Porter, eds 2007) 1967.

path dependence (notably learning costs).¹⁹ Although lock-in is not a standalone theory of harm under European competition law, it can have a significant bearing on the outcome of cases.²⁰

As with leveraging, the welfare implications of consumer lock-in are highly ambiguous.²¹ Although it may lead to higher prices and fewer choices *once consumers are locked-in*, these effects are often counterbalanced by lower prices overall.²² The lure of *ex post* profits may induce firms to compete aggressively in order to acquire valuable consumers.²³ Moreover, the ability to lock-in consumers may play a crucial role in launching new products, especially in digital markets.²⁴

For these reasons, we urge European competition authorities to approach potential consumer lock-in with caution and intervene only if there is clear evidence that lock-in will lead to higher prices over the whole “lock-in cycle”, rather than higher prices at a given point in time. Moreover, authorities should question whether there is competition between platforms to acquire new customers, as this will generally constrain their *ex post* behavior.

Network effects occur when a consumer’s utility for a good is, at least in part, a function of the expected number (and quality) of other agents using the same product.²⁵ These valuable users may be located in the same market or on the opposite side of a platform.²⁶ From a policy standpoint, some scholars have voiced fears that these network effects may lead to highly concentrated markets owing to the presence of positive feedback loops (this is sometimes referred to as “tipping”).

But not all markets with network effects will eventually tip towards a single winning firm,²⁷ and multi-homing is common, especially among many high-tech platforms including social networks, online marketplaces, online search, and online advertising. Of crucial importance, the presence of network effects and even a lopsided market distribution need not result in anticompetitive effects if there is potential competition from smaller competitors or new entrants. And even where consumer

¹⁹ See, e.g., C. SHAPIRO & H. R. VARIAN, *INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY* 117 (Harvard Business School Press. 1998).

²⁰ See Communication from the Commission, *supra* note 8, at § 19.

²¹ See, e.g., P. BELLEFLAMME & M. PEITZ, *INDUSTRIAL ORGANIZATION: MARKETS AND STRATEGIES* 167 (Cambridge University Press. 2010).

²² See Shapiro & Varian, *supra* note 19, at 133. (The authors stress that lock-in must always be addressed by looking at the entire “lock-in cycle”).

²³ This notably occurs with exclusivity arrangements, which cause firms to compete aggressively “for the contract”. See Benjamin Klein & Kevin M. Murphy, *Exclusive Dealing Intensifies Competition for Distribution*, 75 *ANTITRUST L. J.* 433 (2008).

²⁴ See Shapiro & Varian, *supra* note 19, at 142 (“Companies unwilling or unable to offer concessions to gain locked-in consumers cannot prevail in a competitive battle”).

²⁵ See, e.g., Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 *J. ECON. PERSP.* 93, 96 (1994).

²⁶ See, e.g., Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 *J. EUR. ECON. ASS'N* 990 (2003).

²⁷ This is especially true in the presence of heterogeneous consumer preferences and differentiated products. See Shapiro & Katz, *supra* note 25, at 106.

lock-in seems high and multi-homing low (say, across different OS app stores), supplier multi-homing may be common (as it is among developers of the most popular apps), thus enhancing competition “for the market”.²⁸

The presence of network effects does not necessarily prevent entry by more-efficient and/or innovative rivals.²⁹ Nor, importantly, do they preclude the creation of another market entirely through disruptive innovation.³⁰ On the contrary, network effects are a double-edged sword that can sometimes *hasten* the decline of dominant platforms.³¹

Another crucial point is that, even if tipping does occur, one cannot assume that society will be worse-off as a result. Fragmentation may be just as harmful as monopoly when markets present network effects.³² A corollary is that higher prices are perfectly compatible with increased output and consumer surplus. These striking features have even led some scholars to call for a policy that would *subsidize* the formation of “monopoly” platforms, rather than prevent their appearance.³³

A particular instance of network effects concerns **two-sided markets** where output is related not only to the overall, platform-wide price level, but also to the *distribution* of prices across the two sides.³⁴ Multi-sided platforms must routinely balance the various sides of the market such that, in many cases, one side subsidizes another.³⁵

Contemporary economics provides no basis for assuming that a demonstration of price effects on one side of a two-sided market accurately represents the market-wide effects of a course of conduct.³⁶ Rather, economics predicts that market-wide welfare might increase, decrease, or remain neutral given price effects. Only an analysis of the market as a whole can illuminate the true competitive implications. As a result, the proper metric by which to judge competitive effects in a two-sided market is market-wide *output*.³⁷

²⁸ See Sami Hyrynsalmi, Arho Suominen & Matti Mäntymäki, *The Influence of Developer Multi-homing on Competition Between Software Ecosystems*, 111 J. SYS. & SOFTWARE 119, 119-27 (2016).

