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## Metaverse, Competition, and the Online Digital Ecosystem

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# Metaverse, Competition, and the Online Digital Ecosystem

By Bar Atrakchi-Israel\* Yifat Nahmias\*\*

## ABSTRACT

*Like the American railroad companies of the late nineteenth century, today's largest online companies (the "Internet Giants") are vital components of modern, everyday life. Just as Americans formerly depended on railroads to move goods and people swiftly and economically throughout the United States, today's population depends on the technologies deployed by companies such as Meta (Facebook), Alphabet (Google) and Amazon to establish an online presence and to gain widespread access to the market. And just as the railroad companies' market position and control of the infrastructure of interstate commerce gave them outsized influence over the success or failure of the businesses of the time, the Internet Giants' control of the online ecosystem gives them the ability to determine the economic winners and losers of modern-day trade.*

*Entrepreneurial independence and competition have long been considered the bedrocks of American society. The rise of online commerce, though initially perceived as a threat to the power of large-scale commercial actors, has become increasingly consolidated, and a handful of companies now dominate the online environment. Moreover, an emerging online environment known as the "Metaverse" will allow users to engage with each other and with computer-generated characters and to take part in social and commercial activities incorporating elements of both the physical and the virtual environments. By connecting users to a greater extent than ever before, the Metaverse will give*

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companies such as Meta even greater power and control over fundamental human interactions across the online ecosystem.

*The increase in market concentration and absence of competition in the online sphere has serious implications for democracy, free speech, human interaction, and technological development. Consequently, debates over whether and how to regulate Internet Giants—including the role of antitrust law as a tool to fight monopolies—have gained increased attention worldwide. While the Sherman Antitrust Act of 1890 played a key role in diminishing the monopolistic control of the railroad companies, it is ill-suited to deal with the unique challenges associated with the digital age and the rise of the Internet Giants.*

*This paper argues that traditional antitrust analysis does not convey the full story of today’s online ecosystem, mainly because it focuses on the notion of the “relevant market.” We contend that the Internet Giants’ unique characteristics require regulators and policymakers to look not only at the relevant market, but also at the levels of aggregate concentration in the online ecosystem. High levels of aggregate concentration are generally perceived as significantly affecting competition and welfare. Recognizing aggregate concentration as an important source of competitive constraints would not only allow courts and policymakers to adapt existing antitrust laws to meet the new competitive challenges of the online ecosystem, but also provide us with a better understanding of the digital economy. Put differently, we argue that when scrutinizing the Internet Giants’ activities and business practices, antitrust authorities should supplement the traditional market-based discussion with concepts and tools from the area of aggregate concentration as a broad proxy for corporate power in the online ecosystem.*

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## INTRODUCTION

In the past several years, much has been written about the emergence and unprecedented power of the Internet Giants, including Alphabet (Google), Meta (Facebook), and Amazon. Scholars have focused on these companies' social and political power, emphasizing their ability to influence democratic discourse, human interaction, free speech, and the marketplace of ideas, and portending the negative effects of their economic power.<sup>1</sup> In addition, there have been growing concerns over the anti-competitive implications of increased market concentration online.<sup>2</sup> For instance, a few years ago, Google was featured in a 60 Minutes exposé titled, “How Did Google Get So Big?” Throughout the segment, critics raised concerns about Google’s anti-competitive business practices, echoing alarms sounded by policymakers and the public.<sup>3</sup> But Google is not the only online company to enjoy

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1. Kate Klonick, *The New Governors: The People, Rules, and Processes Governing Online Speech*, 131 HARV. L. REV. 1598, 1612–13 (2018).

2. See, e.g., MARK J. ROE, *MISSING THE TARGET* 114 (2022); FRANCESCO DUCCI, *NATURAL MONOPOLIES IN DIGITAL PLATFORM MARKETS* (2020); Lina M. Khan, *Amazon’s Antitrust Paradox*, 126 YALE L.J. 710 (2017); Oren Bracha & Frank Pasquale, *Federal Search Commission-Access, Fairness, and Accountability in The Law of Search*, 93 CORNELL L. REV. 1149, 1164–67 (2007); Maurice E. Stucke, *When a Monopolist Deceives*, 76 ANTITRUST L.J. 823 (2009); Ariel Ezrachi & Maurice E. Stucke, *The Fight Over Antitrust’s Soul*, 9 J. EUR. COMP. L & PRACTICE 1 (2018); Maurice E. Stucke, *Should We Be Concerned About Dataopolies?*, 2 GEO. L. TECH. REV. 275 (2018). Scholars have also examined the effects of powerful infomediaries on privacy and free speech. See, e.g., Gregory Day & Abbey Stemler, *Infracompetitive Privacy*, 61 IOWA L. REV. 105 (2019); SHOSHANA ZUBOFF, *THE AGE OF SURVEILLANCE CAPITALISM* (2018); Noga Blickstein Shchory & Michal S. Gal, *Market Power Parasites: Abusing the Power of Digital Intermediaries to Harm Competition*, 35 HARV. J.L. & TECH. 73 (2021).

3. Steve Kroft, *How Did Google Get So Big?*, CBS NEWS (May 21, 2018), <https://www.cbsnews.com/news/how-did-google-get-so-big>. See also Martin Baccardax, *Google Shares Dip after Report of 60 Minutes Segment Focused on Competition*, THE STREET (May 18, 2018), <https://www.thestreet.com/markets/google-share-dip-after-report-of-60-minutes-segment-focused-on-competition-14593876>.

tremendous market power. Amazon, the biggest online retailer<sup>4</sup> with around 40.4% of the market for goods sold online in the U.S.,<sup>5</sup> owns and operates one of the world's most popular cloud services businesses.<sup>6</sup> Amazon has continually utilized its market power to enter new market verticals such as the Whole Foods market, through which even rivals rely on Amazon-owned infrastructure, and it has allegedly used predatory pricing tactics to undercut competitors.<sup>7</sup> Meta, the leading social media platform, has also been at the heart of several exposés and the subject of congressional hearings due to its questionable commercial tactics and content moderation practices.<sup>8</sup>

In fact, throughout the last decade, the Internet Giants' dubious business practices have not gone unnoticed. Competition authorities from around the world have investigated these companies on multiple occasions for suspected breaches of competition laws.<sup>9</sup> For instance, on June 3, 2019, the United States House Judiciary Committee announced an investigation into competition in digital markets, led by the Subcommittee on Antitrust, Commercial and Administrative Law.<sup>10</sup> Similarly, the South Korean antitrust authority has launched an investigation into Google's business practices following complaints by several

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4. Blake Droesch, *Amazon Dominates U.S. Ecommerce, though its Market Share Varies by Category*, INSIDER INTEL (Apr. 27, 2021), <https://www.emarket.com/content/amazon-dominates-us-ecommerce-though-its-market-share-varies-by-category>.

5. *Id.*

6. Khan, *supra* note 2. See also Christopher Zara, *Here's What Lina Khan Might do about Amazon Now that She's Chair of the FTC*, FAST CO. (Oct. 21, 2021), <https://www.fastcompany.com/90686812/lina-khan-ftc-chair-amazon-antitrust>.

7. See Giovanni Bruno, *Why Amazon Really Bought Whole Foods*, THE STREET (Oct. 11, 2017), <https://www.thestreet.com/investing/stocks/amazon-s-acquisition-of-whole-foods-isn-t-about-lower-prices-it-s-fulfillment-14338391>.

8. See, e.g., Facebook Congressional Hearing before the Committees on the Judiciary and Commerce, Science and Transportation, 115th Cong. (April 2018).

9. Richard Waters et al., *Global Regulators' Net Tightens Around Big Tech*, FIN. TIMES (June 5, 2019), <https://www.ft.com/content/973f8b36-86f0-11e9-97ea-05ac2431f453>.

10. Press Release, H. Comm. on the Judiciary, *House Judiciary Committee Launches Bipartisan Investigation into Competition in Digital Markets* (June 3, 2019), <https://judiciary.house.gov/news/press-releases/house-judiciary-committee-launches-bipartisan-investigation-competition-digital> [hereinafter *Competition in Digital Markets*].

South Korean businesses.<sup>11</sup> Additionally, the European Commission has investigated and fined the company on two separate occasions for breaching EU antitrust rules.<sup>12</sup> On another occasion, in July 2018, the European Commission decided to fine Google a record € 4.34 billion Euros for abusing the dominant position of its Android mobile operating system and imposed additional measures aimed at loosening the company's hold on the Android system.<sup>13</sup>

Similarly, Meta Platforms and Alphabet have been the targets of a series of lawsuits alleging that they operate unlawful monopolies and abuse their power.<sup>14</sup> For instance, in *New York v. Facebook*, several states sued the Internet Giant for anticompetitive conduct.<sup>15</sup> In their preliminary statement on appeal, the

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11. See, *KCC Begins Fact-Finding Examinations of App Market Operators Regarding Possible Violations of Prohibited Acts in Telecommunications*, KOREA COMMC'NS COMM'N (May 16, 2022), <https://www.kcc.go.kr/user.do?mode=view&page=E04010000&dc=E04010000&boardId=1058&cp=3&boardSeq=53114>; Sangyun Lee, *Main Developments in Competition Law and Policy 2022 – Korea* (Dec. 9, 2022), KLUWER COMPETITION L. BLOG, <http://dx.doi.org/10.2139/ssrn.4300778>; Heekyong Yang, *S. Korea Fines Google \$177 Mln for Blocking Android Customisation*, REUTERS (Sept. 15, 2021), <https://www.reuters.com/technology/skorean-antitrust-agency-fines-google-177-mln-abusingmarketdominance-2021-09-14/>.

12. European Commission Press Release, *Antitrust: Commission Fines Google €2.42 Billion for Abusing Dominance as Search Engine by Giving Illegal Advantage to Own Comparison Shopping Service* Brussels (June 27, 2017); European Commission Press Release, *Antitrust: Commission Fines Google €1.49 Billion for Abusive Practices in Online Advertising* (Mar. 20, 2019).

13. European Commission Press Release, *Antitrust Commission Fines Google €4.34 Billion for Illegal Practices Regarding Android Mobile Devices to Strengthen Dominance of Google's Search Engine* (July 18, 2016).

14. Diane Bartz, *Factbox: How Big Tech is Faring Against U.S. Lawsuits and Probes*, REUTERS (Dec. 8, 2021), <https://www.reuters.com/technology/big-tech-wins-two-battles-fight-with-us-antitrust-enforcers-2021-06-29>.

15. *New York v. Facebook, Inc.*, 549 F. Supp. 3d 6 (D.D.C. 2021). On January 14, 2022, the plaintiffs appealed the district court's order dismissing the case in its entirety. The plaintiffs-appellants are the State of New York, District of Columbia, State of California, State of Colorado, State of Florida, State of Iowa, State of Nebraska, State of North Carolina, State of Ohio, State of Tennessee, State of Alaska, State of Arizona, State of Arkansas, State of Connecticut, State of Delaware, Territory of Guam, State of Hawaii, State of Idaho, State of Illinois, State of Indiana, State of Kansas, Commonwealth of Kentucky, State of Louisiana, State of Maine, State of Maryland, Commonwealth of Massachusetts, State of Michigan, State of Minnesota, State of Mississippi, State of Missouri, State of Montana, State of Nebraska, State of Nevada, State of New Hampshire, State of New Jersey, State of New Mexico, State of North Dakota, State of Oklahoma, State of Oregon, Commonwealth of Pennsylvania, State of Rhode Island, State of Texas, State of Utah, State of Vermont, Commonwealth

states assert that “Facebook is a monopolist that has exploited its immense market power to crush competition. Through an ongoing course of conduct to “buy or bury” nascent competitors, Facebook has maintained a monopoly that harms its users and the public at large.”<sup>16</sup> Facebook was also the target of a massive lawsuit by the Federal Trade Commission alleging antitrust violations.<sup>17</sup> And in December 2021, several state attorneys general filed an antitrust suit against Google, claiming that it colluded with Meta to manipulate online advertising sales.<sup>18</sup> According to the allegations, Google abused its monopoly power over the technology network used to deliver ads online.<sup>19</sup>

In the international arena, Swedish price comparison site Price Runner filed a \$2.4 billion dollar lawsuit against Google in February 2022, claiming that the search engine manipulates search results to benefit its own commercial services.<sup>20</sup> In the United Kingdom, in January 2022 a British scholar filed a class-action lawsuit before the U.K. Competition Appeal Tribunal in

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of Virginia, State of Washington, State of West Virginia, State of Wisconsin, and State of Wyoming. *See* State of New York v. Facebook, Inc., 21-7078 D.C. Cir. (Brief for Appellants; Jan. 14, 2022), [https://ag.ny.gov/sites/default/files/new\\_york\\_et\\_al\\_v\\_facebook\\_inc\\_appellant\\_brief\\_-\\_public.pdf](https://ag.ny.gov/sites/default/files/new_york_et_al_v_facebook_inc_appellant_brief_-_public.pdf).

16. *Id.*

17. Federal Trade Commission v. Facebook, Inc., *Complaint for Injunctive and Other Equitable Relief* (Case No. 1:20-cv-03590. D.C. Cir.), [https://www.ftc.gov/system/files/documents/cases/051\\_2021.01.21\\_revised\\_partially\\_redacted\\_complaint.pdf](https://www.ftc.gov/system/files/documents/cases/051_2021.01.21_revised_partially_redacted_complaint.pdf) [hereinafter *Complaint for Injunctive and Other Equitable Relief*].

18. The lawsuit is led by Texas Attorney General Ken Paxton and was joined by the attorneys general of Alaska, Arkansas, Florida, Idaho, Indiana, Kentucky, Louisiana, Mississippi, Missouri, Montana, Nevada, North Dakota, Puerto Rico, South Carolina, South Dakota and Utah. *See* Associated Press, *Lawsuit: Google, Facebook CEOs Colluded in Online Ad Sales*, U.S. NEWS (Jan. 14, 2022), <https://www.usnews.com/news/business/articles/2022-01-14/lawsuit-google-facebook-ceos-colluded-in-online-ad-sales>; Associated Press, *Google, Facebook Execs Were Involved in ‘Anti-Competitive Conduct,’ Lawsuit Alleges*, WRALTECHWIRE (Jan. 17, 2022), <https://wraltechwire.com/2022/01/17/google-facebook-execs-were-involved-in-anti-competitive-conduct-lawsuit-alleges>.

19. *See* Daisuke Wakabayashi & Tiffany Hsu, *Behind a Secret Deal Between Google and Facebook* N.Y. TIMES (Jan. 17, 2021), <https://www.nytimes.com/2021/01/17/technology/google-facebook-ad-deal-antitrust.html>; David McCabe, *Google’s Chief Executive Signed Off on Deal at Center of Antitrust Case, States Say*, N.Y. TIMES (Jan. 14, 2022), <https://www.nytimes.com/2022/01/14/technology/sundar-pichai-google-facebook-antitrust.html>.

20. *Google Facing \$2 Billion Anti-Competitive Lawsuit*, RT (Feb. 7, 2022), <https://www.rt.com/news/548595-google-lawsuit-sweden-antitrust>; *Google is Facing a \$ 2 Billion Anti-Competitive Lawsuit*, NORD NEWS (Feb. 7, 2022), <https://nord.news/2022/02/07/google-is-facing-a-2-billion-anti-competitive-lawsuit>.

London, claiming that Meta imposes unfair terms and exacts an unfair price from its users.<sup>21</sup> The plaintiff claims that the company asks its users to provide it with personal data that is far more valuable than the services the company provides in exchange. In other words, the company does not properly compensate its users for the information it obtains from them.<sup>22</sup>

Overall, it is evident that the Internet Giants' business practices and the technology they deploy have brought about a highly consolidated online ecosystem. High levels of concentration lead to an increase in market power, a reduction in output, higher prices, and, consequently, a diminution in overall consumer welfare.

In the late nineteenth century, Americans were dependent on railroad companies to move goods and people efficiently throughout the United States. At that time, there was no real competition for railroad companies, which frequently controlled the railways' infrastructure and use and thus had the ability to determine the economic winners and losers. The Sherman Antitrust Act of 1890 was enacted in response to the railroad companies' vast economic power and aimed to curb concentrations of power that interfered with trade and reduced competition.<sup>23</sup>

Railroad companies have long since lost their preeminent standing in the market. Nevertheless, we now face a new breed of companies that control access to the online ecosystem. Those companies, often referred to as "Internet Giants," serve as an important source of economic growth. Collectively, Meta, Alphabet, and Amazon effectively control the online environment, and—like the railroad companies of centuries past—hold the

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21. Dr. Liza Lovdahl Gormsen v. Meta Platforms, Inc. and Others [2022] CAT 1433.

22. Mike Butcher, *UK Class Action Lodged Against Meta Seeks \$3.1B for Breach of Competition Law*, TECHCRUNCH (Jan. 14, 2022), <https://techcrunch.com/2022/01/13/uk-class-action-lodged-against-meta-seeks-3-1bn-for-breach-of-competition-law>; Dan Milmo, *Meta Sued for £2.3bn over Claim Facebook Users in UK Were Exploited*, GUARDIAN (Jan. 14, 2022), <https://www.theguardian.com/technology/2022/jan/14/meta-sued-for-23bn-over-claim-facebook-users-in-uk-were-exploited>; *Meta Faces Billion-Pound Class-Action Case*, BBC (Jan. 14, 2022), <https://www.bbc.com/news/technology-59964654>; Ariel Zilber, *Facebook Faces \$3.1 Billion Class-Action Lawsuit in UK*, N.Y. POST (Jan. 14, 2022), <https://nypost.com/2022/01/14/facebook-faces-massive-lawsuit-in-uk/>; Rob Pegoraro, *Pending Facebook Class-Action Suit in UK Claims \$3.15B in Damages*, PCMAG (Jan. 14, 2022), <https://www.pcmag.com/news/pending-facebook-class-action-suit-in-uk-claims-315b-in-damages>.

