DATA MARKETS AND PLATFORM ACQUISITIONS*

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Big Tech companies acquired at least 710 companies since 2000, whereas US federal regulators and courts did not block any of these deals. Given these figures, it is reasonable to conclude that there exists a discrepancy between the industry outlook on markets and competition, and that of antitrust authorities. This paper suggests defining markets for consumer data using the existing U.S. antitrust framework, specifically that of Clayton Act §7. It shows how existing tools, such as buyer substitution and "practical indicia" of Brown Shoe, sufficiently define markets for data that appear to be pivotal in the acquisitions engaged by internet platforms. It further applies two existing theories of harm, namely unilateral effects of horizontal merger framework and foreclosure theory of harm belonging to the vertical merger framework, to outline the inclusion of data markets and consumer data products in the modern antitrust analysis of M&A activity by major internet platforms.

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I. Introduction

The last two decades were marked by the emergence of prominent internet companies whose products and services became ubiquitous. These companies might have initially obtained a competitive edge through the superiority of their products and services, but they depended on various common strategies to maintain their power. Among such prevalent strategies were acquisitions.[1] As of March 2021, "the FTC and DOJ have not sued to block a proposed merger involving Big Tech since 2000" and "Big Tech companies acquired at least 710" companies since then.[2] The fact that technology companies repeatedly preferred to acquire not just their direct competitors, but companies operating in sometimes related and sometimes unrelated markets under the currently used market definition by the federal authorities indeed points to one of the reasons that the DOJ or the FTC were hesitant to block these acquisitions. The industry outlook on competitive threats and on market power differs from those identified by the DOJ and the FTC, because the industry views the market differently than the regulators do.

Such a difference on market definition has important consequences, as the regulatory and judicial assessment of mergers and acquisitions significantly depends on preliminary determination of the relevant market. As the Supreme Court stated, "Because market power is often inferred from market share, market definition generally determines the result of the case."[3]

This paper argues that courts and agencies should define markets for data when they examine internet platform acquisitions of other technology companies if merging entities both

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[1] *See Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations Subcomm. on Antitrust, Commercial and Administrative Law of the H. Comm. On the Judiciary* 116th Cong. 11 (2020), *available at* https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf?utm_campaign=4493-519 ("The significant and durable market power [of dominant platforms] is due to several factors, including a high volume of acquisitions by the dominant platforms.")

[2] CLARE C. YHO, CONG. RESEARCH SERVICE, MERGERS AND ACQUISITIONS IN DIGITAL MARKETS (March 30, 2021), *available at* https://crsreports.congress.gov/product/pdf/R/R46739.

[3] Eastman Kodak Co. v. Image Tech. Servs., Inc., 504 U.S. 451, 470 (1992).

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have the ability to collect consumer data. In doing so, this paper defines data markets and examines the competition in these markets using existing mergers and acquisitions framework of U.S. antitrust laws. It applies the hypothetical monopolist test of *Horizontal Merger Guidelines*, and "practical indicia" of *Brown Shoe* to define data markets in the Clayton Act §7 analysis of acquisitions undertaken by internet platforms. It then describes how the unilateral effects theory of harm in horizontal merger framework and foreclosure theory of harm in the vertical merger framework are applicable to mergers that take place in data markets. The framework proposed by this paper focuses on the number of subscribers in assessing the market power of each company, and suggests measuring the change in market power by the increase in the quality, quantity and variety of data gathered by the combined entity.

Many legal scholars and practitioners acknowledge the importance of market definition in mergers and acquisitions analysis.[4] There also exists scholars and practitioners who argued for the existence of data markets.[5] However, to the best of my knowledge, this paper is the first one to propose the definition of markets for data in regulatory and judicial overview of mergers and acquisitions using the existing U.S. antitrust laws, and provide a roadmap of how a Clayton Act §7 case examining an internet platform's acquisition of a firm with valuable consumer data trove would unfold.

Data haven't been typically viewed as a product by federal regulatory authorities to which Horizontal Merger Guidelines or the vertical merger framework can be applied. Nonetheless, in

[4] *See* Jonathan B. Baker, *Market Definition: An Analytical Overview*, 74 ANTITRUST L.J. 129 (2007). *See also* CLARE C. YHO, CONG. RESEARCH SERVICE, MERGERS AND ACQUISITIONS IN DIGITAL MARKETS (March 30, 2021) ("Defining the market is a key aspect of evaluating the effect of a merger on competition…How digital markets should be defined is beyond the scope of this report.")

[5] *See* Pamela Jones Harbour & Tara Isa Koslov, *Section 2 in a Web 2.0 World*, 76 ANTITRUST L. J., 769, 789 (2010); Maurice E. Stucke, *Should We be Concerned About Data-opolies*, 2 GEO L. TECH. REV. 275, 287 (2018); MAURICE E. STUCKE & ALLEN P. GRUNES, BIG DATA AND COMPETITION POLICY (Oxford University Press 2016); Howard A. Shelanski, *Information, Innovation, and Competition Policy for the Internet*, 161 U. PA. L. REV 1663 (2013).

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certain instances, federal authorities acknowledged the importance of data in antitrust examination of markets. For instance, The New York Post reported that "both [DOJ and FTC] are concerned that a Google-owned Fitbit would give the search giant an even bigger window into people's private data, including sensitive health information."[6] The House Subcommittee on Antitrust Staff Report provided examples of how data is an important product for tech companies in general and a significant component of tech company acquisitions in particular.[7] Despite these acknowledgements, in these two specific instances, Google closed its Fitbit acquisition even though there existed ongoing DOJ review, and Congress has not enacted any legislation on tech company acquisitions. In the merger between Ticketmaster and Live Nation, the DOJ enforcement action did not define markets for data, but the antitrust analysis incorporated data as an important asset with consequences for both horizontal and vertical competition.[8] Despite these acknowledgements of the importance of data for competition, markets for data are still not formally introduced to regulatory and judicial overview of mergers and acquisitions.

As former Commissioner of the FTC Pamela Jones Harbour and former Attorney Advisor of FTC Tara Isa Koslov state, introducing markets for data into the competition analysis is

[6] Josh Kosman, *Google's $2.1B Acquisition of Fitbit Faces DOJ Probe: Sources*, N.Y. POST, Dec. 10, 2019, *available at* https://nypost.com/2019/12/10/googles-2-1b-acquisition-of-fitbit-faces-doj-probe-sources/; Dave Sebastian, *Google Proceeds With Fitbit Deal, but Government Reviews Continue*, WALL ST. J., Jan. 14, 2021, *available at* https://www.wsj.com/articles/google-closes-fitbit-deal-surviving-regulatory-scrutiny-11610636698.