²⁹ See E. Glen Weyl & Alexander White, *Let the Best “One” Win: Policy Lessons from the New Economics of Platforms*, 10 COMPETITION POL’Y INT’L, 28 (2014).

³⁰ See, e.g., Thibault Schrepel, *L’innovation de Rupture: De Nouveaux Défis Pour le Droit de la Concurrence*, 42 REVUE LAMY CONCURRENCE 141, 143 (2015).

³¹ See, e.g., David S. Evans & Richard Schmalensee, *Debunking the Network Effects Bogeyman*, 40 REGULATION 36 (2017).

³² See Volker Nocke, Martin Peitz & Konrad Stahl, *Platform Ownership*, 5 J. EUR. ECON. ASS’N 1130 (2007).

³³ See Weyl & White, *supra*, note 29.

³⁴ See Jean-Charles Rochet & Jean Tirole, *Two-Sided Markets: A Progress Report*, 35 RAND J. ECON. 645, 646 (2006).

³⁵ See David S. Evans & Michael Noel, *Defining Antitrust Markets When Firms Operate Two-Sided Platforms*, 2005 COLUM. BUS. L. REV. 667, 668, 682, 688 (2005).

³⁶ See Benjamin Klein, *et al.*, *Competition in Two-Sided Markets: The Antitrust Economics of Payment Card Interchange Fees*, 73 ANTITRUST L.J. 571, 599 (2006).

³⁷ The US Supreme Court reached this same conclusion in *Ohio v. American Express Co.*, 585 U.S. __ (2018).

This two-sided analysis should also extend beyond mere price effects particularly as, often, some platform users may pay a zero price. One side of the market may experience some burden from a rule or practice – such as the collection of personal data – but a significant benefit on the other may more than offset this inconvenience. Accordingly, it is *necessary* to consider what is happening on both sides of a two-sided platform in order to understand properly the implications of the platform’s conduct.

The upshot is that demonstrating harm on one side of a two-sided platform is not sufficient to establish any presumption that *market-wide* consumer welfare has decreased. The simple reallocation of costs and benefits across the two sides of a two-sided market can be output increasing, output reducing, or output neutral. Looking at effects on one side simply cannot distinguish between these scenarios. Failing to adopt this holistic approach would significantly raise error costs, as authorities risk inferring anticompetitive harm (say, in the form of a price increase on one side of the market) from procompetitive conduct (i.e., conduct that increases output market-wide).

B. The presence of significant countervailing benefits

Adding to the ambiguous picture of the previous paragraphs, the practices highlighted by the Commission may generate significant benefits for consumers.

Leveraging by a dominant platform may lead to valuable synergies. For example, the integration of various products into a single suite may greatly simplify users’ experience.³⁸ Along similar lines, firms may use the capabilities they have developed in one market to offer superior products elsewhere.³⁹ For instance, harnessing user data from one market may allow platforms to deliver a more tailored experience to consumers across their entire product range. With this in mind, “leveraging” may simply reflect consumers’ preference for a dominant firm’s products, rather than the unfair exclusion of rivals. Importantly, these benefits will not always be attainable through open-market transactions due to transactions costs and the potential for hold-up.⁴⁰

Likewise, **lock-in** and switching costs are often the by-product of important product design choices. Agreeing upon a single, market-wide standard may sometimes delay the introduction of new products and make existing ones less reliable.⁴¹ Similarly, mandated data portability may have negative

³⁸ See Hanno F. Kaiser, *Are ‘Closed Systems’ an Antitrust Problem?*, 7 COMPETITION POL’Y INT’L. 91 (2011).

³⁹ See Teece, *supra*, note 4. Teece argues that firms’ capabilities are a key driver of innovation. There is no reason to believe that these capabilities could not be leveraged across multiple markets.