23. 5 U.S.C. §§ 1-38



power to determine the success or failure of many businesses and thus are at the heart of current regulatory debates.<sup>24</sup>

However, unlike the railroad, gas, and oil companies of the past, these entities operate in a completely new ecosystem characterized not necessarily by high prices or restricted outputs,<sup>25</sup> but rather by strong network effects, lack of geographical boundaries, and sometimes zero price on the user-side of the market. Furthermore, their power derives from their mastery and control over digital technologies and infrastructure. For these reasons, the Internet Giants have challenged existing competition and antitrust norms in several respects, and their challenge is likely to grow with the advent of the new Metaverse(s).

The Internet Giants have been the focus of scholarly inquiry over the past several years. A short survey reveals that scholars and regulators have been concerned with whether and how to regulate the Internet Giants and the challenges of applying antitrust policy to technologically innovative entities operating in web-based dynamic markets.<sup>26</sup>

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24. Lina M. Khan, *The End of Antitrust History Revisited*, 133 HARV. L. REV. 1655, 1656–57 (2020).

25. David Autor et al., *The Fall of the Labor Share and the Rise of Superstar Firms*, 135 Q.J. ECON. 645 (2020); TYLER COWEN, BIG BUSINESS: A LOVE LETTER TO AN AMERICAN ANTI-HERO 101–02 (2019); John M. Newman, *The Myth of Free*, 86 GEO. WASH. L. REV. 513, 525–54 (2018).

26. For example, in Congress, Senator Amy Klobuchar (D-MN) introduced a bill that would ban significant acquisitions by any company with a market capitalization higher than \$100 billion unless the acquirer could demonstrate that the transaction would not lessen competition by more than a *de minimis* amount. Senator Josh Hawley (R-MO) cosponsored a bill that would require large platforms to conform to regulations governing the portability of data generated on the platform as well as the interoperability of the platform with others. Senator Elizabeth Warren (D-MA) has proposed breaking up big technology companies and regulating them as public utilities. See John M. Yun, *Does Antitrust Have Digital Blind Spots?*, 72 S.C. L. REV. 305 (2020); *How We Can Break Up Big Tech*, WARREN DEMOCRATS (March 8, 2019), <https://elizabethwarren.com/plans/break-up-big-tech>. More recently, Senator Warren has proposed the Anti-Monopoly and Competition Restoration Act, which would, among other things, change the burden of proof; amend the Clayton Act to ban “mega-mergers;” and add more conduct to a prohibited list of conduct. See Eric Newcomer & Joshua Brustein, *Warren is Drafting U.S. Legislation to Reverse ‘Mega Mergers’*, BLOOMBERG (Dec. 4, 2019), <https://www.bloomberg.com/news/articles/2019-12-04/warren-is-drafting-u-s-legislation-to-reverse-mega-mergers#xj4y7vzkg>. Relatedly, there have been proposals to regulate the algorithms that platforms use, e.g., Filter Bubble Transparency Act. See Press Release, John Thune, U.S. Senator for South Dakota, *Thune, Colleagues Introduce Bipartisan Bill to Increase Internet Platform Transparency and Provide Consumers with Greater Control Over Digital Content* (Nov. 1, 2019),

We posit that competition policy must evolve away from its traditional price-oriented emphasis, as well as its focus on near term effects on consumer pricing<sup>27</sup> and *ex-post* solutions, and adopt a wider perspective. In particular, competition policy should consider broader social harms, including harms to democratic discourse, free speech, privacy, and overall economic growth.<sup>28</sup> Building upon the notion of aggregate concentration, we suggest that antitrust authorities should supplement the familiar tools of antitrust with instruments drawn from the world of aggregate concentration.

Only in the last decade or so have legislatures around the world begun integrating policy tools designed to deal with aggregate concentration into their national legislation. One of the leading jurisdictions in this respect is Israel, which in 2013 enacted new legislation pertaining to aggregate concentration.<sup>29</sup> Although the new legislation cannot fully account for all of the features of online aggregate concentration as we demonstrate below, it can nevertheless serve as general background for our current discussion.

Adopting a broader and panoramic perspective, using aggregate concentration, will enable antitrust authorities not only to impose penalties upon Internet Giants for violation of competition rules *ex-post*, but also to restrict, *ex-ante*, certain acquisitions and cross holdings by corporations identified as concentrated entities. The mechanisms for doing so, drawn from the world of aggregate concentration analysis, are specially designed as pro-competitive tools that can be used in economies characterized by significant market concentration. Indeed, such tools evolved to deal with economies in which a small group of people

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<https://www.thune.senate.gov/public/index.cfm/2019/11/thune-colleagues-introduce-bipartisan-bill-to-increase-internet-platform-transparency-and-provide-consumers-with-greater-control-over-digital-content>. See also, e.g., Brent Kendall & John D. McKinnon, *Congress, Enforcement Agencies Target Tech*, WALL ST. J. (June 3, 2019), <https://www.wsj.com/articles/ftc-to-examine-how-facebook-s-practices-affect-digital-competition-11559576731>.

27. Khan, *supra* note 2.

28. TIM WU, THE CURSE OF BIGNESS 40–41 (2018); *Complaint for Injunctive and Other Equitable Relief*, *supra* note 17. See also Khan, *supra* note 2, at 743; BARRY C. LYNN, LIBERTY FROM ALL MASTERS (2020); MATT STOLLER, GOLIATH (2019).

29. See *Law for Promotion of Competition and Reduction of Concentration*, 5774-2013 (Isr.) (Available at <https://www.gov.il/en/departments/legalInfo/concentrationlaw>).

or companies control all or most of the economic power in the market—a perfect description of the online ecosystem.<sup>30</sup>

By using the tools developed to contend with aggregate concentration, we move away from specific markets analyses and towards an inquiry better suited to competition in the online economy.<sup>31</sup> Our research does just that, as it looks at the online economy as one complete ecosystem amenable to aggregate concentration analyses.

While this paper by no means contends that there is neither space nor need for antitrust authorities to conduct market-specific analysis when addressing the business strategies of the Internet Giants, it aims to demonstrate certain advantages to using aggregate concentration as a complementary form of analysis. Accordingly, the discussion in this paper focuses on issues of aggregate concentration.

It is important to note that this paper does not lay out the methodological basis for identifying and measuring such entities, nor does it offer practical tools for evaluating the effects of their acquisitions on consumer welfare. As our suggested approach is highly innovative, it calls for further research and development as well as the establishment of structured theories on which antitrust authorities could rely. For this reason, we believe that a new approach should be implemented that will consider the online ecosystem's specific nature and will deal with the online economic power of the Internet Giants from a wide perspective of what we term an Online Ecosystem Aggregate Concentration Analysis.

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30. In the last year the stock market capitalization of the big five online traded companies has been estimated at approximately 5.5 trillion dollars, which represent approximately 18% of market capitalization of U.S. stocks. Aggregate market capitalization data are from YCharts, dating to April 24, 2020. Total U.S. stock market capitalization is \$29.5 trillion based on extrapolation from the Wilshire 5000 Index's last published market capitalization, on December 31, 2019 (which covers virtually all U.S. equities), to the index value posted on April 24, 2020. See YCHARTS, <https://ycharts.com>; *Wilshire 5000 Total Market Full Cap Index (WILL5000INDFC)*, ST. LOUIS FED., <https://fred.stlouisfed.org/series/WILL5000INDFC>; *Wilshire 5000 Total Market Index Fact Sheet*, WILSHIRE ASSOCS/ (Dec. 31, 2019). See also Yun, *supra* note 26.

31. Filippo Lancieri & Patricia Morita Sakowski, *Competition in Digital Markets: A Review of Expert Reports*, 26 STAN. J.L. BUS. FIN. 65 (2021). Lancieri & Sakowski conclude their article with a few point concerning gaps needed further research. One of those gaps is the Competition between ecosystems when they argue that analyses are still somewhat focused on specific markets instead of discuss analyze competition in the aspect of ecosystems.

## I. THE ONLINE ECOSYSTEM: SETTING THE SCENE

In the last decades, the World Wide Web has grown to be an unprecedented phenomenon in which social activities, human interactions, information exchanges, consumption, and private and public communications take place.<sup>32</sup> In the early days, the online environment was perceived as a major decentralization mechanism. In fact, when it was created in 1989, many believed that the Internet would bring about dramatic changes to business practices and competition in the global marketplace.<sup>33</sup> The Internet indeed revolutionized our lives and the way consumers and companies conduct business to a great extent. Nevertheless, a growing body of scholarship demonstrates that the online environment did not live up to its decentralization expectations. To the contrary, it has gradually become more and more consolidated. A handful of companies now dominates the online ecosystem. Their dominance over the online environment has enabled them to reach a measure of size and influence that is unparalleled in human history. Big tech companies such as Meta (Facebook), Alphabet (Google) and Amazon are able to control the underlying infrastructure of the online environment as well as the majority of users' engagement online. The technologies deployed by these Internet Giants are essential for establishing an online presence and access to the market. The lack of competition and increased market concentration in the online space has serious implications for democracy, free speech, human interaction, and technological development. Indeed, recent studies indicate that what was initially envisioned as offering great hope for decentralization and the free market is too often used to maintain control and hinder competition.<sup>34</sup>

Before we dive deeper into the advantages and disadvantages of current antitrust laws, we must first attain a deeper

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32. Ulrich Dolata, *Apple, Amazon, Google, Facebook, Microsoft: Market Concentration – Competition – Innovation Strategies* (SOI Discussion Paper No. 2017-01, Institute for Social Sciences, Department of Organizational Sociology and Innovation Studies University of Stuttgart).

33. See, e.g., YOCHAI BENKLER, *THE WEALTH OF NETWORKS: HOW SOCIAL PRODUCTION TRANSFORMS MARKETS AND FREEDOM* (2006).

34. See, e.g., Dolata, *supra* note 32, analyzing business reports, documents, empirical material, literature and press reports, found that there is a high degree of concentration, control and power struggle online.

understanding of the factors that limit competition in the online ecosystem.

#### A. Size and Scale of Services

It is commonly observed that in the 1960s, the U.S. automobile industry was controlled by three big companies: Ford, Chrysler and GM. Many considered these companies to be “giants”, as they had a combined market share of above 85% through the 1960s and above 90% in the year 1965.<sup>35</sup> Yet their market influence and dominance is dwarfed by today’s Internet Giants’ whose collective influence, dominance and market power knows no geographic boundary and can potentially affect world economy.

Today, the size and capitalization of the five largest online companies: Amazon, Apple, Meta, Alphabet and Microsoft, reflect their enormous economic power and dominance over the online ecosystem.<sup>36</sup>

It is often argued that the real competition online exists among the five largest tech companies: Alphabet Inc., Amazon.com Inc., Apple Inc., Facebook Inc., and Microsoft Corp.<sup>37</sup> Together, these big five technological companies have acquired hundreds of companies over the years.<sup>38</sup> The U.S. Federal Trade Commission investigated the acquisition history of the five Internet Giants between January 2012 and December 2019.<sup>39</sup> The investigation included an analysis of the terms, scope, structure, and purpose of 616 transactions (excluding hiring events and

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35. Mark J. Perry, *Animated Chart of the Day: Market Shares of US Auto Sales, 1961 To 2018*, AEI (June 28, 2019), [www.aei.org/carpe-diem/animated-chart-of-the-day-market-shares-of-us-auto-sales-1961-to-2016](http://www.aei.org/carpe-diem/animated-chart-of-the-day-market-shares-of-us-auto-sales-1961-to-2016).

36. Andrea Murphy & Isabel Contreras, *Forbes 2022 – The Global 2000: World’s Largest Public Companies*, FORBES (May 12, 2022), <https://www.forbes.com/global2000/list>.

37. UNLOCKING DIGITAL COMPETITION: REPORT OF THE DIGITAL COMPETITION EXPERT PANEL (Jason Furman Chair, Crown, March 2019), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/785547/unlocking\\_digital\\_competition\\_furman\\_review\\_web.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf) [hereinafter UNLOCKING DIGITAL COMPETITION].

38. *Id.*

39. Federal Trade Commission, *Non-HSR Reported Acquisitions by Select Technology Platforms, 2010-2019: An FTC Study* (FTS, Sep. 2021), <https://www.ftc.gov/system/files/documents/reports/non-hsr-reported-acquisitions-select-technology-platforms-2010-2019-ftc-study/p201201technologyplatformstudy2021.pdf>.

patent acquisitions) valued at or above \$1 million dollars.<sup>40</sup> The Chair of the FTC stated that the Commission’s findings capture “the extent to which these firms have devoted tremendous resources to acquiring start-ups, patent portfolios, and entire teams of technologies – and how they were able to do so largely outside of our purview.”<sup>41</sup> Thus, it is not surprising that in the past few years we have witnessed steps by legislators and regulators to increase antitrust scrutiny of mergers and acquisitions.<sup>42</sup>

Although the FTC’s investigation focused on quantifying and categorizing transactions rather than on the potential harm to competition, the results underscore the sheer size of the Internet Giants and their control over the online ecosystem. These factors, in turn, give these companies the potential to harm market competition, especially competition from small competitors. An acquiring company can use acquisitions to “kill” acquired firms’ innovations,<sup>43</sup> limit competitors’ access to complementary goods, and/or extend the acquirer’s existing market power to another market.<sup>44</sup> Indeed, the majority of Internet Giants operate on a massive scale, offering multiple products and services to an enormous user base.

For example, Google dominates the global search engine market, as it performs more than 90% of all search queries in the Western world.<sup>45</sup> The control Google has over queries enables it to control access to all other online sites, thereby controlling almost all Internet traffic. In the social network sector, Meta has become a dominant company in just a few years. According

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40. *Id.*

41. Press Release, Federal Trade Commission, *FTC Staff Presents Report on Nearly a Decade of Unreported Acquisitions by the Biggest Technology Companies* (Sep. 15, 2021), <https://www.ftc.gov/news-events/news/press-releases/2021/09/ftc-staff-presents-report-nearly-decade-unreported-acquisitions-biggest-technology-companies>.

42. See, e.g., Competition and Antitrust Law Enforcement Reform Act of 2021. See also, Australian Competition & Consumer Comm’n, *DIGITAL PLATFORMS INQUIRY – FINAL REPORT* (July 2019), <https://www.accc.gov.au/system/files/Digital%20platforms%20inquiry%20-%20final%20report.pdf>.

43. Colleen Cunningham et. al., *Killer Acquisitions*, 129 J. POL. ECON. 649 (2021).

44. Sai Krishna Kamepalli et. al., *Kill Zone* (National Bureau of Economic Research, Working Paper 27146, May 2020), [https://www.nber.org/system/files/working\\_papers/w27146/w27146.pdf](https://www.nber.org/system/files/working_papers/w27146/w27146.pdf).

45. See Dolata, *supra* note 32; Stuttgarter Beiträge, *Stuttgarter Beiträge zur Organisations-und Innovationsforschung, SOI Discussion Paper, 2017 at. 7.*

to Meta, Facebook, Instagram, Messenger, and WhatsApp collectively had 3.65 billion Monthly Active users by mid-2022.<sup>46</sup> Those users—many of whom are exposed to no other information channels—are fed content directly from Facebook’s content editor. And in the field of e-commerce, Amazon is the largest global retailer outside of China, dominating the online ecosystem.<sup>47</sup>

Broadly speaking, the size and economic power enjoyed by today’s Internet Giants could plausibly benefit consumers when combined with other factors discussed throughout this paper. At the same time, their dominance could curb competition and innovation and strengthen their market position.<sup>48</sup> In addition, the Internet Giants’ merger and acquisition practices have fostered economies of scale and produced indirect network effects.<sup>49</sup>

## B. Economies of Scale

One of the key resources available to Internet Giants is data. Data could potentially be extracted, collected, analyzed, and yield new value. However, unlike other “real world” resources, once generated, data can be characterized as a form of public goods. In standard economic terms, that means that data displays two key attributes: it is non-exclusionary and non-rivalrous. Moreover, data is non-fungible that is to say that “one piece of data cannot be substituted for another.”<sup>50</sup> Though the law can help maintain the exclusionary of data, it cannot overcome completely the fact of unique market power one can gain by controlling a specific database. Moreover, as the number of users a company has increases and the number of services it offers grows, it can extract, collect, and analyze more data while the average

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46. Parkev Tatevosian, *3 Things About Meta Platforms That Smart Investors Know*, NASDAQ (Sept. 5, 2022), <https://www.nasdaq.com/articles/3-things-about-meta-platforms-that-smart-investors-know-0>; S. Dixon, *Meta: Monthly Active Product Family Users 2022*, STATISTA (Feb. 13, 2022), <https://www.statista.com/statistics/947869/facebook-product-mau/>.

47. Karen Weise & Michael Corkery, *People Now Spend More at Amazon Than at Walmart*, N.Y. TIMES (Aug. 17, 2021), <https://www.nytimes.com/2021/08/17/technology/amazon-walmart.html>.

48. UNLOCKING DIGITAL COMPETITION, *supra* note 37, at 24.

49. Massimo Motta & Martin Peitz, *Big Tech Mergers*, 54 INF. ECON. & POL’Y 1 (2021).

50. Daniel Castro, *Policymakers Should Distinguish Between Data Protection and Data Protectionism*, CTR. FOR DATA INNOVATION (May 31, 2022), <https://datainnovation.org/2022/05/policymakers-should-distinguish-between-data-protection-and-data-protectionism/#:~:text=And%20unlike%20oil%2C%20data%20is,the%20idea%20of%20data%20sovereignty>.

cost per unit of output decreases. This allows Internet Giants to have an unprecedented influence on the market.<sup>51</sup> In other words, the size and scale of services and the unique attributions of data all contribute to the creation of the economics of scale.<sup>52</sup>

Not only that, but Internet Giants operate in a market that is characterized, to a large extent, by accelerated network effects (also known as demand side economics of scale).