[7] *See Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations*, *supra* note 1, at 15-16 ("Each of its services provides Google with a trove of user data, reinforcing its dominance across markets and driving greater monetization through online ads.")("[Amazon] has also acquired companies that operate in adjacent markets, adding customer data to its stockpile and further shoring up its competitive moats.")

[8] Press Release, U.S. Dep't of Justice, Justice Department Requires Ticketmaster Entertainment Inc. to Make Significant Changes to Its Merger with Live Nation Inc. (Jan. 25, 2010), *available at* http://www.justice.gov/atr/public/press_releases/2010/254540.pdf; Competitive Impact Statement, United States v. TicketMaster Entertainment, Inc. & Live Nation, Inc. No-10-00139 (D.D.C. filed Jan 25, 2010), *available at* http://www.justice.gov/atr/cases/f254500/254544/pdf. *See also* Pamela Jones Harbour & Tara Isa Koslov, *Section 2 in a Web 2.0 World*, 76 ANTITRUST L. J., 769, 789 (2010).

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necessary to conduct a thorough analysis of the competitive outcomes acquisitions by technology companies yield.[9]

The validity of a focus on the importance of consumer data is also proven by industry practices. For instance, as the Investigation of Competition in Digital Markets Staff Report for the Subcommittee on Antitrust, Commercial and Administrative Law reveals, in an internal communication, Facebook's Vice President and Deputy General counsel said that Facebook acquired Onavo, a virtual private network (VPN), to "enhance our analytics related to cross-app user engagement data, as well as user behavior and market trends, and also to improve advertising effectiveness through demand data and audience targeting in the long term."[10] Similarly, even before its acquisition of Fitbit, Google has been gathering patient medical data through its collaboration with Ascension, the second largest health system in the U.S. by number of hospitals, under "Project Nightingale." [11]

The data market proposal of this paper can easily fall within the scope of current regulatory and legal framework, as it can be built into the horizontal merger, or alternatively vertical merger analysis. It is closer to the existing body of antitrust law compared to some of the changes that are being debated, such as Competition and Antitrust Law enforcement Act of 2021, which proposes to remove the requirement of market definition in the antitrust analysis of mergers and acquisitions.[12]

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[9] Harbour & Koslov, *supra* note 5, at 787 ("If data troves are not squarely included within the scope of compulsory process (separate from the products and services that rely on the data), it may become difficult for enforcement staff to purse data-driven theories as the case evolves because the staff may be less able to evaluate other potential or intended uses for the data.").

[10] *Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations*, *supra* note 1, at 161.

[11] Rob Copeland, *Google's 'Project Nightingale' Gathers Personal Health Data on Millions of Americans*, WALL ST. J., Nov. 11, 2019, *available at* https://www.wsj.com/articles/google-s-secret-project-nightingale-gathers-personal-health-data-on-millions-of-americans-11573496790.

[12] Competition and Antitrust Law Enforcement Reform Act of 2021, S 225, 117th Cong. §13 (2021) ("Establishing liability under the antitrust laws does not require the definition of a relevant market […]").

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This paper is not asserting that the internet platforms had actually violated Section 7 of Clayton Act when they engaged in the acquisitions that are used as examples in following sections. The paper aims to show that defining markets for data is a useful, and even necessary, component of the antitrust analysis of internet platform acquisitions, because the examples provided throughout the paper demonstrate that markets for data have become an integral component of the business models of modern internet platforms and other technology companies.

The paper is organized as follows. Part II describes some of the important acquisitions that major internet platforms undertook or are in the process of completing where the purchase of consumer data likely was an important source of value. Some of the acquisitions delineated in this part are used to exemplify certain conclusions in later parts of the paper. Part III describes the current mergers and acquisitions analysis in the U.S., and Part IV provides the current market definition exercise conducted by U.S. antitrust laws. Part V proposes markets for data and provides the antitrust analysis of internet platform acquisitions using this new market definition and existing horizontal merger framework. In Part VI, the paper describes how, alternatively, the existing vertical merger framework can be used to examine internet platform acquisitions using the data market definition provided in Part V. The vertical merger analysis acknowledges that data have become important inputs for many of the goods and services that such platforms sell. Part VI provides both references to other academic papers that focus on data in the antitrust analysis, and also examines how other currently existing legal frameworks can be used to incorporate data in the regulatory and judicial evaluation of internet platform acquisitions. This section demonstrates either how this paper builds on such ideas or why such methods are insufficient when applied to internet platform acquisitions. Part VII concludes.

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II. Recent Acquisitions by Major Internet Platforms

The biggest tech companies of the modern times reached their current statuses as corporate giants with the help of numerous acquisitions. Google, whose parent company Alphabet reached $2 trillion in market value, made around 250 acquisitions until now.[13] Among the companies that Google acquired (or is in the process of acquiring) are Android, a company providing mobile operating systems; Fitbit, a consumer electronics and fitness company; YouTube, an online video sharing platform; Looker, a business intelligence platform; Nest Labs, a home automation company; and Motorola Mobility, a consumer electronics and communications company.[14] Facebook, whose market capitalization reached $1 trillion, engaged in more than 78 acquisitions in the past two decades.[15] The list of companies acquired by Facebook includes WhatsApp, a messaging platform; Oculus VR, a virtual reality headset company; Instagram, a photo and video sharing social networking service; Onavo, a web analytics company; and Atlas Solutions, an online advertising company.[16] Similarly, Amazon engaged in noteworthy acquisitions, such as the purchases of Whole Foods, the supermarket chain; Ring, a smart home security services provider; Zappos, an online shoe and clothing retailer; and PillPack, an online pharmacy.

Three trends emerge in various acquisitions that big internet platforms undertook within the last two decades: first, acquired companies did not necessarily provide direct substitute or

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[13] Katrina Lewis & Nico Grant, *Google Parent Alphabet Hits $2 Trillion Market Value After Rally This Year*, BLOOMBERG, Nov. 8, 2021, *available at* https://www.bloomberg.com/news/articles/2021-11-08/alphabet-hits-2-trillion-market-value-after-71-rally-this-year.