⁴⁰ See Ronald H. Coase, *The Nature of the Firm*, 4 ECONOMICA 386 (1937). See also, Benjamin Klein, Robert G. Crawford & Armen A. Alchian, *Vertical Integration, Appropriable Rents, and the Competitive Contracting Process*, 21 J. L. & ECON. 297 (1978). See also, Oliver E. Williamson, *The Economics of Organization: The Transaction Cost Approach*, 87 AM. J. SOC. 548 (1981).

⁴¹ See, e.g., Michael L. Katz & Carl Shapiro, *Product Compatibility Choice in a Market with Technological Progress*, 38 OXFORD ECON. PAPERS, 146, 147 (1986). (“Typically, achieving technical compatibility will be costly”).

ramifications as far as security and privacy are concerned.⁴² Finally, learning costs will often reflect the rich set of features which a product offers its users rather than a naked attempt to lock them in. The upshot is that policy aimed at undermining switching costs can sometimes be highly counter-productive.

Finally, the virtues of consolidation in markets with **network effects** (and by extension in multi-sided platform markets) are by now well-established. As has already been alluded to, fragmentation is potentially more harmful than monopoly in this context.⁴³ The pursuit of a “structuralist” competition policy, at the expense of a more pragmatic and efficiency-based approach, may thus deprive users of the opportunity to coordinate on a preferred network.

C. The difficulty of effective remedies

Leveraging, lock-in, and network effects can each have quite ambiguous consequences. It will thus prove highly challenging for authorities and parties to devise remedies that weed out their undesirable aspects while retaining their pro-consumer virtues. In that regard, we urge European competition authorities to consider whether, on balance, a proposed remedy truly improves social welfare, or merely ameliorates a specific concern at inordinately high cost.

The pitfalls of designing effective remedies in the digital economy are nowhere clearer than in the case of network effects. Although consolidation within a single platform may give rise to monopoly power, it also generates considerable benefits for users. Artificially constraining the size or scope of a platform’s network may impair the very interconnectedness from which users derive value. Moreover, compelling firms to develop compatible standards will tend to reduce product differentiation, facilitate collusion, and reduce or remove “for the market” competition between platforms. Finally, competition history teaches us that breaking up powerful firms is no silver bullet.⁴⁴

Problems also arise when remedies seek to tackle issues of leveraging and lock-in. Forcing dominant firms to open their platforms to downstream rivals can lock in inefficient practices and make it harder to implement new design choices or innovative business models. This, in turn, might impair their ability to compete with rivals. Likewise, the type of compatibility required to alleviate consumer lock-in will often require firms to coordinate with rivals, raising the risks of opportunistic behavior and collusion.

⁴² See Peter Swire & Yianni Lagos, *Why the Right to Data Portability Likely Reduces Consumer Welfare: Antitrust and Privacy Critique*, 72 MD. L. REV. 335 (2012).

⁴³ See Nocke, Peitz & Stahl, *supra*, note 32.

⁴⁴ See, e.g., William E. Kovacic, *Designing Antitrust Remedies for Dominant Firm Misconduct*, 31 CONN. L. REV. 1285, 1297 (1998).

III. The advent of the “data economy” should not affect the balance of competition enforcement

The rise of large, data-intensive tech companies has been at the forefront of recent competition policy debates.⁴⁵ In that regard, an important misconception is the assertion that data-intensive industries necessarily imply significant barriers to entry, and that data routinely constitutes an essential facility.⁴⁶ Accepting either of these premises would set a dangerous precedent for future competition enforcement.

The mere fact that an incumbent owns large amounts of data does not constitute a barrier to entry. If everything that improves an incumbent’s products and thus makes entry more difficult is counted as a legal “barrier to entry”, then all the competitive strengths which set a firm apart from its rivals will fall under this definition. These include superior product design, more efficient marketing teams, an established reputation, better engineers, etc. It is for this reason that Stigler famously argued that the notion of barriers to entry should be limited to production costs “*which must be borne by a firm which seeks to enter an industry but [are] not borne by firms already in the industry*”.⁴⁷ Under this definition, a trove of data could count as a barrier to entry only if it proved less costly for the incumbent to amass than for its rivals. As things stand, there is simply no evidence that this is the case for the large tech firms that dominate competition policy discussions.