The phrase “network effect” describes any circumstance in which the number of buyers, suppliers, or users who utilize a product, service, or platform determines its worth.<sup>53</sup> And so, as greater the number of buyers, sellers, or users of the product, the greater the network effect, ergo, the greater the value created by the offering. Social networks such as Facebook are a good example of the network effect. Initially, when the social network has had only few active users, it was of little value to its users. However, as more users joined the network they produced more content, more data and more value to their fellow users and businesses alike, leading to network effect.

Network effects are by no means unique to the online ecosystem or the operation of the Internet Giants, Nevertheless, they possess prominent implications online and are a key feature to our understanding of the dynamic of the online world, as it leads to exponential growth, increased switching costs, and increased entry barriers for potential competitors, leading in turn to competition issues.

Network effects are not necessarily anti-competitive in themselves. However, the Internet Giants have harnessed these

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51. See, e.g., Chloe Albanesius, *More Americans Go to Facebook Than MySpace*, PC MAGAZINE (June 16, 2009), <https://www.pcmag.com/archive/more-americans-go-to-facebook-than-myspace-241432>; Ami Sedghi, *Facebook: 10 Years of Social Networking, in Numbers*, GUARDIAN (Feb. 4, 2014), <https://www.theguardian.com/news/datablog/2014/feb/04/facebook-in-numbers-statistics>. See also Steven Levy, *Mark Zuckerberg on Facebook's Future, From Virtual Reality to Anonymity*, WIRED (April 30, 2014), <https://www.wired.com/2014/04/zuckerberg-f8-interview/>; *How Do Online Platforms Shape Our Lives and Businesses? – Brochure*, EUROPEAN COMM'N (Feb. 25, 2021), <https://digital-strategy.ec.europa.eu/en/library/how-do-online-platforms-shape-our-lives-and-business-es-brochure>.

52. David S. Evans, *The Antitrust Economics of Multi-Sided Platform Markets*, 20 YALE J. REGUL. 325 (2003).

53. For further discussion, please see Thomas Stobierski, *What Are Network Effects?* HARV. BUS. SCH. BUS. INSIGHTS Business Insights (Nov. 12, 2020), <https://online.hbs.edu/blog/post/what-are-network-effects>.



network effects to their benefit which means that potential competitors face high entry costs and expanding barriers, which may deter them from entering the market despite the appeal of the high-profit margins achieved by the biggest companies operating in the online sphere. Absent any meaningful competitive threat, the Internet Giants can charge higher prices, diminish quality, and invest less in innovation without fear of losing customers, essentially becoming the exclusive gateways to the commercial Internet.

Furthermore, the extraordinary financial strength of the Internet Giants allows them to suppress competition by buying out any competitor that appears to pose a threat.<sup>54</sup> In addition, purchasing competitors creates a pathway for entering lucrative new markets through partnerships or acquisitions.<sup>55</sup> While the trend in the brick-and-mortar economy is to reduce the scope of economic activity across multiple fields and to focus on core expertise, the tendency in the online ecosystem is toward diversification and expansion of reach.

### C. The Information Advantage/Barrier

Economies of scale as well as the size and scope of services offered by Internet Giants provide them with significant control over information. The five Internet Giants curate an enormous amount of information by systematically profiling, matching and evaluating consumer behavior.<sup>56</sup> Thus, these companies are able to “enjoy a competitive comparative advantage.”<sup>57</sup>

These companies’ access to, and control over, vast amounts of information allows them to match consumers with products, identify trends, and improve users’ online engagement.<sup>58</sup> But

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54. *Complaint for Injunctive and Other Equitable Relief*, *supra* note 17.

55. Ahreum Hong et al., *The Role of M&A in Market Convergence: Amazon, Apple, Google and Microsoft*, 6 GLOBAL ECON & FIN. J. 53 (2013).

56. See Dolata, *supra* note 32, at 23; Stuttgarter Beiträge, *supra* note 45, at 23.

57. Daniel L. Rubinfeld & Michal S. Gal, *Access Barriers to Big Data*, 59 ARIZ. L. REV. 339 (2017).

58. ONLINE PLATFORMS AND THE EU DIGITAL SINGLE MARKET (Oct. 15, 2015) In Google Inc.—Written evidence it described itself as an Internet search engine “that organizes the world’s information and makes it universally accessible.” See Google Inc.—Written evidence (OPL0017), “*Online Platforms and the EU Digital Single Market*”, <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/written/22990.html>. Yahoo in its

they can also use this information to manipulate consumers by influencing people's behavior,<sup>59</sup> political views, decisions, and day to day choices.<sup>60</sup> Furthermore, many consider information to be the main barrier to entry into the market in today's online ecosystem.<sup>61</sup> An information-driven tech company can strengthen its market position by utilizing the data it collects from consumers to improve their online experience and thus generate consumer loyalty.<sup>62</sup> To illustrate, imagine a company that provides online search services. The company is able to use its exclusive possession of information to improve the services and products it offers to users/consumers. The more valuable the search results are to the users, the more likely are they to continue using the company's service and to provide the company with even more information, thus giving it even greater economic power. In this way, information can provide a meaningful competitive advantage.

#### D. Private Regulation

Furthermore, the Internet Giants play an active role as operators and regulators in the online ecosystem. They create, organize, regulate, and control the markets, thus controlling

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report described itself as “an indispensable guide to digital information”, and declared that it was created with one main goal—being a guide to everything on the World Wide Web. See Yahoo—Written evidence (OPL0042), [data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/written/23220.html](http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/written/23220.html); Professor Annabelle Gawer—Supplementary written evidence (OPL0050), *Written Evidence for the Inquiry on Digital Platforms*, <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/online-platforms-and-the-eu-digital-single-market/written/23342.html>.

59. LAWRENCE LESSIG, *CODE AND OTHER LAWS OF CYBERSPACE* (Basic Books, 1999).

60. See Dolata, *supra* note 32, at 23; Stuttgarter Beiträge, *supra* note 45 at 24; Natascha Just & Michael Latzer, *Governance by Algorithms: Reality Construction by Algorithmic Selection on the Internet*, 39 *MEDIA, CULTURE & SOC'Y* 238 (2017); Tarleton Gillespie, *The Relevance of Algorithms*, in *MEDIA TECHNOLOGIES. ESSAYS ON COMMUNICATION, MATERIALITY, AND SOCIETY* 167 (Tarleton Gillespie et al. ed., Cambridge: MIT Press 2014); JOSÉ VAN DIJCK, *THE CULTURE OF CONNECTIVITY. A CRITICAL HISTORY OF SOCIAL MEDIA* (Oxford University Press 2013); ELI PARISER, *THE FILTER BUBBLE: WHAT THE INTERNET IS HIDING FROM YOU* (Penguin Press 2011).

61. UNLOCKING DIGITAL COMPETITION, *supra* note 37, at 39.

62. *Id.*

competition and the entire ecosystem.<sup>63</sup> For example, YouTube—Google’s video platform—acts as an advertising marketplace for companies as well as professional YouTubers. Amazon’s e-commerce platform has integrated a number of independent retailers,<sup>64</sup> and Facebook reaches not only private subscribers but also commercial ones. Each of these entities acts as the operator and regulator of their subscribers’ activity and can affect their online behavior.

Indeed, many of the largest companies operating online enjoy a unique role, organizing and controlling access to both information<sup>65</sup> and products. This self-assigned role has positioned them as the gatekeepers of the online ecosystem. Moreover, this role is likely to grow with the rise of the Metaverse, where virtual worlds will allow people not only to interact with one another, but also to explore and engage in many activities that are now performed mainly in the “real” physical world. The Metaverse will potentially give the Internet Giants even greater power and control over fundamental human interactions and the online ecosystem infrastructure. We argue that this degree of economic power, coupled with the ability to control access to online markets and to exercise significant influence over how various players in the market are remunerated,<sup>66</sup> requires a new and different kind of regulatory competition tool, as we discuss in the next sections.

## II. ONLINE MARKETS: PAST EXPERIENCE

The extraordinary success of the online marketplace is undeniable. Indeed, the Internet Giants are the top five companies traded on the U.S. stock market, with an aggregate market

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63. Stefan Kirchner & Jürgen Beyer, *Die Plattformlogik als digitale Marktordnung: Wie die Digitalisierung Kopplungen von Unternehmen löst und Märkte transformiert*, 45 ZEITSCHRIFT FÜR SOZIOLOGIE 324–339 (2016).

64. See Dolata, *supra* note 32, at 23; Stuttgarter Beiträge, *supra* note 45 at 10.

65. *Public Consultation on the Regulatory Environment for Platforms, Online Intermediaries, Data and Cloud Computing and the Collaborative Economy*, EUROPEAN COMM’N (Sept. 24, 2015), <https://digital-strategy.ec.europa.eu/en/consultations/public-consultation-regulatory-environment-platforms-online-intermediaries-data-and-cloud-computing>.

66. COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS: A DIGITAL SINGLE MARKET STRATEGY FOR EUROPE 11 (European Commission, SWD (2015) 100 Final), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52015DC0192>.

capitalization of \$5.2 trillion, which represents approximately 18 percent of the market capitalization of all U.S. stocks.<sup>67</sup> Accordingly, it should come as no surprise that these companies have received significant attention from competition authorities around the world. Authorities have scrutinized such issues as political influence, privacy issues, and the competition distortion that is the heart of our discussion, prompting a variety of different regulatory responses around the world.<sup>68</sup>

For example, Britain launched the Digital Market Unit (“DMU”) a sub-unit of the Competition and Markets Authority (“CMA”) with the aim of promoting competition in the digital markets and preventing companies such as Google and Meta from using their dominance to harm aggregate consumer welfare by squashing competition from smaller firms.<sup>69</sup> The DMU oversees a new regulatory regime for the most powerful firms operating in the online digital ecosystem. In the words of Britain’s Digital Secretary, Oliver Dowden, “it’s time to address that and unleash a new age of tech growth.”<sup>70</sup> The new unit will have authority to suspend, block, and reverse decisions made by the tech firms (i.e., Internet Giants and others) and to impose penalties for non-compliance. Furthermore, restrictions and practices that

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67. Yun, *supra* note 26.

68. See e.g., Proposal for a Regulation of the European Parliament and of the Council on a Single Market for Digital Services (Digital Services Act) and Amending Directive 2000/31/EC, COM (2020) 825 final (Dec. 15, 2020), <https://eur-lex.europa.eu/legal-content/en/TXT/?qid=1608117147218&uri=COM%3A2020%3A825%3AFIN>; Proposal for a Regulation of the European Parliament and of the Council on Contestable and Fair Markets in the Digital Sector (Digital Markets Act), at 3–4, COM (2020) 842 final (Dec. 15, 2020), [https://ec.europa.eu/info/sites/info/files/proposal-regulation-single-market-digital-services-digital-services-act\\_en.pdf](https://ec.europa.eu/info/sites/info/files/proposal-regulation-single-market-digital-services-digital-services-act_en.pdf); Competition and Antitrust Law Enforcement Reform Act of 2021, S. 225, 117th Cong. (2021); ACCESS Act of 2021, H.R. 3849, 117th Congress (2021); Platform Competition and Opportunity Act of 2021, H.R. 3826, 117th Cong. (2021); Ending Platform Monopolies Act, H.R. 3825, 117th Cong. (2021). See also Lancieri and Sakowski, *supra* note 31; AMY KLOBUCHAR, ANTITRUST: TAKING ON MONOPOLY POWER FROM THE GILDED AGE TO THE DIGITAL AGE (2021).

69. See *Digital Market Unit*, COMPETITION MARKETS AUTH. (Apr. 7, 2021), <https://www.gov.uk/government/collections/digital-markets-unit>.

70. Press Release, *New Competition Regime for Tech Giants to Give Consumers More Choice and Control Over Their Data, and Ensure Businesses are Fairly Treated* (Nov. 27, 2020), <https://www.gov.uk/government/news/new-competition-regime-for-tech-giants-to-give-consumers-more-choice-and-control-over-their-data-and-ensure-businesses-are-fairly-treated>.

are designed explicitly to make it harder for users to use rival platforms will be banned.<sup>71</sup>

The new policy is the product of the CMA's 2020 Market Study Final Report, *Online Platforms and Digital Advertising*.<sup>72</sup> Although the report focused primarily on Google and Meta, its conclusions and recommendations apply similarly to other giant platforms. The report indicates that although Google and Meta began by offering better products than their rivals, with time they have become protected by such strong incumbency advantages—network effects, economies of scale and unparalleled access to user data—that potential rivals can no longer compete on equal terms.<sup>73</sup> The report concludes by pointing out that “The concerns we have identified in these markets are so wide ranging and self-reinforcing that our existing powers are not sufficient to address them. We need a new, regulatory approach – one that can tackle a range of concerns simultaneously, with powers to act swiftly to address both the sources of market power and its effects,<sup>74</sup> and with a dedicated regulator that can monitor and adjust its interventions in the light of evidence and changing market conditions.”<sup>75</sup>

The report also raises concerns about the integration of a wide range of products and services. On the one hand, the integration of a wide range of products and services can deliver efficiency savings and improve the consumer experience overall. On the other hand, however, the increasing expansion of Google and Meta gives rise to competition concerns. Specifically, these platforms can leverage their market power to create opportunities for themselves in adjacent markets, where their size and influence gives them a competitive advantage over potential rivals.<sup>76</sup>

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71. Paul Sandle, *Britain to Curb Google and Facebook with Tougher Competition Rules*, REUTERS (Nov. 27, 2020), <https://www.reuters.com/article/uk-britain-technology-regulations-idUKKBN287004>.

72. ONLINE PLATFORMS AND DIGITAL ADVERTISING: MARKET STUDY FINAL REPORT (Competition & Markets Authority, July 1, 2020), [https://assets.publishing.service.gov.uk/media/5fa557668fa8f5788db46efc/Final\\_report\\_Digital\\_ALT\\_TEXT.pdf](https://assets.publishing.service.gov.uk/media/5fa557668fa8f5788db46efc/Final_report_Digital_ALT_TEXT.pdf) [hereinafter CMA FINAL REPORT].

73. *Id.* at 5.

74. *Id.*

75. *Id.*

76. See, e.g., *Competition Policy—AT.4099 Google Android*, EUROPEAN COMM'N (last visited Mar. 20, 2023) [https://ec.europa.eu/competition/elojade/isef/case\\_details.cfm?proc\\_code=1\\_39740](https://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_39740).

Further, the report indicates that Internet Giants can use their power to protect their most profitable services from competition by convincing consumers to stay and use their products and services, increasing the entry barriers for competitors.<sup>77</sup> In addition, gaining control of adjacent markets can enable the platform control and by that create it status of gatekeeper, as it controls the entry points to their core markets.<sup>78</sup>

A second example of recent regulatory scrutiny into the Internet Giants is the United States House Judiciary Committee's 2019 announcement of a bipartisan investigation into competition in digital markets.<sup>79</sup> Led by the Subcommittee on Antitrust, Commercial and Administrative Law, the investigation's main objectives were to: "(1) document competition problems in digital markets; (2) examine whether dominant firms are engaging in anticompetitive conduct; and (3) assess whether existing antitrust laws, competition policies and current enforcement levels are adequate to address these issues."<sup>80</sup> On October 2020, after a sixteen-month investigation, intense research, and many hearings, the Committee issued its 449-page final report, concluding that big tech companies—specifically, Amazon, Facebook, Apple, and Google—have become too powerful.<sup>81</sup> The report went on to conclude that the time has come to reshape the digital world and reorganize its market power using the conventional tools of antitrust law.<sup>82</sup>

The report walks through each company and describes different competition problems with respect to each. Although not the first report to do so, the House Judiciary Committee report offers a new and different approach: It presents around 40 pages of background and lays down the House Majority's view on the

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77. See CMA FINAL REPORT, *supra* note 72, at 18.

78. *Id.* at 19. It should be maintained that where the adjacent market may impose a competitive constraint in the future (for example, specialized search and display advertising for Google), controlling it can insulate the platform from the future threat of competition.

79. *Competition in Digital Markets*, *supra* note 10.

80. CMA FINAL REPORT, *supra* note 72, at 9; *Competition in Digital Markets*, *supra* note 10.

81. INVESTIGATION OF COMPETITION IN DIGITAL MARKETS: MAJORITY STAFF REPORTS AND RECOMMENDATIONS (Subcommittee on Antitrust, Commercial and Administrative Law of the Committee on the Judiciary, U.S. 2020), <https://www.govinfo.gov/content/pkg/CPRT-117HPRT47832/pdf/CPRT-117HPRT47832.pdf>, [hereinafter MAJORITY STAFF REPORTS].

82. *Id.*

different aspects of competitive harm these platforms have caused. It notes: “the online platforms’ dominance carries significant costs. It has diminished consumer choice, eroded innovation and entrepreneurship in the U.S. economy, weakened the vibrancy of the free and diverse press, and undermined Americans’ privacy.”<sup>83</sup> Yet, the report does not focus on understanding markets, but rather on probing specific companies.<sup>84</sup> As Filippo Maria Lancieri observes, the Committee’s discussion regarding dominant online platforms reads like an indictment of the platforms’ economic power and of the American antitrust establishment’s utter failure to challenge even a single merger or conduct in the digital world.<sup>85</sup>

The Committee report makes numerous recommendations, including specific reforms to address anticompetitive conduct in digital markets and to strengthen merger and monopolization oversight. In addition, the report proposes significant revisions to antitrust law generally. As we discuss further below, the recommendation most relevant to our proposal concerns “structural separations and prohibitions of certain dominant platforms from operating in adjacent lines of business.”<sup>86</sup>

As the Committee explained, the integration of giant online platforms creates a conflict of interest when those entities compete with rivals that depend on their platforms for access to users.<sup>87</sup> The report noted, for example, that “[w]hen operating in adjacent markets, these platforms compete directly with companies that depend on them to access users, giving rise to a conflict of interest. As discussed earlier in this Report, the Subcommittee’s investigation uncovered several ways in which Amazon, Apple, Facebook, and Google use their dominance in one or more

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83. *Id.* at 10.