[14] *Infographic: Google's Biggest Acquisitions*, CBINSIGHTS, Nov. 1, 2019, *available at* https://www.cbinsights.com/research/google-biggest-acquisitions-infographic/.

[15] *Facebook Closes Above $1 trillion Market Cap for the First Time,* CNBC, Jun. 28, 2021, *available at* https://www.cnbc.com/2021/06/28/facebook-hits-trillion-dollar-market-cap-for-first-time.html; *Facebook Added Over $350 Billion in Value Since 2016. Can It Repeat?*, FORBES, Aug. 5, 2020, *available at* https://www.forbes.com/sites/greatspeculations/2020/08/05/facebook-added-over-350-billion-in-value-since-2016-can-it-repeat/?sh=7d42164117f4.

[16] Carly Hallman, *Everything Facebook Owns: Mergers and Acquisitions from the Past 15 Years*, TITLEMAX, *available at* https://www.titlemax.com/discovery-center/lifestyle/everything-facebook-owns-mergers-and-acquisitions-from-the-past-15-years/.

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complementary services or products to the tech giants' primary products or services. Second, the pecuniary valuation of acquired companies did not impose a constraint on the internet platforms' companies to purchase their target. For instance, Amazon bought Whole Foods for $13.7 billion, Google acquired YouTube for $1.65 billion, and Facebook purchased WhatsApp for $19 billion.[17] Third, federal authorities in the United States, such as the Federal Trade Commission and the Department of Justice, did not stop these acquisitions. Only recently, towards the end of 2020, the Federal Trade Commission filed an injunctive and equitable relief against Facebook's acquisition of Instagram in 2012 and WhatsApp in 2014.[18]

III. Brief Overview of the Current Mergers and Acquisitions Analysis

Although federal authorities haven't typically considered data as a product with its own market, the current statutory framework is amenable to the acceptance and analysis of data markets. Before examining how data as a product can and should be incorporated in the internet platform acquisitions in the rest of the paper, this section briefly reviews the current mergers and acquisitions law in the United States.

Section 7 of Clayton Act governs the modern merger analysis, according to which it is illegal for one person (or company) to "acquire" the "stock," "share capital," or "assets" of another if the effect of such a transaction "may be substantially to lessen competition, or to tend to create a monopoly."[19] Proposed mergers and acquisitions that meet a certain threshold are subject to review by Antitrust Division of the Department of Justice and the Federal Trade Commission for

[17] Sylvain Saurel, *The 5 Best Acquisitions in Google's History and Why the Next Will be in the Cloud World*, MEDIUM, July 31, 2019, *available at* https://medium.com/swlh/the-5-best-acquisitions-in-googles-history-and-why-the-next-will-be-in-the-cloud-world-e8b8c0a3c54b; *Infographic: Amazon's Biggest Acquisitions,* CBINSIGHTS, June 19, 2019, *available at* https://www.titlemax.com/discovery-center/lifestyle/everything-facebook-owns-mergers-and-acquisitions-from-the-past-15-years/.
[18] Fed. Trade Comm'n v. Facebook, Inc., No. CV 20-3590 (JEB), 2021 WL 2643627 (D.D.C. June 28, 2021).
[19] 15 U.S.C. §18 (2018).

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potential violations of §7 of Clayton Act.[20] Furthermore, Antitrust Division of the Department of Justice, the Federal Trade Commission, private parties and state attorneys general can challenge mergers and acquisitions that fall below the filing thresholds or consummated mergers and acquisitions using Section 7 of Clayton Act.[21]

Different doctrinal frameworks are applied to mergers and acquisitions based on the competitive relationship between merging entities. Entities that are located at the same level in a production chain of goods or services are horizontal competitors, and a combination of such entities are evaluated using the horizontal merger framework. The Department of Justice and Federal Trade Commission jointly issue Horizontal Merger Guidelines for the evaluation of such mergers and acquisitions. Technically, these guidelines are not federal rules as are defined in administrative law, and consequently do not bind parties, or need not be applied by courts. In their mergers and acquisitions analysis, courts must operate using Clayton Act §7. Despite being a guidance document, Horizontal Merger Guidelines are often viewed as persuasive authority by courts. Equally important is the strong subscription of federal regulators to these guidelines in the Hart-Scott-Rodino Act review process. As a result, Horizontal Merger guidelines play an influential role in determining the fate of mergers and acquisitions.

Horizontal Merger Guidelines provide specific market concentration thresholds according to which the Department of Justice and Federal Trade Commission assess the necessity of challenging the proposed merger, and thresholds can imply anything from unwarranted scrutiny to presumption of market power enhancement.[22] The application of these thresholds implies that the

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[20] FED. TRADE COMM'N, TO FILE OR NOT TO FILE: WHEN YOU MUST FILE A PREMERGER NOTIFICATION REPORT FORM (2008), *available at* https://www.ftc.gov/sites/default/files/attachments/premerger-introductory-guides/guide2.pdf.

[21] Clayton Act §§4 and 16 provide the private causes of action to private persons and state attorneys general.

[22] Horizontal Merger Guidelines of 2010 state that mergers and acquisitions that cause a small change in concentration, defined as an increase in the Herfindahl Hirschman Index (HHI) of less than 100 points, or those that take place in concentrated markets, defined as markets with an HHI below 1500, "are unlikely to have adverse competitive effects

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relevant market must be defined as a preliminary step. Consequently, market definition is pivotal for the outcome of federal regulators' analysis of the proposed merger.

Entities that are located at different levels in the same production chain are vertical competitors whose combination is assessed under the vertical merger framework. Merger of entities that operate in different supply chains are analyzed using the conglomerate merger framework. Conglomerate mergers include those between entities producing the same good or service in different geographical area, or between entities producing non-competing goods or services located in different supply chains, including goods or services located in adjacent product markets or unrelated product markets.

Plaintiffs who bring any Section 7 case against transacting entities bear the burden of showing that the combined entity will possess market power that can cause competitive harm, and, in horizontal merger cases, courts also look for substantial evidence of entry barriers.[23] Hence, defining markets is an essential component of every Section 7 case. In all Section 7 cases, to prove their case, plaintiffs need to present a theory of harm under which the transaction will hurt competition, whereas defendants are entitled to certain defenses, depending on the nature of competition between transacting entities.