Indeed, it is virtually always missed that an incumbent’s efforts to amass data or other inputs – or innovation by incumbents more generally – may actually *facilitate* entry by rivals. The famous “applications barrier to entry” in the U.S. *Microsoft* case demonstrates this fallacy.⁴⁸ New entrants may have faced difficulty attracting developers away from Microsoft’s platform that Microsoft, as the dominant platform, did not. But these firms also benefited from an established PC developer ecosystem (built significantly at Microsoft’s expense) that Microsoft itself did not enjoy: the existence of “PC app developer” as a viable profession, career guidance pushing new workers into the market, schools aimed at educating developers, consumer facility with and demand for modular operating systems, and on and on. It is by no means clear that the combined effect was the imposition of net costs on new entrants.

⁴⁵ See German Bundeskartellamt, *Preliminary Assessment in Facebook proceeding: Facebook’s Collection and Use of Data from Third-party Sources is Abusive*, Dec. 19, 2017, available at https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_2017_Facebook.html. See also [U.S. Representative] David N. Cicilline & [former FTC Commissioner] Terrell McSweeney, *Competition is at the Heart of Facebook’s Privacy Problem*, WIRED, Apr. 24, 2018, www.wired.com/story/competition-is-at-the-heart-of-facebooks-privacy-problem/.

⁴⁶ See Maurice E. Stucke, *Should We Be Concerned About Data-opolies?*, 2 GEO. L. TECH. REV. 275, 294 (2018).

⁴⁷ See GEORGE J. STIGLER, *THE ORGANIZATION OF INDUSTRY* 67 (1968).

⁴⁸ See Manne & Wright, *supra* note 5, at 180.

Failing to adopt this “Stiglerian” definition of barriers to entry would have severe repercussions. Counting superior efficiency as a barrier to entry (itself a precondition for a finding of dominance and subsequent competition liability) would chill efficient behavior by tech platforms. Moreover, diluting the notion of barriers to entry brings with it an acute risk of confirmation bias on the part of competition authorities, and a significantly heightened risk of abusive complaints or private actions by new entrants seeking a leg up.

It is important not to conflate the factors which make an incumbent strong (we might be tempted to call these “barriers to entry”) with the capabilities that rivals may employ to compete with it. In other words, the fact that firm A uses or produces certain data to provide a superior product does not imply that rivals require this or even necessarily similar data to compete. Were it otherwise, airlines would not have outcompeted steam trains, Microsoft would not have bested IBM and Atari, Google would not have upended Yahoo, and Uber would not be challenging the hegemony of taxicabs, etc. The upshot is that authorities should not assume that rivals cannot compete with an incumbent without mimicking its specific competitive strengths. Adopting a naïve notion of barriers to entry perpetuates this fallacy by focusing only on what makes a defendant appear strong and ignoring its competitive vulnerabilities.

This applies, *a fortiori*, to the notion of data as an essential facility.⁴⁹ It is difficult to imagine that a given dataset could be essential for rivals to compete against an incumbent when competition in digital markets is so heavily based on offering differentiated/disruptive products. Moreover, because so much of the data at issue is created by users’ interactions with an incumbent, rather than created exogenously (i.e., there is no data on people’s Facebook “likes” without Facebook manufacturing the means to create it), it is virtually indistinguishable from the incumbent’s own innovation and investments in product design. And where it is not—where the data is, indeed, exogenous—it is typically easily replicable. For these reasons, treating data as an essential facility will merely diminish firms’ incentives to provide superior goods to their consumers, and will offer little in terms of actual competitive benefits.

IV. Competition enforcement should not operate to chill firms’ incentives to innovate

Often efforts to intervene in high-tech markets take the existence of transformative technologies for granted, and ignore the considerable efforts required to create them. Once one accounts for these dynamic effects, however, the harmful potential of leveraging, network effects, lock-in, and data “barriers to entry” becomes even more questionable.

⁴⁹ See Giuseppe Colangelo & Mariateresa Maggiolino, *Big Data as Misleading Facilities*, 13 EUR. COMPETITION J. 249, 255 (2017) (the authors’ skepticism about data as an essential facility is notably due to its non-rival nature). The fact that one company has collected a given piece of data does not, in itself, prevent its rivals from obtaining the same information.

The digital economy is built upon tremendous investments in innovation. In 2017 alone the GAFAM firms invested a combined US \$66 billion in research and development.⁵⁰ On average, this amounted to 10.6% of their annual revenue. They are not alone. According to a report by KPMG, global venture capital investments reached a record US \$155 billion over the same year.⁵¹

These investments were likely not due to philanthropy. Entrepreneurs will expect to earn a positive return on their outlays.⁵² Given the probabilistic nature of innovation (most projects fail, and it is up to the few successful ones to generate a positive return), healthy innovative activity requires that some business ventures earn what might appear to be exorbitant profits. This does not always sit well with competition law, which often prevents firms from obtaining monopoly profits through various practices.