84. Filippo Lancieri, *How Does the House Antitrust Report on Digital Markets Compare to Others Around the World?*, PROMARKET (Oct. 29, 2020), [promarket.org/2020/10/29/house-antitrust-report-digital-markets-compare-world-competition](https://promarket.org/2020/10/29/house-antitrust-report-digital-markets-compare-world-competition).

85. *Id.* The Committee’s choice to focus on companies rather than on markets is consistent with our approach, as it does not reflect traditional antitrust analysis on but examines various aspects of each entity’s operations.

86. MAJORITY STAFF REPORTS *supra* note 81, at 20.

87. Jeane A. Thomas et al., *House Antitrust Digital Markets Report Proposes Vast Overhaul of Antitrust Law and Enforcement*, LEXOLOGY (Oct. 9, 2020), [www.lexology.com/library/detail.aspx?g=7cfb4768-3323-4a9c-8190-1ff8560aa691](https://www.lexology.com/library/detail.aspx?g=7cfb4768-3323-4a9c-8190-1ff8560aa691).

markets to advantage their other lines of business.”<sup>88</sup> Integration allows these entities to leverage their market power in one business line in negotiations relating to a second business line. For example, they may tie products, lock in users, and insulate the platform from competition, or use profit from one market to subsidize their economic activity in another.

To address this conflict of interest, the Committee recommends new legislation based on two mainstays of the antimonopoly toolkit: “(1) structural separations (prohibiting a platform from operating in markets where that platform competes with firms dependent on it, either through ownership separation and divestitures, or corporate-structure restrictions)” and (2) limits on “the markets in which a dominant firm can engage.”<sup>89</sup>

Another important recommendation relevant to our discussion is the Committee’s proposal to implement merger reforms to reduce market power. As mentioned above, a significant portion of the Internet Giant’s economic power can be attributed to their numerous acquisitions to enhance their dominant position or neutralize competitive threats. The report criticized these types of acquisitions as well as the antitrust agencies’ failure to block a single merger by these entities between 2000 and 2019.<sup>90</sup> To combat this trend, the Committee proposed restoring of anti-monopoly goals of the antitrust laws.<sup>91</sup> We discuss this approach below, as it goes hand in hand with our proposal of inserting aggregate concentration analyses as complementary tools to the classical antitrust tool kit. The Committee’s specific recommendations with respect to mergers reflect this general approach. For example, the Committee recommends “strengthening the Clayton Act to prohibit acquisitions of potential rivals and nascent competitors . . .” and strengthening vertical merger doctrine.<sup>92</sup>

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88. See MAJORITY STAFF REPORTS, *supra* note 81, at 378.

89. *Id.* at 379.

90. Thomas et al., *supra* note 87.

91. MAJORITY STAFF REPORTS, *supra* note 81, at 391. The antitrust laws that Congress enacted in 1890 and 1914—the Sherman Act, the Clayton Act, and the Federal Trade Commission Act—reflected a recognition that unchecked monopoly power poses a threat to our economy as well as to our democracy.

92. *Id.* at 394–395. This could be achieved by clarifying that proving harm on potential competition or nascent competition grounds does not require proving that the potential or nascent competitor would have been a successful entrant in a but-for world.



It bears mentioning that a minority of the Committee Members disagreed with some of the Committee's recommendations and conclusions and drafted their own recommendations. The minority agreed with recommendations to increase resources for antitrust agencies; implement rules for data portability and interoperability; and shift the burden of proof to the merging parties in acquisitions involving digital markets. The minority disagreed with several aspects of the Committee's conclusions, however, including concerning the need for structural separation and delineating a "single line of business" for companies, calling that proposal "a thinly veiled call to break up Big Tech firms. We do not agree with the majority's approach to pass a Big Tech Glass-Steagall Act. Instead, this subcommittee should evaluate tailored and targeted proposals to ensure Big Tech firms are not using their market-dominant positions to crush competition in other lines of business."<sup>93</sup>

Recent decisions by the European Commission as well as the antitrust proceedings against Alphabet mentioned above were focused mainly on questions of market concentration.<sup>94</sup> These decisions emphasize the company's dominance in the following markets: (a) licensable smart mobile operating systems, (b) app stores for Android-based mobile operating systems and (c) search engines.<sup>95</sup> Although dominance itself does not violate the

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93. KEN BUCK, THE THIRD WAY: ANTITRUST ENFORCEMENT IN BIG TECH (Oct. 6, 2020), [https://buck.house.gov/sites/evo-subsites/buck-evo.house.gov/files/wysiwyg\\_uploaded/Buck%20Report.pdf](https://buck.house.gov/sites/evo-subsites/buck-evo.house.gov/files/wysiwyg_uploaded/Buck%20Report.pdf)

94. *See generally*, European Commission (Apr. 20, 2016), [http://ec.europa.eu/competition/antitrust/cases/dec\\_docs/40099/40099\\_4857\\_6.pdf](http://ec.europa.eu/competition/antitrust/cases/dec_docs/40099/40099_4857_6.pdf). When discussing concentration in the context of antitrust laws, it is common to distinguish between market concentration and aggregate concentration. This distinction is due to fact that the market concentration pertains to the dominance of the market for specific products. Conversely, aggregate concentration stresses the dominance of the "the degree of control of some aggregate economic activity such as assets, profits, or sales, by a relatively small number of firms. *See* Edward Nissan, *Effects of Antitrust Enforcement on Aggregate Concentration*, 25 J. ECON. STUD. 112 (1998). When discussing concentration in the context of antitrust laws, it is common to distinguish between market concentration and aggregate concentration. This distinction is due to fact that market concentration pertains to the dominance of the market for specific products. Conversely, aggregate concentration stresses the dominance of the "the degree of control of some aggregate economic activity such as assets, profits, or sales, by a relatively small number of firms." (European Commission, *Competition Policy – AT.40099 Google Android*, [ec.europa.eu/competition/elojade/isef/case\\_details.cfm?proc\\_code=1\\_40099](http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_40099).)

95. Google Android (Case COMP/AT.40099), Commission decision of July 18, 2018, [https://ec.europa.eu/competition/antitrust/cases/dec\\_docs/40099/4009](https://ec.europa.eu/competition/antitrust/cases/dec_docs/40099/4009)

EU antitrust rules, it is a central element in any traditional antitrust analysis.

Antitrust rules generally aim to foster a competitive economy to protect consumers and maximize their welfare, rather than to protect small businesses from larger ones.<sup>96</sup> Thus, an essential preliminary step in most forms of antitrust inquiry involves an assessment of market power, which normally requires that the relevant market be identified and defined.<sup>97</sup>

#### A. The Traditional Competition Analyses – Challenges

Market definition plays an important and essential part in antitrust laws. A relevant product market comprises all products and/or services that are regarded as substitutable by the consumer (based on product characteristics, price, and intended use).<sup>98</sup> The relevant geographic market comprises the area in which the companies concerned are involved in the supply of products or services and in which the conditions of competition are sufficiently homogeneous.<sup>99</sup> Importantly however, “[t]he

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9\_9993\_3.pdf.(stating that “throughout the duration of the Infringement, Google not only held a dominant position in the worldwide market (excluding China) for the licensing of smart mobile OSs, the worldwide market (excluding China) for Android app stores and the national market for general search services in the EEA, but its market shares were generally above 90% in all relevant markets”).

96. Ernest Gellhorn, *An Introduction to Antitrust Economics*, 1975 DUKE L.J. 1. *See also* Frank H. Easterbrook & Daniel R. Fischel, *Antitrust Suits by Targets of Tender Offers*, 80 MICHIGAN L. REV. 1155, 1157–58 (1982) (noting that the purposes of antitrust laws have been subject to dispute over the years).

97. PROJECT ON MERGER GUIDELINES: REPORT FOR THE THIRD ICN ANNUAL CONFERENCE IN SEOUL, INT’L COMPETITION NETWORK (2004), [https://www.internationalcompetitionnetwork.org/wp-content/uploads/2018/05/MWG\\_MergerGuidelinesReport.pdf](https://www.internationalcompetitionnetwork.org/wp-content/uploads/2018/05/MWG_MergerGuidelinesReport.pdf), at 6; ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENTS (OECD), POLICY ROUNDTABLE: MARKET DEFINITION (2012), <http://www.oecd.org/daf/competition/Marketdefinition2012.pdf>.

98. *See Commission Notice – On the Definition of Relevant Market for the Purpose of Definition of Community Competition Law*, art. 7 (97/C 372/03, Dec. 9, 1997), [https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:31997Y1209\(01\)](https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:31997Y1209(01)) [hereinafter *Commission Notice* (1997)].

99. *See generally* Eur-Lex, *Definition of Relevant Market – Summary of Commission Notice on the Definition of Relevant Market for the Purposes of Community Competition Law* (Oct. 26, 2021), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=LEGISSUM%3A126073> [hereinafter *Definition of Relevant Market – Summary* (2021)].

definition of the relevant market is not an end in itself.”<sup>100</sup> Rather, ascertaining the relevant market is a threshold inquiry that allows for an analysis of whether a particular entity has a dominant position that it abuses in a way that harms competition and, consequently, consumer welfare.<sup>101</sup>

Market definition plays a central role in EU antitrust law.<sup>102</sup> According to the Commission Notice on the definition of relevant market for purposes of Community competition law, “[t]he main purpose of market definition is to identify in a systematic way the competitive constraints that the undertakings involved face.”<sup>103</sup> The notice further clarifies that the relevant market test includes the examination of factors pertaining to the relevant product market and the relevant geographical market.<sup>104</sup>

While the delineation of the relevant market thus has significant consequences for any traditional antitrust discussion,<sup>105</sup> defining the relevant market in the digital context can be difficult in practice. Indeed, in the last decade, the traditional

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100. *Roundtable on Market Definition – Note by the Delegation of the European Union* (DAF/COMP/WD(2012)28, May 31, 2012), [https://ec.europa.eu/competition/international/multilateral/2012\\_jun\\_market\\_definition\\_en.pdf](https://ec.europa.eu/competition/international/multilateral/2012_jun_market_definition_en.pdf).

101. Article 102 TFEU; ARTICLE 101(1) AND (3) TFEU.

102. See e.g., E.C.J., Case 6/72, *Continental Can Company Inc. v. New York (USA)*, [1973] E.C.R. 217, para. 14; E.C.J., Case 27/76, *United Brands Company v. Commission*, [1978] E.C.R. 209, para. 11.

103. *Commission Notice on the Definition of Relevant Market for the Purposes of Community Competition Law*, para. 2 (Official J. EC, 372/5 Dec. 9, 1997).

104. See, generally, *Definition of Relevant Market – Summary* (2021), *supra* note 99. See also RICHARD WHISH & DAVID BAILEY, *COMPETITION LAW* 30 (Oxford, 7th Ed. 2012); ROBERT O'DONOGHUE & JORGE PADILLA, *THE LAW AND ECONOMICS OF ARTICLE 102 TFEU* 95 (Hart Publishing, 2nd ed. 2013); SIMON BISHOP & MIKE WALKER, *THE ECONOMICS OF EC COMPETITION LAW: CONCEPTS, APPLICATION AND MEASUREMENT* 113 (Sweet & Mawell, 3d ed. 2010).

105. Vivek Ghosal, *Assessing Potential Competition in Antitrust Markets*, in *THE INTERNATIONAL HANDBOOK OF COMPETITION* 265 (2nd ed. 2013).

definition of “relevant market” has come under attack,<sup>106</sup> particularly in the United States and in academic literature.<sup>107</sup>

In September 2020, the U.S. Department of Justice issued a Merger Remedies Manual, which<sup>108</sup> explicitly relies upon the relevant market notion but suggests that rivalry from adjacent markets appears to provide more vigorous competition in digital markets than competition within the relevant market.<sup>109</sup>

These developments raise the question of whether competition policy should evolve away from its traditional price-oriented emphasis. While a thorough examination of the challenges the online ecosystem presents to traditional antitrust discourse is beyond the scope of this paper, the following paragraphs summarize some of the leading obstacles.

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106. Aurelien Portuese, *The (Ir)Relevance of Relevant Markets*, J. APPLIED BUS. & ECON (forthcoming 2022); Foo Yun Chee, *EU Regulators to Review Rules Defining Companies' Market Power*, REUTERS (Dec. 9, 2019), <https://www.reuters.com/article/us-eu-antitrust-idUSKBN1YD127>; Charley Connor, *DG Comp Launches Review of Market Definitions*, GLOB. COMPETITION REV. (Dec. 9, 2019), <https://globalcompetitionreview.com/article/dg-comp-launches-review-of-market-definitions>; James Booth, *Margrethe Vestager Says EU will Review Competition Rules in Light of Increasing Digitalization*, CITY A.M. (Dec. 9, 2019), <https://www.cityam.com/1302752-2>; Viktoria H.S.E. Robertson, *The EU's Attempt at Updating Antitrust Market Definition for the Digital Age*, PROMARKET (July 21, 2020), <https://www.promarket.org/2020/07/21/the-eus-attempt-at-updating-antitrust-market-definition-for-the-digital-age>; Foo Yun Chee, *EU's Vestager Working on Criteria to Define Market Influence*, REUTERS (Oct. 26, 2020), <https://www.reuters.com/article/uk-eu-antitrust-idUKKBN27B2BK>. Louis Kaplow, *Market Definition*, in ROGER D. BLAIR & DANIEL D. SOKOL, THE OXFORD HANDBOOK OF INTERNATIONAL ANTITRUST ECONOMICS, Vol. 1, 1 (2015) (referring to the economics of market definition as an “oxymoron”).

107. James A. Keyte & Neal R. Stoll, *Markets? We Don't Need no Stinking Markets! The FTC and Market Definition*, 49.3 ANTITRUST BULL. 593 (2004); Gopal Das Varma, *Market Definition, Upward Pricing Pressure, and the Role of Courts: A Response to Carlton and Israel*, ANTITRUST SOURCE (Dec. 2010); Dennis W. Carlton, *Market Definition: Use and Abuse* (Working Paper, Competition Policy International 2007); Wolfgang Briglauer, *Conceptual Problems with the Hypothetical Monopolist Test in Ex-Ante Regulation of Communications under the New Regulatory Framework*, 4 J. of Competition L. & Econ. 311 (2007); Jonathan Baker, *Market Definition: An Analytical Overview*, 74 ANTITRUST L.J. 129 (2007); JONATHAN BAKER & TIMOTHY F. BRESNAHAN, ECONOMIC EVIDENCE IN ANTITRUST: DEFINING MARKETS AND MEASURING MARKET POWER, in PAOLO BUCCIROSSI (Handbook of Antitrust Economics, Cambridge MA: MIT Press 2006).

108. U.S. DEPARTMENT OF JUSTICE (ANTITRUST DIVISION), MERGER REMEDIES MANUAL (Sep. 2020), <https://www.justice.gov/atr/page/file/1312416/download>.

109. Portuese, *supra* note 106, at 17.

To begin, it is difficult to speak of online commercial activities in terms of a clearly defined relevant market.<sup>110</sup> As previously noted, there are two main prongs to the relevant market inquiry: (1) product market; and (2) geographical market.<sup>111</sup> Several elements are commonly used to determine the relevant product market. The first is the demand-side substitutability; the second pertains to the supply-side substitutability; and the last concerns potential competition.<sup>112</sup> For some products, such as books, textiles, jewelry, and other physical products that are sold online, the fact that they are offered to consumers via online merchants should not raise any special methodological issues when delineating the boundaries of the relevant products.<sup>113</sup> Yet the Internet facilitates “commercially diverse activities, especially in advertising, commerce, mediation services and the sale of multi-function devices.”<sup>114</sup> For some of these categories, it might be tricky to attempt to place boundaries around the relevant products or services. Seeing that, unlike traditional products offered by traditional brick-and-mortar retailers, Internet Giants main products and services are based on the extraction, categorization, analysis and utilization of unique datasets. The next section will tackle the main difficulties in using the traditional competition analyses in the online ecosystem.

#### B. The Digital Online Ecosystem and Competition Law Challenges

Because the Internet is a virtual environment, it is challenging to define the boundaries of its market. For example, Google’s search engine competes with other search engine providers to

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110. Dynamic market, such as the internet markets, might be hard to define and therefore less subject to the conventional antitrust analysis.

111. See *Commission Notice* (1997), *supra* note 98.

112. *Id.* at art. 13–23.

113. It is important to note that “the Commission has distinguished between mail order sales and other forms of retail, for example in case IV/M.070 (Otto/Grattan). In another prior case relating to book retail (case IV/M.1112 Advent International/EMI/W. H. SMITH), the Commission also pointed to the subdivision of the market between sales through shops and sales via mail order, Internet, book clubs, etc.” See Case No. IV/M.1407 – Bertelsmann/Mondadori (Notification of 18 March 1999 pursuant to Article 4 of Council Regulation No 4064/89), [http://ec.europa.eu/competition/mergers/cases/decisions/m1407\\_en.pdf](http://ec.europa.eu/competition/mergers/cases/decisions/m1407_en.pdf).