Specifically, in horizontal mergers, plaintiffs can put forward *coordinated effects* or *unilateral effects* theory of harm. Coordinated effects refer to the increase in the facility of achieving collusion or oligopoly pricing without explicit coordination, also called conscious parallelism, that result from higher market concentration due to the merger or acquisition.

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and ordinarily require no further analysis." Mergers and acquisitions that yield an HHI between 1,500 and 2,500 and cause an increase of more than 100 points in HHI, or those that result in markets with an HHI above 2500 and cause an increase in the HHI between 100 and 200 points "potentially raise significant competitive concerns and often warrant scrutiny." Those that result in markets with an HHI above 2500 and involve an increase in the HHI of more than 200 are "presumed to be likely to enhance market power." U.S. Dep't of Justice & Fed. Trade Comm'n, Horizontal Merger Guidelines (2010) [hereinafter Horizontal Merger Guidelines].

[23] United States v. Baker Hughes, Inc. 908 F.2d 981, 990 & n. 12 (D.C. Cir. 1990).

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Unilateral effects theory of harm introduces the augmented pricing power of firms that produce differentiated products resulting from the increase in market power after the merger or acquisition. If the market participants produce differentiated products or services, the existence of competition between entities will not be sufficient to bring profit margins to perfectly competitive levels.[24] Alternatively, unilateral effects theory of harm arises when non-merging market incumbents are not able to respond to the price increase of merging entities by increasing their production. In exploring under the horizontal merger framework the potential harm to competition that results from internet platform acquisitions in data markets, this paper will dwell on competitive harm caused by the merged company's ability to charge supracompetitive price for its differentiated product or service.[25] Hence, the following sections will use unilateral effects theory of harm in exploring how the current horizontal merger framework can be used in markets for data. For vertical mergers, theory of harm available to plaintiffs that is relevant to this paper is *foreclosure*.[26] Foreclosure theory of harm in a Section 7 vertical merger case can take a variety of forms. The entity that operates both in the upstream and downstream market after the merger can increase entry barriers by controlling an essential input produced in the upstream market or output produced in the downstream market and force the new firm to enter both markets. Alternatively, the newly formed combined entity might foreclose the upstream or downstream market by refusing to deal with incumbents at either level of the supply chain. Regulatory overview of vertical mergers also requires the definition of the primary market even though the merging entities operate in different levels of a supply chain, consequently belonging to different markets.

[24] This type of market interaction is named "monopolistic competition" in the economics literature.
[25] *See* Section V. *See also* FTC v. Staples INC 970 F.Supp.1066 (D.D.C. 1997).
[26] *See* Brown Shoe Co. v. United States, 370 U.S. 294, 303, 323-324 (1962). *See also* CHRISTOPHER SAGERS, ANTITRUST .309 (Wolters Kluwer, 3th ed. 2021).

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In conglomerate mergers, plaintiffs can only prove harm by showing that the transaction will hinder potential competition.[27]

In response, defendants can make their case by showing the efficiencies gained from the transaction outweigh the anticompetitive consequences, or by proving that one of the parties would go bankrupt without the transaction.[28] In addition to defining data markets and applying the horizontal and vertical merger analysis, the following sections also address, and provide rebuttals against, the efficiency arguments that might arise in the examination of internet platform acquisitions with competitive implications for consumer data.

IV. Current Market Definition Analysis

Section 7 of Clayton Act states that all relevant markets must be examined in analyzing the competitive effects of a merger or acquisition: mergers and acquisitions are prohibited "where in *any line of commerce* or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or tend to create a monopoly."[29] (emphasis added) In *Philadelphia National Bank*, the Court stated that "If anticompetitive effects in one market could be justified by procompetitive consequences in another, the logical upshot would be that every firm in an industry could, without violating §7, embark on a series of mergers that would make it in the end as large as the industry leader."[30] As Commissioner Christine Wilson notes, the Court's interpretation of the phrase "in any line of commerce" "meant that a court must assess the economic effects in each relevant market separately."[31] Despite this language, so far,

[27] CHRISTOPHER SAGERS, ANTITRUST (Wolters Kluwer, 3th ed. 2021).
[28] *Id*.
[29] 15 U.S.C. §18 (2018).
[30] United States v. Philadelphia Nat. Bank, 374 U.S. 321, 370 (1963).
[31] CHRISTINA S. WILSON, *THE UNINTENDED CONSEQUENCES OF NARROWER PRODUCT MARKETS AND THE OVERLY LEVERAGED NATURE OF* PHILADELPHIA NATIONAL BANK 3 (2019), *available at* https://www.ftc.gov/system/files/documents/public_statements/1532894/wilson_-_remarks_at_oxford_antitrust_enforcement_symposium_6-30-19_0.pdf.

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mergers and acquisitions between internet platforms and technology firms have been analyzed only with respect to their primary products or services. Data are an integral part of almost all services provided online, and these companies gather immense amounts of data as they provide their primary products and services. Nonetheless, courts or regulators have not officially defined markets for data. Not defining markets for data, regulators consequently did not evaluate the increase in market power post acquisition in such markets. For instance, in evaluating Google's acquisition of DoubleClick, the FTC defined the relevant markets as those for ad serving, to which DoubleClick but not Google belonged, and those for ad intermediaries and for sponsored search advertising, to which Google but not DoubleClick belonged. The FTC responded to concerns about the combination of the entities' data sets of consumer information by concluding that consumer privacy was a non-price attribute of competition and concerns about privacy was not sufficient hinder Google's acquisition of DoubleClick.[32]

Although the Commission came close to identifying data markets when it recognized, and rebutted, the argument that data might be an essential input to a successful online advertising product, this statement did not go beyond a one sentence recognition.[33] Similarly, Jessica Rich, Director of Consumer Protection, in a letter to Facebook warned the company against using data on WhatsApp users after Facebook's acquisition of WhatsApp, without the Federal Trade Commission officially recognizing data markets in its approval.[34] Indeed, the Federal Trade

[32] CHRISTINE S. WILSON, FED. TRADE COMM'N, STATEMENT OF FEDERAL TRADE COMMISSION CONCERNING GOOGLE/DOUBLECLICK (2019), *available at https://www.ftc.gov/system/files/documents/public_statements/1532894/wilson_-_remarks_at_oxford_antitrust_enforcement_symposium_6-30-19_0.pdf* ("[t]his is not the first time that the Commission has been asked to block a merger, notwithstanding that the transaction is not likely to create, enhance, or facilitate market power in violation of the antitrust statutes we enforce…we investigated the possibility that this transaction could adversely affect non-price attributes of competition, such as consumer privacy… We have therefore concluded that privacy considerations, as such, do not provide a basis to challenge this transaction.")