It is well-established that expected profits are generally a precondition for innovation. Despite their numerous disagreements, Schumpeter, Arrow, Teece, Stiglitz and, more recently, scholars from the endogenous growth school have all arrived at this same conclusion.⁵³ These findings cover both micro and macroeconomics, theoretical and empirical work, and fields that range from industrial organization to management literature. It is as close as economic research comes to unanimous agreement.

All of this is not to say that competition law is inimical to innovation, but rather that there is a very fine line between punishing anticompetitive conduct and chilling firms' incentives to innovate.⁵⁴ Although a firm's presence in multiple markets, consumer lock-in, network effects, and large data holdings may sometimes boost profits (other things being equal), they are not sufficient grounds for antitrust intervention. Acquiring an installed base of consumers, potentially spanning multiple markets, is precisely what spurs firms to innovate in the digital economy.

More generally, and especially when viewed from this dynamic viewpoint, the recent spate of calls for enhanced antitrust enforcement to combat large, profitable firms in allegedly concentrated

⁵⁰ Google (\$16,625 million, 15%); Microsoft (\$13,037, 14%); Amazon (\$22,620 million, 12%); Facebook (\$2,820 million, 7%); Apple (\$11,581 million, 5%). These numbers are taken from the firms' 10-K filings for year 2017.

⁵¹ See KPMG, *2017 Global Venture Capital Investment Hits Decade High of US\$155 Billion Following a Strong Q4*, Jan. 18, 2018, available at <https://home.kpmg.com/sg/en/home/media/press-releases/2018/01/kpmg-venture-pulse-q4-2017.html>.

⁵² See, e.g., Michael E. Porter, *How Competitive Forces Shape Strategy*, in READINGS IN STRATEGIC MANAGEMENT 133 (1989).

⁵³ See J.A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY 77-78 (Routledge, 1976). See also Kenneth Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 620 (1962). See also, Partha Dasgupta & Joseph Stiglitz, *Industrial Structure and the Nature of Innovative Activity*, 90 THE ECON. J. 266 (1980). See also Teece, *supra* note 4. See also, Philippe Aghion, Nick Bloom, Richard Blundell, Rachel Griffith & Peter Howitt, *Competition and Innovation: An Inverted-U Relationship*, 120 Q. J. ECON. 701 (2005).

⁵⁴ For a discussion of this difficult balancing act, see, for example, Thibault Schrepel, *The Enhanced No Economic Sense Test: Experimenting with Predatory Innovation*, 7 NYU J. INTELL. PROP. & ENT. L. 30 (2017).

markets is lacking in both theoretical and empirical support.⁵⁵ Higher corporate profits and increased concentration may indeed go hand in hand with superior products and increased consumer surplus.⁵⁶

V. Conclusion

In this submission we have argued that competition policy should be based on sound, theoretical underpinnings and rigorous, evidence-based analysis. Despite many expressed fears to the contrary, digital markets are not inherently prone to anticompetitive behavior,⁵⁷ and the weight of economic theory and evidence offer little support for the asserted risk of harm. Indeed, leveraging, lock-in, network effects, and data-intensive business models are just as likely (if not more likely) to benefit consumers as they are to be anticompetitive. We urge European competition regulators to consider carefully how little certainty we have about these markets and the effects of challenged conduct within them.

⁵⁵ See generally Joshua D. Wright, *et al.*, *Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust*, George Mason Law & Econ Research Paper No. 18-29 (2018), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3249524.

⁵⁶ See Demsetz, *supra* note 4. (Demsetz decisively defeated the negative presumptions regarding high profits and market concentration promoted by the Structure-Conduct-Performance paradigm). See also, Douglas H. Ginsburg & Joshua D. Wright, *Philadelphia National Bank: Bad Economics, Bad Law, Good Riddance*, 80 ANTITRUST L. J. 201, 207 (2015) (The “SCP paradigm is now dead and has been for quite some time. Its intellectual influence on modern economics is nil. It is no longer taught in graduate economics courses”).

⁵⁷ See Konstantinos Stylianou, *Exclusion in Digital Markets*, 24 MICH. TELECOM. & TECH. L. REV. 181 (2018).