114. See Dolata, *supra* note 32, at 6.

offer Internet search services to users.<sup>115</sup> Yet, Google derives most of its revenue not from these services but from online contextual advertisement.<sup>116</sup> So, the question is whether the relevant product market is for search engine services or for contextual advertising services.<sup>117</sup> This question arises frequently in the online context as a result of the two-sided market aspects of many online services.<sup>118</sup> We elaborate on this issue below.

### 1. Zero-Price Products

The traditional approach to competition analyses recognizes a market as such when there is direct monetary exchange, i.e. when a consumer is charged for goods or services she receives. Absent such an exchange, there is no market in an economic sense.<sup>119</sup> One of the characteristics of the online ecosystem, however, is the common use of zero-price products.<sup>120</sup> This situation, which is consistent with a two-sided market, is known as attention platforms or attention markets. In the past, commentators have expressed the view that competition authorities do not take zero price markets seriously and tend to ignore rather than

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115. Nicolo Zingales, *Product Market Definition in Online Search and Advertising*, 9 COMPETITION L. REV. 29, 33 (2013).

116. Matthew Johnston, *How Google (Alphabet) Makes Money*, INVESTOPEDIA (Feb. 25, 2022) <https://www.investopedia.com/articles/investing/020515/business-google.asp>; Megan Graham & Jennifer Elias, *How Google's \$150 Billion Advertising Business Works*, CNBC (May 18, 2021) <https://www.cnbc.com/2021/05/18/how-does-google-make-money-advertising-business-breakdown.html>.

117. See, e.g., William K. Li, *Google and Antitrust*, 27 MICHIGAN IT LAW. 7, 10 (2010).

118. For an interesting discussion of the relevant product market for online advertising, see the Federal Trade Commission statement concerning Google's purchase of DoubleClick. See Fed. Trade Comm'n, *Proposed Acquisition of Hellman & Friedman Capital Partners V, LP, (Click Holding Company) By Google Inc.* (FTC File No. 071-0170, Statement of Federal Trade Commission Concerning Google/DoubleClick, Dec. 20, 2007) [www.ftc.gov/os/caselist/0710170/071220statement.pdf](http://www.ftc.gov/os/caselist/0710170/071220statement.pdf); Jared Kagan, *Bricks, Mortar, and Google: Defining the Relevant Antitrust Market for Internet-Based Companies*, 55 N.Y.U. L. REV. 271, 285–88 (2010).

119. Natascha Just, *Governing Online Platforms: Competition Policy in Times of Platformization*, 42 TELECOM. POL'Y 386, 388 (2018).

120. QUALITY CONSIDERATIONS IN DIGITAL ZERO-PRICE MARKETS: BACKGROUND NOTE BY THE SECRETARIAT (Nov. 28, 2018) [https://one.oecd.org/document/DAF/COMP\(2018\)14/en/pdf](https://one.oecd.org/document/DAF/COMP(2018)14/en/pdf).

analyze them.<sup>121</sup> More recently however, there has been an acknowledgment in the literature that attention platforms have a crucial place in the modern economy.<sup>122</sup> According to the Furman Report, zero prices do not necessarily reflect a competitive market equilibrium, as prices could be negative—that is, consumers could be rewarded for their data and attention.<sup>123</sup> Accordingly, there is a need to address these markets' increased importance.

Although the unique nature of the multi-sided online market has been the subject of many discussions,<sup>124</sup> no unified theory of two- or multi-sided markets has yet emerged.<sup>125</sup> Below we summarize aspects of the literature on multi-sided platforms that are relevant to competition analyses, including price structure, zero priced services and network effects.

The first scholars to try and shape the definition of a multi-sided platform were Rochet and Tirole in 2006. Their definition focused on the price structure in two-sided platforms: “A market is two-sided if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount; in other words, the price structure matters, and platforms must design it so as to bring both sides on board.”<sup>126</sup>

A year later, Evans and Schmalenese presented a less formal definition that captures, to their opinion the key features of a platform. They described a multi sided platform as having four

121. David S. Evans, *The Antitrust Economics of Free 3* (John M. Olin Law & Economics Working Paper No. 555 (2d Series), Chi. L. School, Chi. U., May 2011).

122. John M. Newman, *Antitrust in Zero-Price Markets: Applications*, 94 WASH. U. L. REV. 49, 51 (2016).

123. UNLOCKING DIGITAL COMPETITION, *supra* note 37, at 42; Competition and Markets Authority, *Online Platforms and Digital Advertisement Market Study 8* (Final Report, July 3, 2019), <https://www.gov.uk/cma-cases/online-platforms-and-digital-advertising-market-study>.

124. Mark Armstrong, *Competition in Two-Sided Markets* 37 RAND J. ECON. 668 (2006); Bernard Caillaud & Bruno Jullien, *Chicken & Egg: Competition Among Intermediation Service Providers*, 34 RAND J. ECOC. 309 (2003); David S. Evans, *Some Empirical Aspects of Multi-Sided Platform Industries*, 2 REV. NET. ECON. 191 (2003) [hereinafter Evans (2003)]; Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. EURO. ECON. ASSOC. 990 (2003) [hereinafter Rochet & Tirole (2003)]; Jean-Charles Rochet & Jean Tirole, *Two-Sided Markets: A Progress Report*, 37 RAND J. Econ. 645 (2006) [hereinafter Rochet & Tirole, *Two-Sided Markets*]; Marc Rysman, *The Economics of Two-Sided Markets*, J. ECON. PERSP. 125 (2009).

125. Just, *supra* note 119, at 387.

126. See Rochet & Tirole, *Two-Sided Markets*, *supra* note 124.

main features: “(a) two or more groups of customers; (b) who need each other in some way; (c) but who cannot capture the value from their mutual attraction on their own; and (d) rely on the catalyst to facilitate value creating interactions between them.”<sup>127</sup> Their main focus was on the reduced transaction cost that these platforms create, making them attractive and efficient.<sup>128</sup>

The majority of commentators appear to agree with Rochet and Tirole’s 2006 definition.<sup>129</sup> In this kind of situation, one side is likely to pay much more than the marginal cost while, the price is significantly lower for the other side, or even zero. In this scenario, the traditional antitrust analysis will encounter a problem applying the SSNIP test - Small but Significant and Non-transitory Increase in Price Test,<sup>130</sup> as it considers this behaviour predatory pricing or an abuse of dominant market power. Yet in the unique environment of the online ecosystem, such conduct is not considered anticompetitive.<sup>131</sup> For example, Amazon provides sellers and buyers an online marketplace. The more sellers offer their products via Amazon, the more users are likely to use the platform and vice versa. Accordingly, an increase or decrease in demand on one side of the market should be taken into consideration when exploring price elasticity on the other side. Put simply, relying on price as indication of power could lead to distorted results. The SSNIP test thus cannot be used properly when dealing with two-sided markets or zero-

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127. David S. Evans & Richard Schmalensee, *The Industrial Organization of Markets with Two-Sided Platforms* (Working Paper 11603, National Bureau of Economic Research, Sep. 2005); David S. Evans & Richard Schmalensee, *The Antitrust Analysis of Multi-sided Platform Businesses* 7 (Institute for Law and Economics Working Paper No. 623 (2d Series), Chi. L. School, Chi. U., Dec. 2011), [https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1482&context=law\\_and\\_economics](https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1482&context=law_and_economics).

128. This work built upon the work of Jean Tirole.

129. Rochet & Tirole, *Two-Sided Markets*, *supra* note 124, at 665.

130. The SSNIP is some of a quantitative method use to defying elasticities of customer demand. The test use to determent whether a hypothetical small (in the range 5 % to 10 %) but permanent relative price increase in the products will influence costumers to switch to readily available substitutes or to suppliers located elsewhere. See 4TH INTERNATIONAL SCIENTIFIC CONFERENCE EMAN 2020 – ECONOMICS & MANAGEMENT: HOW TO COPE WITH DISRUPTED TIMES (Conference Proceedings, Online/Virtual, Sep. 3, 2020). For a wide discussion of the problem see Lancieri & Sakowski, *supra* note 31.

131. Julian Wright, *One-Sided Logic in Two-Sided Markets*, 3 REV. NET. ECON. 44 (2004).



priced products, as quality and innovation are more important than price in these contexts.

The 2007 case *Kinderstart.com v. Google* illustrates the difficulty of applying the SSNIP test in the context of zero price markets.<sup>132</sup> The PageRank system offered by Google rates the usefulness of websites. To put it another way, it is used to determine the importance or relevance of a web page.<sup>133</sup> KinderStart, a company that runs directory and search engines, alleged that Google used its dominant position to deflate and manipulate its PageRank.<sup>134</sup> In this case, markets for zero-priced goods did not recognized by the court as markets for the purpose of competition analyses. The Court determined that: “KinderStart cites no authority indicating that antitrust law concerns itself with competition in the provision of free services. [ . . . ]<sup>135</sup> Thus, the Search Market is not a “market” for purposes of antitrust law.<sup>136</sup> The court reasoned that because Google’s search engine is available for free to end users, it lacked a defined market and thus could not be subject to antitrust liability. The court did not consider the hidden value of zero cost transactions and ignored the rational strategy concerning zero price markets.<sup>137</sup>

To fully understand this point, we need to elaborate with regard to the two-sided nature of many leading online platforms.<sup>138</sup> In a two-sided market, the “intermediary” provides two distinct groups of users a meeting place.<sup>139</sup> Meta, for example,

132. *Kinderstart.com LLC v. Google Inc.* Case C 06-2057 JFRS, 2007 WL831806 (N.D. Cal. Mar. 16, 2007).

133. Annabelle Gawer et al., *Online Platforms: Economic and Societal Effects*, EUROPEAN PARLIAMENT, 5 (2021) [https://kclpure.kcl.ac.uk/portal/files/149143202/EPRS\\_STU\\_2021\\_656336\\_EN.pdf](https://kclpure.kcl.ac.uk/portal/files/149143202/EPRS_STU_2021_656336_EN.pdf).

134. *Kinderstart.com LLC v. Google Inc.* Case C 06-2057 JFRS, 2007 WL831806 (N.D. Cal. Mar. 16, 2007).

135. *Id.*

136. *Id.*

137. Michael Gal & Daniel L. Rubinfeld, *The Hidden Costs of Free Goods: Implications for Antitrust Enforcement*, 80 ANTITRUST L.J. 521, 549 (2015).

138. It is interesting to note that the European Commission affirmed the two-sided nature of online platform in the Travelport/Worldspan decision. See Case No. COMP/M.4523 - Travelport/Worldspan (Regulation (EC) No, 139/2004 Merger Procedure. Aug. 21, 2007), [https://ec.europa.eu/competition/mergers/cases/decisions/m4523\\_20070821\\_20682\\_en.pdf](https://ec.europa.eu/competition/mergers/cases/decisions/m4523_20070821_20682_en.pdf).

139. David S. Evans & Richard Schmalensee, *Markets with Two-Sided Platforms*, 1 COMP. L. & POL’Y 667 (2008) [hereinafter Evans & Schmalensee (2008)]; Florence Thepot, *Market Power in Online Search and Social Networking: A Matter of Two-Sided Markets* (Research Paper Series 4/2012, UCL, Sep. 2012); Bernard Caillaud & Bruno Jullien, *Competing Cybermediaries*, 45 EURO.

brings together both users and advertisers. The vast literature addressing the phenomenon of two-sided markets emphasizes the benefits such an intermediary brings to each group by minimizing search and transaction costs.<sup>140</sup> In addition, it teaches us that each user group exhibits not only a direct network effect resulting from additional participation of members on their side of the market (e.g., additional Meta users), but also a positive cross-side network effect resulting from an increased number of participants on the other side of the market, *i.e.* the advertisers.<sup>141</sup> For these reasons, tools commonly used to assess price elasticity should be carefully applied in a two-sided market and must take into consideration the network effect between the two sides,<sup>142</sup> which complicates the analysis of price effects, since high prices charged on one side of the platform do not necessarily mean that platforms have market power or that a given conduct has anticompetitive effects.<sup>143</sup>

The current predominance of price competition is a legacy of the price-theory roots of industrial organization economics, where its well-proven models for quantifying price and output effects<sup>144</sup> made it the bedrock of competition analyses. Indeed, the classic competition analyses use the standard framework of the SSNIP test to evaluate markets competition. Usually this test will scrutinize demand and supply responses under the assumption that a hypothetical monopolist introduces a small but significant non-transitory increase in price, which is usually between 5 and 10 percent.<sup>145</sup> The question that arises is how

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ECON. REV. 797 (2001); Rochet & Tirole (2003), *supra* note 124; Armstrong, *supra* note 124.

140. See e.g. Evans & Schmalensee (2008), *supra* note 139; The'pot, *supra* note 139.

141. See Sebastian Voigt & Oliver Hinz, *Network Effects in Two-Sided Markets: Why a 50/50 User Split is not Necessarily Revenue Optimal*, 8 BUS. RES. 139 (2015); Armstrong, *supra* note 124; David S. Evans, *The Antitrust Economics of Two-Sided Markets*, 20 YALE J. REGUL. 325 (2003).

142. See The'pot, *supra* note 139.

143. *Big Data and Innovation: Key Themes for Competition Policy in Canada* 5 (Competition Bureau – Canada, Feb. 19, 2018), [https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/CB-Report-BigData-Eng.pdf/\\$file/CB-Report-BigData-Eng.pdf](https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/vwapj/CB-Report-BigData-Eng.pdf/$file/CB-Report-BigData-Eng.pdf).

144. Oliver Budzinski, *Modern Industrial Economics: Open Problems and Possible Limits*, in COMPETITION POLICY AND THE ECONOMIC APPROACH: FOUNDATIONS AND LIMITATIONS 111 (Josef Drexler, Wolfgang Kerber & Rupprecht Podszun eds., Cheltenham: Elgar 2011).

145. Just, *supra* note 119, at 388.

competition law should deal with the Internet Giants. Lancieri and Sakowski have argued that antitrust authorities should focus their analysis on the exercise of market power, theories of harm to competition, and the identification of anticompetitive strategies—and less on traditional analysis that depends on defining relevant markets.<sup>146</sup>

A move away from traditional antitrust analysis can be seen in the *Evermaps/Bottin Cartographes v. Google Inc. & Google France* case.<sup>147</sup> Tribunal de commerce de Paris awarded damages to Evermaps on its claim that Google was exploiting its dominant position by engaging in predatory pricing and offering map services for free, but the Paris Court of Appeals reversed, acknowledging that Google's pricing structure was rational in a multi-sided market and necessary to Google business model to attract customers on the other side of the market.<sup>148</sup> This decision creates official recognition of the unique nature of the online ecosystem and an understanding that its pricing structure<sup>149</sup> which may result in little—or even no—payment. In the absence of price, classic competition analyses are inadequate.

Although not all online tech giants operate in a two-sided market, when discussing price in the context of the online ecosystem, we cannot and should not ignore the practical implications of the two-sided market.<sup>150</sup> First, as Florence The'pot has

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146. Lancieri & Sakowski, *supra* note 31; STIGLER COMMITTEE ON DIGITAL PLATFORMS – FINAL REPORT (Stigler Center of the Study of the Economy and the State, Chi. Booth 2019), <https://research.chicagobooth.edu/-/media/research/stigler/pdfs/digital-platforms---committee-report---stigler-center.pdf?la=en&hash=2D23583FF8BCC560B7FEF7A81E1F95C1DDC5225E> [hereinafter STIGLER REPORT]; *Big Data and Innovation*, *supra* note 143.

147. *Bottin Cartographes v. Google Inc. & Google France* (Judgment of the 15th Chamber of the Paris Commercial Tribunal, Jan. 31, 2012).

148. Just, *supra* note 106, at 387; Autorité de la concurrence (2014). Avis n° 14-A-18 du 16 décembre 2014 rendu à la cour d'appel de Paris concernant un litige opposant la société Bottin Cartographes SAS aux sociétés Google Inc. et Google France. [Opinion No. 14-A-18 of 16 December 2014 delivered to the Paris Court of Appeal concerning a dispute between the company Bottin Cartographes SAS and Google Inc. and Google France], <https://www.autoritedelaconcurrence.fr/fr/liste-des-decisions-et-avis>; Pôle 5-Chambre 4. Arrêt du 25 novembre 2015, No. 12/02931. [Pôle 5-Chambre 4. Decision of 25 November 2015, No. 12/02931], [https://www.autoritedelaconcurrence.fr/doc/google\\_ca\\_25\\_nov\\_15.pdf](https://www.autoritedelaconcurrence.fr/doc/google_ca_25_nov_15.pdf).

149. See, e.g., Evans (2003), *supra* note 124.

150. See The'pot, *supra* note 139. For further discussion of the errors resulting from ignoring the two-sided characteristics of a given market see Wright, *supra* note 131.

argued, in a two-sided market we must examine price elasticity for both sides. So, in the case of Google, price elasticity must be evaluated with respect to both users and advertisers. With regard to the advertisers' side of the market, the company charges advertisers a fee. Thus, it is possible to evaluate the cross-elasticity of demand based on an increase in advertising rate and its effect on the demand for advertising.<sup>151</sup> However, assessing the price elasticity with regard to the user side of the market could be more problematic, mainly due to the fact that many products and services are offered at no monetary cost.<sup>152</sup> For instance, although Google controls a large portion of the search engine market,<sup>153</sup> it provides its search services for free, making it challenging to examine price elasticity.<sup>154</sup>

Some scholars have argued, consistently with the court's decision in *KinderStart*, that where products and services are offered for "free," there can be no anticompetitive effects.<sup>155</sup> We argue, however, that one must differentiate between products and services that are offered for free and those that are offered in exchange for something other than monetary compensation. Using this broader definition of "price," one can see that Google and Meta do not offer their services and products for "free." Indeed, in today's economy, the currency we use to pay for the services of these tech companies arguably is not money but data.<sup>156</sup>

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151. See, e.g., *Tradecommet.com LLC v. Google Inc.*, 693 F. Supp. 2d 370 (No. 09-CIV-1400, U.S.D.C. NY, Feb. 17, 2009). In this case, TradeComet's, a competing search engine, has claimed that Google attempted to reduce traffic at Tradecommet's website by increasing Tradecommet's advertising costs and entering into exclusive agreements with other websites.