[33] *Id.*

[34] Letter from Jessica Rich, Dir., Bureau of Consumer Protection Fed. Trade Comm'n, to Erin Egan, Facebook Chief Privacy Officer, and Anne Hoge, WhatsApp General Counsel (Apr. 10, 2014), *available at*

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commission did not make a public statement about its antitrust analysis of this merger. However, in another instance, the Department of Justice, without defining markets for data, acknowledged the importance of ticketing data in the merger between Ticketmaster and Live Nation.[35]

Defining markets is a critical step in analyzing the competitive effects of all mergers and acquisitions, because market power is inherently determined by market definition. The Supreme Court summarized the tight relationship between market power and market definition in various cases. In *Du Pont* the Court noted, "[d]etermination of the relevant market is a necessary predicate to finding a violation of the Clayton Act because the threatened monopoly must be one which will substantially lessen competition 'within the area of effective competition.' Substantially can be determined only in terms of the market definition."[36] In *Eastman Kodak*, the Court said: "Because market power is often inferred from market share, market definition generally determines the result of the case."[37] Since a merger or acquisition that is deemed not to significantly increase market power or concentration will be allowed without further analysis, when services of the merging entities are deemed to belong to different markets, the acquisition is likely to be approved. [38]

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https://www.ftc.gov/system/files/documents/public_statements/297701/140410facebookwhatappltr.pdf. *See also In re: WhatsApp*, THE ELEC. PRIVACY INFO. CTR., *available at* https://epic.org/privacy/internet/ftc/whatsapp/.

[35]United States v. Ticketmaster Ent., Inc., No. 1:10-CV-00139, 2010 WL 5699134 (D.D.C. July 30, 2010), amended, No. 1:10-CV-00139-RMC, 2020 WL 1061445 (D.D.C. Jan. 28, 2020). *See also* Harbour & Koslov, *supra* note 5, at at 789.

[36] United States v. E.I. du Pont de Nemours & Co., 353 U.S. 586, 593 (1957).

[37]Eastman Kodak Co. v. Image Tech. Servs., Inc., 504 U.S. 451, 470 (1992). *See also* Jonathan B. Baker, *Market Definition: An Analytical Overview*, 74 ANTITRUST L.J. 129, 129 (2007); Christina S. Wilson, *The Unintended Consequences of Narrower Product Markets and the Overly Leveraged Nature of* Philadelphia National Bank (2019), *available at* https://www.ftc.gov/system/files/documents/public_statements/1532894/wilson_-_remarks_at_oxford_antitrust_enforcement_symposium_6-30-19_0.pdf.

[38] *See* Horizontal Merger Guidelines, *supra* note ("The hypothetical monopolist test requires that a product market contain enough substitute products so that it could be subject to post-merger exercise of market power significantly exceeding that existing absent the merger."). *See also* Horizontal Merger Guidelines §4.1.3 ("[…] the ultimate goal of market definition is to help determine whether the merger may substantially lessen competition.").

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In the current antitrust examination of mergers and acquisitions, markets are defined by demand substitution.[39] In *du Pont*, the Supreme Court said that goods that are "reasonably interchangeable by consumers for the same purposes" constitute a market.[40] The Department of Justice Horizontal Merger Guidelines also adopts demand substitution as the determinant of market definition and incorporates this idea in its hypothetical monopolist test. The hypothetical monopolist test starts with an initial product market and asks whether a hypothetical monopolist would find it profitable to increases the price of some or all products by a small but significant and nontransitory amount. If a SSNIP is not profitable for the hypothetical monopolist, the product scope of market is increased to include next best substitutes.[41]

Antitrust authorities can also make use of the practical indicia provided by the Supreme Court in *Brown Shoe* to define submarkets in their analysis of an acquisition's competitive effects.[42] In *Brown Shoe*, the Court says,

> The outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and substitutes for it. However, within this broad market, well-defined submarkets may exist which, in themselves, constitute product markets for antitrust purposes […] The boundaries of such a submarket may be determined by examining such *practical indicia* as industry or public recognition of submarket as a separate economic entity, the product's peculiar characteristics and uses, unique production facilities, distinct consumers, distinct prices, sensitivity to price changes, and specialized vendors. Because §7 of the Clayton Act prohibits any merger which may substantially lessen competition "in *any* line of commerce", it is necessary to examine the effects of a merger in each such economically submarket to determine if there is a reasonable probability that the merger will

[39] As Jonathan Baker notes, "some U.S. courts have also employed market definition to account for a second economic force, supply substitution[…] The Merger Guidelines instead account for supply substitution in steps of merger analysis that take place after market definition […]". Baker, *supra* note 37, at 134.
[40] United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377, 395 (1956). *See also* Baker, *supra* note 37, at 132.
[41] Horizontal Merger Guidelines, *supra* note 22, at §4.0 ("Market definition focuses solely on demand substitution factors, i.e., on customers' ability and willingness to substitute away from one product to another in response to a price increase or a corresponding non-price change such as a reduction in product quality or service."). *See also* Baker, *supra* note 37, at 144.
[42] Brown Shoe Co. v. United States, 370 U.S. 294, 325 (1962).