152. Howard A. Shelanski, *Information, Innovation, and Competition Policy for the Internet*, 161 U. PA. L. REV. 1663, 1667 (2013).

153. The company currently holds more than 90% of the search engine market share worldwide. See *Search Engine Market Share Worldwide*, STATCOUNTER GLOBALSTATS, <http://gs.statcounter.com/search-engine-market-share> (with bing holding 3.1%, Yahoo 2.46%, Baidu 1.37%, Yandex RU 0.5% and Shenma around 0.3%).

154. Magali Eben, *Market Definition and Free Online Services: The Prospect of Personal Data as Price*, 14 J.L. & POL'Y FOR INFO. SOC'Y 222, 227–30 (2018).

155. Maurice E. Stucke & Allen P. Grunes, *No Mistake about It: The Important Role of Antitrust in the Era of Big Data* (Research Paper # 269, The Antitrust Source, U. Ten. Legal Studies, May 2015); Kagan, *supra* note 118, at 277.

156. The term new economy, although not representing a new concept, could be attributed in the context of antitrust discourse to Evans & Schmalensee. See, David S. Evans & Richard Schmalensee, *Some Economic Aspects of Antitrust Analysis of Dynamically Competitive Industries* (Working Paper 8268, National

Viewed in this light, Meta and Google do not operate in a zero-price market. They offer their products and services to consumers in exchange for valuable personal data to generate revenue from other sources, including online advertising.<sup>157</sup> Notably, they can later use this very same currency competitively. For instance, we argue that as the biggest and most popular social media platform today, Meta is able to collect one of the largest datasets of personal data. Meta can use this data in its newly established Meta Dating service not only to provide users better dating services, but also to gain instant dominance in the market for data services and raise the entry barriers to any potential competitor.

To conclude, as non-price issues become ever more significant in competition cases involving the online ecosystem, policy needs to move further away from its traditional price-oriented emphasis and towards a new framework for addressing competition in this context.

## 2. No Geographical Boundaries

The second prong of any relevant market discussion pertains to the discussion of the geographic dimension. The geographic area where consumers can buy the relevant product and the geographic area where the relevant company faces competition make up the concept of the relevant geographic market, respectively.<sup>158</sup> Because at its core, this prong asks how far the consumer will travel for the product, issues are bound to arise in the online environment. The World Wide Web has neither physical presence nor geographical boundaries. One approach could be to define the relevant geographic market as “the Internet.”<sup>159</sup> But this approach would make sense in only a very narrow category of cases, where the relevant product or service is offered exclusively online. Moreover, even in such cases, it is hard to portray “the Internet” as a geographical location, which courts

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Bureau of Economic Research, May 2001), <http://www.nber.org/papers/w8268.pdf> [hereinafter Evans & Schmalensee (2001)].

157. See, Eben *supra* note 154, at 232 (suggesting to view information as a form of currency and integrate this feature into relevant market analysis); Newman, *supra* note 108, at 165.

158. Kagan, *supra* note 118, at 279. See also Charles Carson Eblen, *Defining the Geographic Market in Modern Commerce: The Effect of Globalization and E-Commerce on Tampa Electric and Its Progeny*, 56 BAYLOR L. REV. 49, 53 (2004).

159. See, Eben, *supra* note 154, at 79.

sometimes require.<sup>160</sup> An alternative approach is to use certain characteristics of the relevant product or website (*e.g.*, language, sale distribution, etc.) to determine the relevant geographic market.<sup>161</sup> Nevertheless, adopting the first or the latter approach, will largely depend on whether or not brick-and-mortar store substitutes are available. The difficulty in defining geographic boundaries in an online market add further challenges when attempting to define the relevant product market.

In sum, for many of the leading online companies, ascertaining traditional relevant product market indicators may prove to be challenging. Traditional analysis becomes even more complex due to the many different markets each platform operates. Furthermore, the constant introduction of new functionalities in products and services may diminish the value of historical analysis or may lead to the definition of relevant markets that is either over- or underinclusive.<sup>162</sup> By contrast, a different and novel approach to regulating competition can focus the analysis on the impact of aggregate concentration on the market.<sup>163</sup>

### III. AGGREGATE CONCENTRATION AND THE IMPACT ON THE MARKET

The literature offers a variety of definitions to describe the phenomenon of aggregate concentration, which deal mainly with the description of its effects and various indices. As of today, there is no uniform economic test for ascertaining the existence of aggregate concentration. Researchers use varying economic tests that rely on different indices. These lead to mixed results that limit the ability to define the issue properly. Given the central role the concept of aggregate concentration plays in this paper, we begin this discussion with a short survey and explanation of the idea of aggregate concentration.

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160. Kagan, *supra* note 118, at 282–84.

161. *See for example* Case No. IV/M.1459 - BERTELSMANN /HAVAS / BOL (Regulation (EEC) No. 4064q89 Merger Procedure, art. 6(1)(b) Non-Opposition, May 6, 1999), [https://ec.europa.eu/competition/mergers/cases/decisions/m1459\\_en.pdf](https://ec.europa.eu/competition/mergers/cases/decisions/m1459_en.pdf).

162. Lancieri & Sakowski, *supra* note 31.

163. The term aggregate or economy-wide concentration is not a new term. Lyle L. Jones was among the first to suggest using it within the context of anti-trust policy in 1969, in view of the level of economic concentration in the United States at that time. *See* Lyle L. Jones, *Aggregate Concentration*, 38 ANTITRUST L.J. 664, 678 (1969).

Lawrence and Snow, for example, described aggregate concentration as measuring the extent of joint economic activity attributed to a relatively small number of companies assessed together.<sup>164</sup> According to them, this concentration is most often measured in terms of total sales volume or total assets; concentration indices deal primarily with aspects of concentration of broad economic power and its definition, by measuring the relative position of large groups in a given economy.<sup>165</sup> By contrast, Hughes and Kumar chose to assess the levels of aggregate concentration by measuring the relative position of the large groups with respect to employment,<sup>166</sup> whereas Saghafi and Attaran examined the relative position of the groups in terms of assets, sales, and equity.<sup>167</sup>

The lack of a coherent, generally accepted test might seem like a major flaw, but it should not impede policymakers and regulators from using aggregate concentration as a supplementary tool in analyzing the online ecosystem and behavior of Internet Giants. In fact, we believe it should drive policymakers and researchers to further develop the theoretical and practical tools associated with the concept of aggregate concentration.

Despite a lack of uniformity in the indices used to describe the phenomenon, there seems to be a consensus concerning the need for a broad market definition that will examine the control of a large part of economic activity by a small group of economic entities. The prevailing view is that this control grants financiers, who head these economic entities, easy access to government institutions to advance their private interests and to influence the direction of the economy.<sup>168</sup>

As noted above, recent years have seen a growing level of concentration in the online environment due, in part, to the expansion of business through acquisitions and consolidation. For example, Meta is the world's dominant online social network.

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164. J. Lawrence Hexter & John W. Snow, *An Entropy Measure of Relative Aggregate Concentration*, 36 SOUTH. ECON. J. 239 (1970); OECD, *Glossary of Industrial Organization Economics and Competition Law* (Organisation for Economic Co-Operation and Development, July 18, 2005), <https://www.oecd.org/regreform/sectors/2376087.pdf>.

165. Hexter & Snow, *supra* note 164.

166. Alan Hughes & Manmohan S. Kumar, *Recent Trends in Aggregate Concentration in the United Kingdom Economy*, 8 J. ECON. 235 (1984).

167. Massoud M. Saghafi & Mohsen Attaran, *Is this the Beginning of the End in the Competitive Trend?*, 16 EASTERN ECON. J. 125 (1990).

168. OECD, *supra* note 164; Hexter & Snow, *supra* note 164, at p. 239.

More than 3 billion people depend on Meta to connect with friends, family, and even business partners.<sup>169</sup> Meta monetarizes its dominant position by selling advertising, which is enhanced by Meta's unparalleled, user-provided dataset about their activities, interests, and affiliations. Meta is able to target users based on this data to create of Personalized Ads, which generated revenues of more than \$70 billion and profits of more than \$18.5 billion in 2021 alone.<sup>170</sup> Examining Meta's acquisition history reveals that after toppling Myspace and establishing monopoly power, Meta targeted two major competitors—Instagram and WhatsApp—and eliminated those competitive threats by strategically buying the companies.<sup>171</sup> This approach came directly from the top, as evidenced by Mark Zuckerberg's email stating, "*it is better to buy than compete.*"<sup>172</sup> Meta's more recent acquisition of TBH (for "To Be Honest") in 2017 was even more aggressive, as the app was then only two months old but had attracted more than 5 million users and logged more than a billion sent messages.<sup>173</sup> It thus appears that Meta continues to buy companies that could potentially threaten its popularity and entice users away.

And Meta is not alone. Google—the most dominant search engine that controls our online experience, directs our day-to-day choices, and acts as the gatekeeper to the online ecosystem—has likewise maintained its monopoly partly through a series of anticompetitive acquisitions. In July 2005, in what would turn

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169. *Complaint for Injunctive and Other Equitable Relief*, *supra* note 17.

170. *Id.*

171. Instagram is a social media platform for sharing pictures and videos. In 2012, Facebook acquired Instagram, for one billion dollars. See Kara Swisher, *The Money Shot*, VANITY FAIR (June 2013), <https://archive.vanityfair.com/article/2013/6/the-money-shot> (discussing the details of the deal between the two companies as well as the birth of Instagram); WhatsApp is a centralized, freeware voice-over-IP and instant messaging service. Facebook acquired WhatsApp in 2014. For further discussion of the two acquisitions, see e.g., Mrunalini Sohani & Ashita Dake, *Mergers and Acquisition: A Tool to Grow in the Global Market*, 2 Jus Corpus L.J. 1344 (2022); Tim Wu, *Blind Spot: The Attention Economy and the Law*, 82 ANTITRUST L.J. 771, 776 (2019); *Complaint for Injunctive and Other Equitable Relief*, *supra* note 17.

172. *Id.*

173. Facebook most recent acquisition Tbh was a popular app in the US that let teenagers send each other compliments anonymously, Facebook acquired the company in October 2017, Facebook acquired the company. However, on July 2, 2018, Facebook announced that it would shut down tbh due to low usage. See *Hello. tbh, We're Moving On*, META (July 2, 2018), <https://newsroom.fb.com/news/2018/07/hello-tbh-moving-on>.



out to be one of its best economic moves, the company acquired a struggling mobile phone software company called Android for the relatively small sum of roughly \$50 million.<sup>174</sup> Then, in October 2006, it purchased YouTube for \$1.65 billion in stock.<sup>175</sup> In April of 2007, Google bought DoubleClick, an online advertising company, for \$3.1 billion.<sup>176</sup> And in June of 2011, Google bought the traffic app Waze for a reported \$1.3 billion.<sup>177</sup> These acquisitions paved the way for Google to scale its operations far beyond the search engine market, to develop new advertising options, and to gather additional client information. In September 2017, Google bought HTC for \$1.1 billion and expanded its economic playing field even further, into the market for cell phone hardware.<sup>178</sup> Although one might argue that Google's acquisitions history does reveals nothing more than smart economic decisions, it bears emphasizing that all of these acquisitions were accompanied by contractual restrictions and exclusivity provisions aimed at extending Google's search monopoly.<sup>179</sup> Indeed, all of its acquisitions seem to be part of a well-organized strategy, and has been subject to criticism for its anticompetitive effects.

Given the popularity of Google and Meta, it is not surprising that some of these acquisitions have attracted the attention of the media and legislators. In 2019, the American Antitrust Institute (AAI) published white paper that offers a fact-based analysis of big tech's acquisitions of over 720 smaller, potential, and

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174. Jordan Valinsky & Ivory Sherman, *Google's Incredible Growth: A Timeline*, CNN BUS. (Dec. 2018), <https://edition.cnn.com/interactive/2018/12/business/google-history-timeline/index.html>.

175. See Michael Driscoll, *Will YouTube Sail into the DMCA's Safe Harbor or Sink for Internet Piracy?*, 6 J. MARSHALL REV. INTELL. PROP. L. 550 (2007); Russ VerSteeg, *Viacom v. YouTube: Preliminary Observations*, 9 N.C. J.L. TECH 43 (2007).

176. Kristine Laudadio Devine, *Preserving Competition in Multi-Sided Innovative Markets: How Do You Solve a Problem Like Google*, 10 N.C. J.L. TECH. 59, 115 (2008)(discussing the reasons for the acquisition). Jon M. Garon, *Searching Inside Google: Cases, Controversies and the Future of the World's Most Provocative Company*, 30 LOYOLA L.A. ENT. L. REV. 429, 431 (2009).

177. Tim Wu, *Blind Spot: The Attention Economy and the Law*, 82 ANTI-TRUST L.J. 771, 776 (2019); Nizan Geslevich Packin, *Consumer Finance and AI: The Death of Second Opinions?*, 22 N.Y.U. J. Legis. & PUB. POL'Y 319, 321 (2020).

178. Valinsky & Sherman, *supra* note 174.

179. See MAJORITY STAFF REPORTS, *supra* note 81. Documents show that Google required smartphone manufacturers to pre-install and give default status to Google's own apps, impeding competitors.

nascent rivals over the last three decades.<sup>180</sup> The numbers reveal that the five firms made over 700 acquisitions in the last 32 years, or over 20 acquisitions per year.<sup>181</sup>

The AAI concluded that the enforcement of antitrust policy vis-à-vis online big tech is weak. Indeed, for the most part, antitrust authorities have allowed the acquisitions to proceed. To illustrate, we examine a few of the most notable decisions concerning acquisitions made by Google and Meta.<sup>182</sup>

One of the first decisions to address this issue pertains to the Google DoubleClick acquisition in 2007.<sup>183</sup> At the time, Google was already one of the most popular search engines, whereas DoubleClick mainly sold ad-services management.<sup>184</sup> When Google Inc.'s sought to acquire the internet advertising server DoubleClick Inc. interested parties have raised concerns about the implications of the merger of two complementary companies.<sup>185</sup> For instance, some argued that the merger would decrease the number of choices available for advertisers.<sup>186</sup>

180. Diana L. Moss, *The Record of Weak U.S. Merger Enforcement in Big Tech*, AM. ANTITRUST INSTITUTE (July 8, 2019), [https://www.antitrustinstitute.org/wp-content/uploads/2019/07/Merger-Enforcement\\_Big-Tech\\_7.8.19.pdf](https://www.antitrustinstitute.org/wp-content/uploads/2019/07/Merger-Enforcement_Big-Tech_7.8.19.pdf).

181. *Id.* The white paper reveals that the conclusions are based on CRUNCHBASE PRO SEARCH ENGINE, <https://about.crunchbase.com/market-research>. Nevertheless, the author indicates that data was crosschecked against other sources, when available, including: Ramzeen A.V., *Facebook Acquisitions – the Complete List*, TECHWYSE (June 17, 2019), <https://www.techwyse.com/blog/infographics/facebook-acquisitions-the-complete-list-infographic/>; *Google Acquisition Tracker*, CBINSIGHTS, <https://www.cbinsights.com/research-google-acquisitions>; and *Microsoft Acquisition Tracker*, CBINSIGHTS, <https://www.cbinsights.com/research-microsoftacquisitions>

182. Although the term merger can be generally understood to delineate a combination of two things, especially companies, into one, the EU Merger Regulation (EUMR) adopts a broader understanding, which includes what we refer to throughout this paper as acquisitions.

183. Case No. COMP/M.4731 – Google/DoubleClick (Regulation (EC) No. 139/2004 Merger Procedure, art. 8(1) Non-Opposition, March 11, 2008), [https://ec.europa.eu/competition/mergers/cases/decisions/m4731\\_20080311\\_20682\\_en.pdf](https://ec.europa.eu/competition/mergers/cases/decisions/m4731_20080311_20682_en.pdf).

184. *See, Google Acquisition of DoubleClick: Antitrust Implications*, AM. ANTITRUST INSTITUTE (Nov. 6, 2007), [https://www.antitrustinstitute.org/wp-content/uploads/2018/08/Google\\_DoubleClick\\_memo\\_110620071437.pdf](https://www.antitrustinstitute.org/wp-content/uploads/2018/08/Google_DoubleClick_memo_110620071437.pdf).

185. For a discussion of the technical and practical background see Jenny Lee, *The Google-DoubleClick Merger: Lessons from the Federal Trade Commission's Limitations on Protecting Privacy*, 25 COMM'N L. POL'Y 77–103 (2020).

186. Robert W. Hahn & Hal J. Singer, *An Antitrust Analysis of Google's Proposed Acquisition of DoubleClick*, BROOKINGS CTR. (Sept. 2007), [https://www.brookings.edu/wp-content/uploads/2016/06/09useconomics\\_hahn.pdf](https://www.brookings.edu/wp-content/uploads/2016/06/09useconomics_hahn.pdf).