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> substantially lessen competition. If such a probability is found to exist, the merger is proscribed.[43] (emphasis added)

The application of practical indicia does not necessarily completely replace the market definition analysis focused on buyer substitution, as described by the Supreme Court. Instead, practical indicia and submarkets can be used to examine the effects of a merger to which the application of buyer substation might not be immediately clear, such as the unilateral competitive effects of mergers between sellers of differentiated products.[44]

The current application of the antitrust framework to internet platform mergers and acquisitions appears to raise two questions, which might give the impression that current antitrust laws and data markets are incompatible. However, as this paper shows in following sections, it is feasible to examine data markets using the existing legal framework, and doing so would remove the discrepancy between the regulatory and judicial outlook on internet platforms, which tends to ignore consumer data as a product, and industry practices, which appears to immensely value consumer data. There exist two main superficial obstacles that might suggest the inapplicability of the existing antitrust framework to data markets. Firstly, in the status quo, most if not all, of the acquisitions by large internet platforms are not seen as horizontal or vertical mergers in the markets for their primary products and services, except insofar as the acquired firms are nascent or potential rivals. When the antitrust examination focuses on the primary products and services of internet platforms and target technology companies, the merging entities tend to be deemed to belong to different markets, because these firms usually provide differentiated services whose success

[43] *Id*.
[44] *See* Baker, *supra* note 37, at 144. *See also* Jonathan Baker, *Stepping Out in an Old Brown Shoe: In Qualified Praise of Submarkets*, 68 ANTITRUST L.J. 203, 203 (2000) ("A single analytical approach – the use of practical indicia to identify submarkets – has been employed to address four concepts: buyer substitution, seller substitution, unilateral competitive effects of mergers among sellers of differentiated products, and price discrimination markets.")

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depends on network effects. Network effects allow for only a few firms, if not a single firm, to saturate the market.[45] Also, in these markets, success depends on innovation, and innovation cannot be achieved by providing the same or a very similar primary services or products as do market incumbents. Consequently, proposed mergers and acquisitions appear to be between firms that do not live in the same market, which might be a true assessment if one only focuses on primary products and services. As a result, these merger and acquisition proposals pass regulatory examination without being blocked.

Consider Facebook's acquisition of WhatsApp. At the time of its acquisition, WhatsApp was, and still is, a messaging and Voice over Internet Protocol service provider that required the user to know the telephone number of those with whom the user wanted to communicate. In contrast, Facebook was, and to a great extent still is, an online social media and social networking service provider that allowed the user to create his/her own page where s/he posts multimedia, and to comment on posts shared by other Facebook users. Unlike WhatsApp, Facebook allowed users to connect with others solely by sending virtual requests to connect, without actually meeting them or knowing their telephone numbers, and it permitted users to share multimedia with every Facebook user. Briefly stated, WhatsApp was a cheaper substitute for the expensive short message platforms owned by telecommunications companies, whereas Facebook was a social network competing against Google+. If Facebook were to begin charging prices, or increasing other costs for its services, it seemed unlikely that users would switch to WhatsApp, which lacked many of the features that Facebook had.

[45] *See* John Newman, *Antitrust in Zero-Price Markets: Applications*, 94 WASH. U. L. REV. 49, 63 (2016) ("Zero-price products are often highly differentiated (at least from the perspective of users), making the reasonable-interchangeability approach (and its functional-interchangeability variant) particularly unsuited for market-definition analysis.")

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Additionally, in the current framework, the market structure, such as market shares attributed to market participants, is highly dependent on sales, and this dependency can raise issues when services are offered for free. Specifically, the Horizontal Merger Guidelines say that,

> In most contexts, the Agencies measure each firm's market share based on its actual or projected revenues in the relevant market. Revenues in the relevant market tend to be the best measure of attractiveness to customers, since they reflect the real-world ability of firms to surmount all of the obstacles necessary to offer products on terms and conditions that are attractive to customers.[46]

As Jonathan Baker asserts, there exists an assumption in the analysis conducted by federal authorities that increased market concentration yields higher prices.[47] This is also true for merger cases brought under Section 7 of the Clayton Act.[48]

The reliance on sales and the presumed effect of higher concentration on prices might appear to raise the second major issue in the application of current market definition to acquisitions by internet platforms and technology companies. Many of the companies that are the subject of this paper offer their services to consumers for free.[49] However, as the following sections demonstrate, neither the focus on buyer substitution nor the importance of price as a measure of market power

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[46] Horizontal Merger Guidelines, *supra* note 22, at §5.2.

[47] Baker, *supra* note note 37, at 130; *see also* Horizontal Merger Guidelines, *supra* note 22, at §4.1.2.

[48] Newman, *supra* note 45, at 73 (citing FTC v. Cardinal Health, Inc. 12 F. Supp. 2d 34, 52 (D.D.C. 1998)) ("Generally, under Section 7 of the Clayton Act, a prima facie case can be made if the government establishes that the merged entities will have a significant percentage of the relevant market- enabling them to raise prices above competitive levels").

[49]Indeed, there exist academic papers on the application of antitrust laws to markets with zero prices. Generally addressing non-price dimensions, Jonathan Baker states that "[…] there is no bar, in principle, to basing the market definition algorithm on a small reduction in competition on some nonprice dimension if that alternative is more convenient." Baker, *supra* note 37, at 147. Specifically addressing zero prices, John Newman proposes using information and/or attention costs instead of prices and employing the hypothetical monopolist test: "The question becomes whether a hypothetical monopolist would likely impose an 'SSNIC' – a small but significant and non-transitory increase in (exchanged) costs – on customers." Newman, *supra* note 45, at 64. Similarly, when products or services are free, Maurice Stucke proposes the application of "SSNDPP – a small but significant, nontransitory decrease in privacy protection" test. Maurice E. Stucke, *Should We be Concerned About Data-opolies*, 2 GEO L. TECH. REV. 275, 287 (2018). Besides the issues identified by John Newman with regards to using information or attention costs in lieu of prices, such as the heterogeneity of attention and information costs and problems arising out of the identification of the relevant cost, there exists the additional problem that large technology companies consistently did not choose to acquire firms that provide services similar to theirs. In other words, even if the markets are defined as John Newman suggests, the acquired companies delineated in Section II will almost always be deemed to belong to a different market.

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in the current antitrust framework disallow its application to data markets when antitrust authorities examine acquisition by internet platforms.

V. Proposal for a New Market Definition in Acquisitions by Major Internet Platforms and Horizontal Merger Analysis

The main argument of this paper is that consumer data should be viewed as a product in of itself, even when neither the acquirer technology firm or platform's nor the acquired firm's main product or service is consumer data. If antitrust authorities merely examine the primary products or services, it is likely that they will miss the competition implications of the merger on consumer data collection. Focusing on primary products, antitrust authorities will conclude that consumers are unlikely to view the services of the merging entities as substitutes. As previously mentioned, internet platforms provide highly differentiated services, and because of the importance of network effects and innovation, the presence of one company is usually sufficient to saturate the market for a specific service. Successful internet platforms have already eliminated other firms that provide the same or a similar service by creating the necessary network for a platform to survive and prosper at the expense of their competitors. When these unique qualities of platforms are taken into account, it is not sufficient to focus on demand substitution among primary products as the major determinant of market definition. As an example, consider Google's acquisition of YouTube. Even if Google were to make its search engine costlier with respect to some dimension, users will not start watching videos when they need to conduct an online search. Similarly, if Google made paid search advertising costlier, it is unlikely that advertisement purchasers will substitute to video advertising. Such platforms will decide to purchase other firms in two cases: if

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another platform offering a different service is starting to create a robust network, [50] or if another platform offering a different service is able to gather richer consumer data because of the nature of its primary product or service.[51] For instance, when Google acquired Nest Labs for $555 million, Nest was a producer of thermostats and smart carbon monoxide detectors. As Maurice Stucke and Allen Grunes express in their book, it is more probable that Google was interested in the consumer data aggregation capabilities of Nest and Nest's existing consumer network, rather than in Nest Lab's thermostat or security camera technology.[52]

The framework proposed by this paper identifies collection of consumer data as an important competitive objective in the acquisitions undertaken by internet platforms. Aggregation of consumer data should not be viewed only as a consumer privacy issue by regulators and courts; instead, courts and regulators should acknowledge that consumer data is a product with its own market that is worthy of antitrust analysis in the evaluation of mergers and acquisitions, especially those that internet platforms undertake.

The current legal framework is amenable to the identification of consumer data as products with a separate market. As previously mentioned, Clayton Act §7 explicitly asks for the examination of all relevant markets in the analysis of a merger or acquisition.[53] Consequently, even though the primary products or services that merging entities offer might not be consumer

[50]The first reason, the presence of another platform starting to create a robust network, can also be evaluated using the nascent competitor framework. This possibility is evaluated in Section VII, The advantage of the framework proposed by this paper is that it includes both nascent competitors and acquisitions that are motivated by access to different kinds of consumer data.

[51] *See* Joshua D. Wright & Elyse Dorsey, *Antitrust Analysis of Big Data*, 2 COMPETITION L. & POLICY DEBATE 35, 35 (2016) ("Firms are constantly trying to collect, compile, analyze and utilize this vast and varied information – not only from individuals, but also across economic sectors, in areas relating to healthcare, education, weather, supply chains, and on and on.")

[52] STUCKE & GRUNES, *supra* note 5, at 89 ("[i]t is highly unlikely that Google suddenly became interested in thermostats and security cameras. Rather, these were data-driven mergers. The concern here is that Google 'could use data collected from people's homes to better target its advertising.") (citing John Ribeiro*, Google's Acquisition of Nest Gets US FTC Clearance*, PC WORLD, 5 Feb. 2014, *available at* http://www.pcworld.com/article/2095040/googles-acquisition-of-nest-gets-us-ftc-clearance.html).

[53] *See* Section IV.

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data, courts and regulators are allowed to examine the consumer data market when both entities engage in significant data collection. In defining markets for data, U.S. courts and regulators can make use of the existing antitrust framework.

The first tool that regulators can use to define data markets is buyer substitution in general, and the hypothetical monopolist test that is outlined in the Horizontal Merger guidelines in particular. The application of this test to data might be slightly challenging and would need some modification because not all internet platforms might be selling data to third parties directly. Nonetheless, news reports indicate that at least some of the major platforms do sell data. For instance, Twitter sells its data as commercial data feeds.[54] However, when an internet platform does not sell data directly to a third party, an immediate price for data might not exist. In those instances, regulators would need to look at price and cost decomposition of products that use data as an input, such as advertising and marketing services, that are supplied by many, if not all internet platforms. Applying the hypothetical monopolist test described in the Horizontal Merger guidelines, the regulators would ask whether "a hypothetical profit-maximizing firm, […], that was the only present and future seller of consumer [data] likely would impose at least a small but significant and non-transitory increase in price on at least one [type of consumer data], including at least [one type of consumer data] [gathered and sold directly, or indirectly as an input for a different product or service] by one of the merging firms".[55] Buyer substitution relevant to market definition is the following hypothetical exercise: start with a candidate market involving the collection of consumer data by some group of online platforms. Suppose all those firms, collectively, were to insist that purchasers of data pay a small but nontrivial amount. Would enough

[54]Kalev, Leetaru, *Twitter Versus Facebook: Why Selling Access Is Better Than Selling Data*, FORBES, Apr. 13, 2019, *available at* https://www.forbes.com/sites/kalevleetaru/2019/04/13/twitter-versus-facebook-why-selling-access-is-better-than-selling-data/?sh=2d8fe740660e.
[55] *See* Horizontal Merger Guidelines, *supra* note 22.

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buyers, either those entities that purchase consumer data directly from the internet platform, or those entities that indirectly pay for consumer data when they purchase a product or service from the internet platform such as advertising, stop using online platforms that participate in the candidate market as to make this move unprofitable for platforms as a group?

Consumer data, as might be obtained through a merger, would let the platform learn more about individual consumers. It is true that with this advanced knowledge, platforms can and most probably will offer better products to purchasers whether they are selling data directly or indirectly, which seems to imply an efficiency defense for the merger. Those platforms that sell data directly will have a richer dataset available to purchasers, and those platforms that use data as an input in their products or services will engage in better targeting of specific individuals with this advanced knowledge. However, the greater concentration of consumer data could also allow the platform to raise prices above quality adjusted competitive price.[56] Consequently, data purchasers are harmed. This thought experiment looks at harm that is on the paid side of platform.

Because, by definition, platforms are two sided, regulators can also examine harm on the "free" side of the platform. Although I will outline the argument for this side of the platform, namely the interaction between consumers whose data are collected and the platform, this argument runs the risk of removing the analysis from the realm of antitrust law by insinuating consumer privacy concerns. For this reason, it might be prone to being disregarded by regulators and courts as falling outside of the scope of antitrust laws. On the free side of the platform, the conceptual experiment would be as follows: start with a candidate market involving the collection of consumer data by some group of online platforms. Suppose all those firms, collectively, were

[56] *Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations*, *supra* note 1, at 52 ("Without adequate competition, firms are able to collect more data than a competitive market would allow, further entrenching their market power while diminishing privacy in the process.")