Consequently, advertisers will face higher prices. Moreover, critics have argued that the merger will disadvantage competitors who would be forced to play in an uneven playing field, mainly due to the importance of data aggregation and consumer profiling online.<sup>187</sup> Other critics have voiced concerns regarding the effect of the merger on consumer privacy.<sup>188</sup>

The Commission concluded that the ads bought online from search engine providers, such as Google, are not a substitute for ads sold directly or indirectly by publishers.<sup>189</sup> In other words, the sale of advertising space by search engine providers was not found to operate as a significant constraint on the prices or quality of other online advertising. Therefore, the Commission concluded that Google's proposed acquisition of DoubleClick is unlikely to substantially lessen competition.<sup>190</sup> As in all antitrust cases, the Federal Trade Commission (FTC) began its investigation by assessing the relevant market to examine the competitive impact of the acquisition.<sup>191</sup> More particularly, the parameters of market power as defined by the Horizontal Merger Guidelines were used to evaluate the Google DoubleClick acquisition.<sup>192</sup> Three main hypotheses of competitive injury constituted the foundation for the Commission's analysis of the merger: (i) whether the acquisition of DoubleClick by Google threatened to end direct and significant competition between the two companies; (ii) whether the transaction threatened to end

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187. *Id.*

188. Letter from Mindy Bockstein, Chairperson and Executive Director, State Consumer Protection Board, to Deborah Platt Majoras, Chairperson, Federal Trade Commission (May 1, 2017), available at <https://epic.org/privacy/ftc/google/cpb.pdf>.

189. See Kagan, *supra* note 118.

190. *Id.*

191. As a first step, the Commission identified the multi face nature of the parties' businesses, however it did not examine them separately. In the second stage, the Commission adopted Google's approach and concluded that for the purpose of the present decision, the geographical scope of the relevant market is at least EEA-wide. See Case No. COMP/M.4731 – Google/DoubleClick, *id.* at para. 72–73, 88. See also, Statement of FEDERAL TRADE COMMISSION Concerning Google/DoubleClick FTC File No. 071-0170. [https://www.ftc.gov/system/files/documents/public\\_statements/418081/071220googledc-commstmt.pdf](https://www.ftc.gov/system/files/documents/public_statements/418081/071220googledc-commstmt.pdf)

192. U.S. DEP'T JUST. & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES (2010), available at <https://www.justice.gov/atr/horizontal-merger-guidelines-08192010>[hereinafter 2010 Guidelines].

potential competition in any relevant market; and (iii) whether the merger threatened to cause any non-horizontal harm.<sup>193</sup>

On the theory of direct and substantial competition, the Commission concluded that the companies operate in distinct markets and were therefore not direct competitors in any relevant antitrust market.<sup>194</sup> With regards to the second potential harm, the Commission found that the competition among firms in the third party ad serving markets was vigorous. Moreover, the evidence indicated, that if Google would enter the market, it would not have a significant effect on competition. Hence, the Commission concluded that the elimination of potential competition in these relevant markets did not raise antitrust concerns.<sup>195</sup> Finally, with regards to the third potential harm, the Commission found that in certain instances, a proposed transaction may allow a dominant seller of one product to harm competition in the market for a related complementary product either by exclusively bundling or otherwise tying together its product with the acquired firm's product. Nevertheless, the Commission clarified that this strategy would only have anticompetitive affect if the merged firm had market power. In this case however, the Commission argued that DoubleClick had no market power in the third-party ad serving markets. And so, it was unlikely that the merger would allow Google to foreclose competition in the related ad intermediation market.<sup>196</sup> Given the abovementioned conclusions, and after a thorough examination of the evidence bearing on the transaction The Federal Trade Commission voted 4-1 to close its investigation of Google's proposed acquisition of DoubleClick.<sup>197</sup>

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193. *Id.*

194. *Id.* (explaining that Google is in the search engine, search advertising, and ad intermediation markets and that DoubleClick is in the ad serving market.)

195. *Id.*

196. *Id.* See, also, Press Release, Fed. Trade Comm'n, Federal Trade Commission Closes Google/DoubleClick Investigation (Dec. 20, 2007), <https://www.ftc.gov/news-events/news/press-releases/2007/12/federal-trade-commission-closes-googledoubleclick-investigation>.

197. See Case No. COMP/M.4731 – Google/DoubleClick

In other cases, including, *inter alia*, the Microsoft/Skype case<sup>198</sup> and the Facebook/WhatsApp<sup>199</sup> case, the Commission's finding that there were no anti-competitive effects was likewise largely based on the traditional relevant market test. Thus, some rather important implications of these transactions have been overlooked. For instance, in the case of Google DoubleClick acquisition, the Commission's analysis was too narrow and failed to take into account not only consumer's interests with regards to their data but also the key role data plays in the online digital ecosystem,<sup>200</sup> as previously stated, and how data could be used in an anticompetitive fashion (i.e., economics of scale). Put simply, the fact that the Commission found that these transactions did not give rise to specific market competition concerns does not necessarily mean that there are not any. It is our position that if the Commission had considered the potential effects on other markets and on the online economy, it may have come to a different conclusion.<sup>201</sup>

What emerges from a review of these acquisition histories is that online giants have adopted two distinct anticompetitive approaches to maintain their dominant position—a defensive one to forestall competition in their core markets, and an offensive one to acquire companies that offer complementary products to

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198. See Case No. COMP/M.6281 – Microsoft/Skype (Regulation (EC) No. 139/2004 Merger Procedure, art. 6(1)(b) Non-Opposition, Oct. 7, 2011), [https://ec.europa.eu/competition/mergers/cases/decisions/m6281\\_924\\_2.pdf](https://ec.europa.eu/competition/mergers/cases/decisions/m6281_924_2.pdf).

(Microsoft, one of the largest companies in the U.S., at the time, placed a request to approve its acquiring the whole of the undertaking Skype Global, an internet software for communications company with customer base of 650 million users at time of the purchase.)

199. Case No. COMP/M.7217 – Facebook/WhatsApp (Regulation (EC) No. 139/2004 Merger Procedure, art. 6(1)(b) Non-Opposition, Oct. 3, 2014), [https://ec.europa.eu/competition/mergers/cases/decisions/m7217\\_20141003\\_20310\\_3962132\\_EN.pdf](https://ec.europa.eu/competition/mergers/cases/decisions/m7217_20141003_20310_3962132_EN.pdf). (This transaction was the first giant acquisition in the online market due to the groundbreaking amount of the transaction that was approximately \$19 billion.)

200. Google/DoubleClick, FTC File No. 071-0170 (2007) Dissenting Statement of Comm'r Pamela Jones Harbour, available at [https://www.ftc.gov/sites/default/files/documents/public\\_statements/statement-matter-google/doubleclick/071220\\_harbour\\_0.pdf](https://www.ftc.gov/sites/default/files/documents/public_statements/statement-matter-google/doubleclick/071220_harbour_0.pdf) (dissenting statement of Commissioner Pamela Jones Harbour. See also Lee, *supra* note 185.

201. Janna O.A. Trakoma, *Big Data and Data Protection in the Context of EU Competition Law* (Master's thesis, Hanken School of Economics, Department of Accounting and Commercial Law, Commercial Law, May 15, 2018): "[T]hird-party complainants had argued that the *post-merger combination of data* would make Google's position impossible to challenge."

increase their profit margins.<sup>202</sup> The Stigler report distinguishes between two types of complementary companies: The first concerns circumstances in which the platforms' core business is threatened by the companies, while the second deals with circumstances in which the complementary companies operate in profitable complementary markets.<sup>203</sup>

The first refers to practices by which a competitor threatens the Internet Giants' key businesses by slowly commoditizing the service offered by the giant's platform, diminishing its value as an intermediary and therefore threatening its market position. In such circumstances, the Internet Giants react defensively in a manner that may violate antitrust laws.

The second refers to situations in which the competitive companies operating in the market do not threaten the platform's core businesses. Nevertheless, they are highly profitable. To obtain a part of this lucrative business, the platform leverages its market power offensively using profits generated by its core business. Such conduct has been the target of many recent antitrust complaints against companies such as Google, Apple, and Amazon by competitors such as Yelp, Spotify, and independent merchants.<sup>204</sup> Furthermore, the Stigler report cites growing evidence that Internet Giants have been entering adjacent markets to expand their market dominance,<sup>205</sup> as their privileged access to data and to consumers enables them to identify major threats and eradicate them pre-emptively through acquisitions and exclusionary behavior, or, alternatively, by copying their products/functionalities and leveraging their control over the ecosystem to favor their own versions.<sup>206</sup>

To appreciate the significance of the Google and Meta acquisitions noted above, it is important to note that there were over 4,000,000,000 Internet users as of December 31, 2017;<sup>207</sup> there

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202. See STIGLER REPORT, *supra* note 146, at 70.

203. *Id.*

204. Lancieri & Sakowski, *supra* note 31; STIGLER REPORT, *supra* note 146, at 89.

205. STIGLER REPORT, *supra* note 146, at 72.

206. Lancieri & Sakowski, *supra* note 31; STIGLER REPORT, *supra* note 146, at 32.

207. *Internet Usage Statistics: The Internet Big Picture – World Internet Users And 2022 Population Stats*, INTERNET WORLD STATS, <https://internetworldstats.com/stats.htm>.

is a cumulative effect to continued acquisition.<sup>208</sup> Through a process of continued acquisitions, and due to their superior economic resources—their research capacity, financial strength and their market dominance—<sup>209</sup> these companies have diversified their commercial activity, services, and products to better suit the changing market, enter new markets, and increase their size to reinforce their dominance.<sup>210</sup> In this way, the companies largely evade the risk of replacement.

This is not to argue that acquisitions by leading online platforms are always “bad.” Generally speaking, the capacity of the Internet Giants to enhance innovation throughout the economy means that consumers benefit faster from technological advances. Furthermore, given the advantages, connections and position in the markets, one can assume that those advances will be distributed more broadly than they would in the hands of a start-up. Nevertheless, these strategic acquisitions reinforce the Internet Giants’ dominant position, as they effectively squash the potential of upstarts to become competitors.<sup>211</sup> Indeed, we will never know what TBH, Halli Labs, Orbitera, Instagram, WhatsApp, or Oculus VR might have become had Meta not absorbed them—or what companies might have been started had prospective founders not concluded that it would be impossible to compete with Meta.<sup>212</sup>

From a competitive point of view, high levels of aggregate concentration raise several concerns:

The first concern is **barriers to entry**. Barriers to entry are practices or factors that impede or prevent newcomers from entering into the market and thus create, increase, or reinforce an

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208. See Jones, *supra* note 163, at 664–66 (discussing the level of concentration in the United States).

209. See Dolata, *supra* note 32, at 23.

210. See Jones, *supra* note 163, at 666 (“[T]he aim of the law was to permit intervention in such a cumulative process whenever the necessary effect on competition occurred. The report said “Such an effect may arise in various ways: such as elimination in whole or in material part of the competitive activity of an enterprise which has been a substantial factor in competition, increase in the relative size of the enterprise making the acquisition to such a point that its advantage over its competitors threatens to be decisive, undue reduction in the number of competing enterprises, or establishment of relationships between buyers and sellers which deprive their rivals of a fair opportunity to compete.”)

211. Yun, *supra* note 26.

212. David Wessel, *Is Lack of Competition Strangling the U.S. Economy?*, HARV. BUS. REV. (March–April, 2018), <https://hbr.org/2018/03/is-lack-of-competition-strangling-the-u-s-economy>.

established company's competitive advantage over (existing or potential) competitors in the market.<sup>213</sup> Barriers to entry can include high set up fees, regulatory hurdles, the use of predatory pricing strategies, and other factors or practices that may prevent new competitors from entering into the market.

Another competitive concern is the **potential existence of oligopolistic coordination within and outside the economy**. This fear stems mainly from the centralized structure of the company, which constitutes a convenient platform for the creation of a multimarket contact. Although this is an indirect phenomenon, its potential for harming competition is enormous because in this situation, the dominant players presumably prefer not to compete with each other but rather to adopt a live-and-let-live policy, so as not to upset the existing equilibrium in the economy.<sup>214</sup> Such behavior, and other behavior like it, may adversely affect the growth and welfare of the economy.

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213. Preston R. McAfee, Hugo M. Mialon and Michael A. Williams, *What Is a Barrier to Entry?* 94 AM. ECON. REV. 461 (2004); Harold F. See & William D. Gunther, *Limit Pricing and Predation in the Antitrust Laws: Economic and Legal Aspects*, 35 ALABAMA L. REV. 211 (1984); Adam Triggs & Andrew Leigh, *A Giant Problem: The Influence of the Chicago School on Australian Competition Law, Economic Dynamism, and Inequality*, 47 FED. L. REV. 696, 706 (2019); Zeynep Ayata, *A Comparative Analysis of the Control of Excessive Pricing by Competition Authorities in Europe*, 35 TUL. EUR. CIV. L.F. 101 (2020).

214. Leonard W. Weiss, *The Extent and Effects of Aggregate Concentration*, 26 J.L. ECON. 429, 436 (1983); Adi Ayal *Economic Concentration and the Legal Mechanisms Supporting it*, 170 BANKING Q. 20, 21 (2011). Prof. Ayal proposes an examination of a broader effect arising from the MMC model. This is because the large business groups also enjoy a size advantage in the form of acquisitions from crossover markets, such as marketing, various services (legal, accounting, PR, etc.), and especially in the form of financial access to credit. Mid-size companies that provide the complementary services to the large groups cannot economically allow themselves to enter into conflict with important clients, even if it means harming the interests of other service recipients. Similarly, the small players are limited also when the same service providers refuse to work with them because of pressure from the large groups. This economic analysis takes the classic MMC model one step further when analyzing the company operation not only in the markets proper but in a network. Unlike the standard model, in this article we examine the strength of the group not only in relation to the consumer and the changes in product price, but also in its business relations and its relations with suppliers. In this situation, there is a rising fear of harming competition because a player interested in penetrating the market is not only required to bear the standard costs and overcome the barriers to entry, but must also deal with the hardship of creating a business network to support the company operation. See also Andrew V. Shipilov, *Firm Scope Experience, Historic Multimarket Contact with Partners, Centrality, and the Relationship between Structural Holes and Performance*, 20 ORG. SCI. 85 (2009); Ian Robson &



Another potential problem relates to **economic stability**, which is often associated with the issue of “too big to fail.” This concept describes the risk deriving from the failure of a body perceived by decisionmakers as so influential to the overall economy that its failure may undermine stability of the economy.<sup>215</sup> The issue of “too big to fail” has gained a great deal of traction in the financial markets, where the collapse of a significant bank negatively affects the entire economy. A clear example of this can be seen in the processes that took place in the U.S. in 2008. The collapse of the giant banks led to an acute financial and economic crisis in the U.S. economy.<sup>216</sup> This example illustrates the dependence of the economy on the continued activity of the entity, especially in view of the fear of a domino effect. They also explain the dependence of the government on the continued normal activity of a large body and the backing the government provides if a rescue is needed.<sup>217</sup>

The problems described above are the result of the concentration of economic power possessed in a limited number of players, which gives them the ability to exercise substantial influence over all aspects of the economy. Note, however, that not everyone views high levels of aggregate concentration as a phenomenon that necessarily needs to be checked.

The economic literature has identified different ways in which the existence of high levels of aggregate concentration can be beneficial and have a positive effect on competition and

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Vikkey Rawnsley, *Cooperation or Coercion? Supplier Networks and Relationships in the UK Food Industry*, 6 INT'L. J. SUPPLY CHAIN MGMT. 39 (2001).

215. Steven L. Schwarcz, *Systemic Risk*, 163 GEO. L.J. 97, 204, 206–08 (2008). The body may be defined as “big” based on several criteria. For example, employment can be a representative measure of size because the failure of an entity that employs a significant number may undermine the stability of the economy given the potentially significant increase it would cause in the unemployment rate. The concern becomes even more pronounced when the entity conducts its activities in peripheral areas and is a significant regional employer. Examples to the economic stability problem can be seen in business relationships of the entity with its suppliers. A failure in the relationship may create a chain reaction in the economy as a whole and not only in the market in which it operates, because the suppliers depend on the entity for the continuation of their normal business activity.

216. Nicola Cetorelli et al., *Trends in Financial Markets Concentration and Their Implications for Market Stability*, FRBNY ECON. POL'Y REV. 33, 35 (March 2007).

217. Michal S. Gal & Thomas Cheng, *Aggregate Concentration Concerns: Competition Law Solutions?*, 4 J. ANTITRUST ENF. 282, 288–289 (2016).

welfare.<sup>218</sup> First, the existence of aggregate concentration can strengthen competitive pressure, inasmuch as the benefits of economies of scale allow aggregated companies to enter markets—including high entry costs markets—faster due to their size and diversity of operations.<sup>219</sup> Second, the diversified portfolios these companies hold provide them with the ability to endure greater risk than other companies.<sup>220</sup> Additionally, they can use cross-subsidies to balance optimal participation levels on both sides of the platform.<sup>221</sup> Furthermore, their financial strength helps them overcome short-term financial obstacles. This is especially true in the new economy, where companies compete not only over price but also in terms of technological advancement.<sup>222</sup>

Google's search engine again offers an illustrative example. Search engines continually revise and refine their algorithms in response to users' online behavior.<sup>223</sup> Not only does this create better services for the user, it intensifies innovation due to network effects and fierce competition for the user's loyalty.<sup>224</sup> This competition may help drive innovation and create a competitive environment; but in a world dominated by a small group of companies, this effect is not as welfare enhancing as it initially appears: the greater the Internet Giants' power, the less vulnerable they are to competition by competitors and the less incentive they have to innovate.

For instance, due to fluidity and changing markets, leading companies are constantly forced to re-think their organizational design and basis for competing in the online environment. More importantly, the dynamic online environment seems to enable rapid change and occasion replacements of so-called

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218. *Id.* at 298.

219. *Id.*

220. *Id.*

221. Lancieri & Sakowski, *supra* note 31.

222. Pablo Ibáñez Colomo, *Restrictions on Innovation in EU Competition Law*, 41 EURO. L. REV. 201, 209 (2001).

223. *See, e.g.*, Shelanski *supra* note 152, at 1685; Rebecca Greenfield, *Amazon is Changing the Future of Online Shopping*, ATLANTIC (Sep. 6, 2011), <https://www.theatlantic.com/technology/archive/2011/09/amazon-changing-future-online-shopping/338321>.

224. James D. Ratliff & Daniel L. Rubinfeld, *Is There a Market for Organic Search Engine Results and Can Their Manipulation Give Rise to Antitrust Liability?*, 10 J. COMPETITION L. & ECON. 517, 518 (2014); Thépot, *supra* note 139, at 196.

irreplaceable market leaders.<sup>225</sup> For example, in the early 2000s, search engine pioneers AltaVista and Yahoo were quickly replaced by Google. During the same period, the social network Myspace was pushed aside by the newcomer Facebook.<sup>226</sup> This dynamic may seem to suggest that there is no need for antitrust authorities to implement a rigorous competition policy, at least under traditional market concentration analysis. Yet, today, as discussed above, a small group of companies have engaged in strategic business behavior to circumscribe dynamic competition not only through restructuring of their business operations but also by means of strategic acquisitions intended to increase their market reach.<sup>227</sup> Given the highly innovative nature of the online environment, the process of consolidation may redirect or even halt innovation in certain areas as a means of maintaining competitive advantage.<sup>228</sup> Consolidation results in reduced competitive pressure, which, in turn, diminishes a company's incentive to innovate.<sup>229</sup>

As noted above, not all acquisitions (or mergers) are unwelcome. Antitrust policy has several tools to encourage cooperation (e.g., Research and Development Block Exemption Regulation,<sup>230</sup> Horizontal Cooperation Guidelines and Technology Transfer Block Exemption Regulation).<sup>231</sup> However, it is important to balance efficiency interests with competitive interests in such a way that will protect industries from strategic acquisition behavior that may threaten industry efforts to innovate.

225. See generally David S. Evans & Richard Schmalensee, *Some Aspects of Antitrust Analysis*, in INNOVATION POLICY AND THE ECONOMY, vol. 2, 1, 14 (Adam B. Jaffe, Josh Lerner & Scott Stern eds., MIT Press 2002).

226. See Dolata, *supra* note 32, at 10–11.

227. *Id.* at 12. For further discussion see Hong et al., *supra* note 55.

228. Devine, *supra* note 176, at 64; Dolata, *supra* note 32, at 13.

229. See, for example, COMMISSION DECISION OF 13 MAY 2009, para. 1597–1616 (Relating to a Proceeding under Article 82 of the EC Treaty and Article 54 of the EEA Agreement, COMP/C-3/37.990 – Intel, May 13, 2009), [https://ec.europa.eu/competition/antitrust/cases/dec\\_docs/37990/37990\\_3581\\_18.pdf](https://ec.europa.eu/competition/antitrust/cases/dec_docs/37990/37990_3581_18.pdf).

230. *Commission Regulation (EU) No. 1218/2010, of 14 December 2010, on the application of Article 101(3) of the Treaty on the Functioning of the European Union to certain categories of specialisation agreements*, para. 36 (Official J. EU, L 335/43, Dec. 18, 2010) (Incorporated into the EEA Agreement by Decision 3/2011 – Official J. EU, L 93, April 7, 2011, at 32, and EEA Supplement No. 19, April 7, 2011, at 7).

231. *Commission Regulation (EU) No 316/2014, of 21 March 2014, on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements*, pp. 17–23 (Official J. EU, L 93/17, March 28, 2014).

The high level of concentration that characterizes the online economy could lead to market distortions and failures, including, *inter alia*, creating barriers to entry and enabling small groups of market participants to heavily influence public policy and manufacture superior bargaining power.<sup>232</sup>

In the following sections, we propose using our method of aggregate concentration as a complement to tradition antitrust analysis to address at least some of the problems highlighted above.

#### IV. THE NEED FOR PARADIGMATIC CHANGE

The distinct nature of the online platforms requires a paradigmatic change in competition policy that moves away from the traditional price-oriented competition analyses. Aggregate or economy-wide concentration occurs when “*a small group of economic entities controls a large part of the economic assets (or equity) in the economy through holdings in many markets.*”<sup>233</sup> In addition, conglomerate or diversified business groups are made up of “*legally independent firms, operating in multiple (often unrelated) industries which are bound together by persistent formal (e.g., equity) and informal (e.g., family) ties.*”<sup>234</sup> It is clear from our discussion in the previous section that Google, Meta and other Internet Giants have become online conglomerates.<sup>235</sup> For

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232. This kind of power over policy makers can be manifested in diverse ways. One of the main subjects to be researched in that aspect is the capture theory which has been examined under the public choice theory in the political science discipline. In respect to this research we will be focusing on the regulatory capture theory that is often used to explain regulatory failures. Comprehensive discussion will be presented in ROBERT BALDWIN, MARTIN CAVE & MARTIN LODGE, *UNDERSTANDING REGULATION: THEORY, STRATEGY AND PRACTICE* 68–82 (2nd ed. 2011).

233. Gal & Cheng, *supra* note 217, at 282, 294 (although the authors note that high levels of aggregate concentration can take many forms and this is the rather simple definition).

234. Tarun Khanna & Yishay Yafeh, *Business Groups in Emerging Markets: Paragons or Parasites*, 45 J. ECON. LITERATURE, 331 (2007). Important to note that some scholars differentiate between conglomerates and corporate groups. Following the footsteps of Thomas Cheng this paper will not draw such distinction. See Thomas K. Cheng, *Sherman vs. Goliath?: Tackling the Conglomerate Dominance Problem in Emerging and Small Economies—Hong Kong as a Case Study*, 37 NW. J. INT'L L. & BUS. 35, 39 (2017).

235. See, for example, Frank Pasquale, *Testimony before the Task Force on Competition Policy and Antitrust Laws of the House Committee on the Judiciary*

example, in 2015, Google underwent corporate restructuring and created a new holding company called Alphabet.<sup>236</sup> Since then, Alphabet has housed all of Google's companies, including its core services (e.g., Google search engine, Google AdWords, Google Maps, Google Chrome), as well as YouTube, Android, and other subsidiaries (e.g., Calico, GV, Google Fiber, Jigsaw and more).<sup>237</sup> Alphabet thus operates in multiple industries. The ensemble of companies owned today by Alphabet is bound together in a complex web of formal and informal ties as well as deep technological links. In effect, this provides Alphabet unquestionable control over the search engine market, allowing Google to continue to grow, branching out into new sectors by means of merger and acquisitions. The result is a multinational online conglomerate with the potential to influence many industries.

Aggregate concentration is typically measured by the share of the economic activity that is attributable to the aggregate entity.<sup>238</sup> However, it does not necessarily require that the conglomerate or leading business group hold a dominant position in every sector of the economy in which it operates. In fact, Gal and Cheng argue that a conglomerate might enjoy a high level of aggregate concentration, but no market power in a specific market (according to the traditional antitrust tests of market power).<sup>239</sup> This does not mean, however, that the specific conglomerate does not affect competition or the market as a whole, given their general resources.<sup>240</sup> It follows, then, that the assessment of aggregate concentration should not be based wholly on the conventional analysis of competition and antitrust, but rather on a broader view of the entire relevant market and economic power.

One issue that does not receive sufficient attention in a traditional analysis of the online market is the essential infrastructure the Internet Giants provide in the online ecosystem. The

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(July 15, 2008), <https://techliberation.com/wp-content/uploads/2009/06/Pasquale080715.pdf> ("Google becomes more of an online conglomerate . . .").

236. Heather Kelly, *Meet Google Alphabet - Google's New Parent Company*, CNN BUS. (Aug. 11, 2015), <https://money.cnn.com/2015/08/10/technology/alphabet-google/>.

237. See generally ALPHABET, <https://abc.xyz>. See also *Alphabet Inc.*, WIKIPEDIA [https://en.wikipedia.org/wiki/Alphabet\\_Inc](https://en.wikipedia.org/wiki/Alphabet_Inc).

238. See Tomio Iguchi, *Aggregate Concentration, Turnover, and Mobility among the Largest Manufacturing Firms in Japan*, 32 ANTITRUST BULL. 939 (1987).

239. Gal & Cheng, *supra* note 217, at 294.

240. *Id.* at 293-4.

classical definition of essential infrastructure refers to a fundamental infrastructure with public characteristics, relevant to the entire public or to a large portion thereof, whose regular operation is essential for the public. These infrastructures are used to provide the public with essential services required to maintain ordinary life.<sup>241</sup> When this definition is applied to the online environment, it is clear that Internet Giants play a significant role in maintaining an essential infrastructure, as they control many of the online operations that are essential to the public. This raises the question: can we address those entities as essential digital platforms? To do so, we must examine the characteristics of the digital platforms<sup>242</sup>.

As to the essential part of the definition, due to the fact that the platforms provide the public access to many of the essential services and products required for day-to-day life and act as a gateway between consumers and innumerable public and private entities, they can reasonably be characterized as essential.

When dealing with an essential digital platform, there are two important factors that must be taken into account: first, the platform's potential influence over public policy, or more specifically, its capacity to convert its economic might into a stronger negotiating stance against decision-makers. Second, the financial clout and competitive benefits derived from ownership of key digital platforms.

The ability to translate the economic power into a superior bargaining position has been discussed in the work of Thomas K. Cheng and Michal S. Gal. According to Cheng and Gal, when the superior bargaining position is a direct result of a fair game

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241. Methodology for Evaluating Economy-Wide Concentration, Israeli competition authority, 2017: <https://www.gov.il/en/Departments/legalInfo/methodologyconcentration> [hereinafter Methodology]

242. There are many different descriptions to the definition of digital platform. Laurence Meyer defined it as "intermediation activity linked with the assembly of content and services onto a coherent technical and commercial access platform", Evens describes it as entities that provide software and services on which other businesses relay to produce complementary products, and Shelanski refer to it as "products or services through which end users and a wide variety of complementary products, services, or information ("applications") can interact. Platforms therefore include devices (e.g., phones and tablets), software (e.g., operating systems and browsers), and services (e.g., search engines, social networks, and e-commerce sites)". See Laurence Meyer, *Digital Platforms: Definition and Strategic Value*, 28 COMM. & STRATEGIES 127, 128 (2000); David S. Evans, *Antitrust Issues Raised by the Emerging Global Internet Economy*, 102 NW. U. L. REV. 1987, 1989 (2008); Shelanski, *supra* note 152, at 1665.

and based on relative efficiencies, not only does it not harm competition and welfare in the long run, it furthers them due to the creation of incentives for dynamic and productive efficiency for other competing companies.<sup>243</sup> On the other hand, they indicate that economic scholarship recognizes some market conditions under which the use of a superior bargaining position does not increase competition or welfare.<sup>244</sup>

Superior bargaining power that derives from market power over essential infrastructures may have far reaching long-term implications on public welfare. Thus, for example, the fact that a few private entities hold a substantial part of an essential infrastructure may, under certain conditions, provide such entities with excessive bargaining power and influence towards the state, and “. . . [s]uch a substantial holding may be used as leverage to acquire greater power in other markets, including non-economic power.”<sup>245</sup> These holdings can result in heavy regulatory capture.<sup>246</sup>

The theory of regulatory capture is that in the face of decisions that involve the need to balance the interest of the player with the interest of the public, or with the interests the other players in the industry, the regulator will prefer the player's needs. One of the most widely-acknowledge problems in that respect concerns entities deemed too big to fail. Although entities are generally thought to be in this category based on their size and interactions, there is another way of looking at things: an entity can also be too important to fail. The Internet Giants are arguably too important to fail in the sense that any failure in their operations would have repercussions on the economy as a whole. For example, Meta operates as a kind of information hub and provides a platform to many other markets.<sup>247</sup>

Another problem described in regard to regulatory capture concerns “switching off.” That is, a regulator's understanding of

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243. Thomas K. Cheng & Michal S. Gal, *Superior Bargaining Power: Dealing with Aggregate Concentration Concerns*, in ABUSIVE PRACTICES COMPETITION LAW (Fabiana Di Port & Rupprecht Podszun eds., 2018).

244. *Id.*

245. The Committee for Promotion Of Competition And Reduction Of Concentration In The Israeli Market, Recommendation Draft, 215 (2012). [mof.gov.il/Committees/PreviouslyCommittees/Pages/CompetitivenessCommittee.aspx](http://mof.gov.il/Committees/PreviouslyCommittees/Pages/CompetitivenessCommittee.aspx)

246. For regulatory capture discussion see George J. Stigler, *The Theory of Economic Regulation*, 2 BELL J. ECON. & MGMT. SCI. 3 (1971).

247. See Methodology *supra* note 241.

the catastrophic consequences that would result if the player “switched off” gives the player outsized power in negotiations.<sup>248</sup>

In addition, the Internet Giants’ ability to translate their economic power into a superior bargaining position means that the entities in control of the essential infrastructure have excessive bargaining power over the regulators. Moreover, nearly all public figures interact with the public via online channels and thus rely on them as well.<sup>249</sup> Given their size and economic reach, it is safe to assume that efforts by these entities to translate their economic power into political influence to benefit their own needs would stand a high chance of success.<sup>250</sup> For example, they may exercise their influence by encouraging governmental entities to create entry barriers for their rivals to protect their dominant position.<sup>251</sup>

A second key aspect that must be considered when dealing with holdings of essential digital platforms is the economic power and competitiveness advantages that derives from the holdings. We must emphasize that the Internet Giants’ economic power does not necessarily mean that they hold large market shares in all or even most of the markets in which they operates. Yet their control over the essential platform positions them as “bottleneck platforms,”<sup>252</sup> giving them outsized power across many different markets. Moreover, because essential platforms provide a gateway to complementary products, they gain an additional measure of power from their control of access to those products. This brings us to the two-sided market analysis yet again, as the platform can extract profits and economic power from the side of the consumers who need the platform to gain access to the different possibilities that the on-line economy has to offer, as well as on the side of those who provide products and services and need access to consumers. As Shelanski described

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248. *Id.*

249. Mark Zuckerberg’s hearings before Congress demonstrate, these companies have frequent interaction with political power and therefore potentially have strong influence over legislatures. *See also* Gal & Cheng, *supra* note 217, at 296.

250. *Id.* at 194.

251. Weiss, *supra* note 214.

252. To discussion over bottleneck *see* STUART MINOR BENJAMIN ET AL., TELECOMMUNICATIONS LAW AND POLICY 942–43 (3rd ed. 2012) (defining “bottleneck” monopolies).



it, “put it simply, a bottleneck to everything can potentially take a share of, and exercise some control over, everything.”<sup>253</sup>

The economic power for the essential digital platform becomes even more of a problem when mergers and acquisitions take place. There are different reasons leading to that: for example, the platforms can use their economic power to protect their dominant position. This can be done in two ways. First, the platform can leverage their bargaining power over policy makers to create high entry barriers to new competitors. This can protect their dominant position by leaving new entrants in an inferior position with no choice but to be purchased. This can take place not only in the core market of the platform itself, but also in the many diverse markets that are under the platform’s reach, it acts as an intermediary among various sets of consumers and operators that need to reach one another and cannot operate efficiently without the platform.<sup>254</sup> Second, the essential platform can use its power to “buy competition.” This kind of interaction isn’t new to the online market. It seems that in this startup era the main goal of the startups creators is to be purchased by one of those essential platforms giants.<sup>255</sup> Even though this strategy has a positive side, as it creates incentives to innovate and develop new technologies, the power to control what will be done with that technology ultimately lies in the hands of those giants. They can use the technology to improve their product, or, alternatively, to eliminate competition and further strengthen their dominant position in their core market, the complementary products market, and as far as they can reach.

In short, failure regulate the Internet Giants’ anticompetitive conduct in the online ecosystem when these entities provide essential infrastructure can have massive long-term implications on public welfare. We argue that traditional antitrust analysis lacks the necessary tools to regulate these entities and that there are obvious advantages to supplementing the discussion of market concentration with a discussion of aggregate concentration.

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253. Shelanski, *supra* note 152, at 1676.

254. See Rochet & Tirole, *Two-Sided Markets*, *supra* note 124, at 645–46 (defining two-sided markets).

255. For a general discussion of exit paths, see Paul A. Gompers et al., *How do Venture Capitalists Make Decisions?*, 135 J. FIN. ECON. 169 (2020) <https://www.sciencedirect.com/science/article/abs/pii/S0304405X19301680>.

## V. CONCLUSION

As online companies grow larger and stronger, the traditional antitrust analysis is unable to convey the full story of today's online ecosystem, mainly because it focuses on the notion of the "relevant market."

This paper argues that the Internet Giants' unique characteristics require regulators and policymakers to adopt a critical view of antitrust policies. Namely, look not only at the relevant market, but also at the levels of aggregate concentration in the online ecosystem. We posit that competition policy must evolve away from its traditional price-oriented emphasis, as well as its focus on near term effects on consumer pricing and *ex-post* solutions, and adopt a wider perspective. In particular, competition policy should consider broader social harms, including harms to democratic discourse, free speech, privacy, and overall economic growth. Building upon the notion of aggregate concentration, we suggest that antitrust authorities should supplement the familiar tools of antitrust with instruments drawn from the world of aggregate concentration. Mainly because, when dealing with what we term an Online Ecosystem Aggregate Concentration Analysis, policymakers and regulators are not dealing with the traditional world of market specific competition. But rather, with the entirely different world which requires a broader, more panoramic viewpoint.

High levels of aggregate concentration are generally perceived as significantly affecting competition and welfare. We argue that recognizing aggregate concentration as an important source of competitive constraints would not only allow courts and policymakers to adapt existing antitrust laws to meet the new competitive challenges of the online ecosystem, but also provide us with a better understanding of the digital economy.



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