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to insist that all consumer users supply a small but nontrivial amount of additional personal information which the platform values. Would enough consumers stop using the platforms that participate in the candidate market as to make this extraction of data unprofitable for the platforms as a group? The idea behind this exercise is that the platform could induce consumers to provide more data than they would have given the platform in a more competitive market. The harm would be to consumers, and the buyer substitution that is relevant to market definition would involve consumers responding the platform's efforts to extract more data by using these platforms less.

The second analysis available to antitrust authorities when defining markets is the "practical indicia" of described in *Brown Shoe*.[57] When applied to the setting of internet platforms, the reasoning delineated in *Brown Shoe* can suggest that, despite defining the outer boundaries of the market for internet platforms based on the cross-elasticity of demand for the primary products or services offered by such platforms, antitrust regulators and courts can still find a submarket for consumer data. Consequently, even when there does not exist substitution between the primary products or services offered by the merging entities, this finding might not foreclose the finding of a submarket for data, if both entities are capable of collecting consumer data as a part of the delivery of their primary products or services. Markets for data would satisfy the practical indicia to which the Supreme Court points.[58] For instance, markets for data are recognized as a separate entity by both industry and public, as evidenced by the direct and indirect sale of consumer data in which internet platforms engage, and many academic papers written by economists on the topic.[59] The Wall Street Journal reported that, "Amazon told Vivint, a manufacturer of smart-home

[57] Brown Shoe Co. v. United States, 370 U.S. 294, 325 (1962).
[58] *Id*.
[59] Dirk Bergemann & Marco Ottaviani, *Information Markets and Nonmarkets*, in HANDBOOK OF INDUSTRIAL ORGANIZATION IV 593. 606. *See also* Anat Admati & Paul Pfleiderer, *Direct and Indirect Sale of Information,* 58 ECONOMETRICA 901 (1990); Anat Admati & Paul Pfleiderer, *Monopolistic Market for Information*, 39 J. ECON. THEORY 400 (1986); Anat Admati & Paul Pfleiderer, *Selling and Trading Information in Financial Markets,* 78 AMERICAN ECON. REVIEW 96 (1988), Dirk Bergemann et al., *Selling Impressions: Efficiency vs. Competition*, Cowles

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devices that, 'it would only allow the company to remain on the Echo if Vivint agreed to give it not only the data from its Vivint function on Echo, but from every Vivint device in those customers' homes at all times."[60]

In addition, consumer data has peculiar characteristics and uses that are different than the primary product offered by most of the internet platforms. For instance, whereas none of the internet platforms consider data as their primary product and the primary products and services offered are social networking for Facebook, online search for Google, e-commerce for Amazon, and computer hardware and software for Microsoft, among others, all of these companies have the ability for and engage in consumer data collection. Similarly, among the companies that are purchased by these internet platforms are Fitbit, a consumer electronics and fitness company, Nest, a smart home products company, Youtube, an online video sharing and social media platform, Instagram, a social networking service, and WholeFoods, a supermarket chain. Despite not specializing in data collection, all of these acquired firms do collect data. Both acquirers and acquires use consumer data for unique purposes, such as better consumer targeting, advertising, marketing, enhancement of service provision, real time demand identification and direct sale of data to third parties. Similarly, even though none of the internet platforms or their acquisition targets have specialized facilities for data production, in the sense that more traditional industries,

Foundation Discussion Paper 2291 (2021); Dirk Bergemann and Alessandro Bonatti, *Markets for Information: An Introduction*, 11 ANNUAL REVIEW OF ECON. 85 (2019); Daron Acemouglu et al., *Too Much Data: Prices and Inefficiencies in Data Markets*, Discussion Paper, MIT (2019); Dirk Bergemann et al., *The Economics of Social Data*, RAND J. OF ECON. 2021; Jacopo Perego et al., *The Value of Data Records*, Discussion Paper UC San Diego and Columbia University (2021).

[60] Dana Mattioli & Cara Lombardo, *Amazon Met with Startups About Investing, Then Launched Competing Products*, WALL ST. J., July 23, 2020, *available at* https://www.wsj.com/articles/amazon-tech-startup-echo-bezos-alexa-investment-fund- 11595520249. *See also Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations*, *supra* note 1, at *314*.

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such as shoe manufacturers examined in *Brown Shoe,* might have specialized production facilities, all of these platforms and their acquisition targets have specialized divisions for data analysis.

So far, "practical indicia" described in *Brown Shoe* are used to define a consumer data submarket when the primary products of merging entities deemed to belong to different markets. However, "practical indicia" can be further used to evaluate the harm from unilateral effects that the merger might cause. Hence, consumer data submarket can be divided into further submarkets using the "practical indicia." Such subdivision might be beneficial because consumer data are highly differentiated products themselves. Stated differently, all of the internet platforms and almost all of the modern good and service providers collect consumer data. Given this reality, it would be difficult to find harm under coordinated effects theory, because including all the internet platforms and other data collecting firms in the market will dilute the market power that the merging entities possess. The key recognition is that the types of consumer data that these platforms and firms collect are highly differentiated. When entities that produce differentiated goods or services merge, 'localized' competition between these products might be harmed.[61] The merger might remove a competitive price pressure for these differentiated products in the submarket, even though such effects might not be observed in the larger market.[62]

In data markets, although the platforms and their acquisition targets might not be producing similar primary products, they might be collecting adjacent or complementary types of consumer data, and neither entities data might provide market power without those of the other. For instance, talking to Washington Post, Ramon Llamas, an IDC analyst, said about Google's acquisition of

[61] *See* Baker, *Stepping Out in an Old Brown Shoe: In Qualified Praise of Submarkets*, *supra* note 44, at 209 (A merger among sellers in differentiated product industries may harm competition if it results in the loss of 'localized' competition among products sold by the parties. Put differently, the transaction may be harmful if it removes an important source of competitive discipline for any or all of the two firms' products).
[62] *Id*.

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Fitbit, "'This is not a hardware play. This will feed into both companies' health-care strategy and fill in data gaps.' He [also] noted Fitbit collects data like hours of sleep, heart rate and steps taken — information that is otherwise difficult to amass."[63] Indeed, this market power arising out of Google's proposed Fitbit acquisition was recognized by the European Commission. As a precondition for its approval of the acquisition, the European Commission prohibited Google from using health and location data obtained through Fitbit of any user in the European Economic Area for targeted advertising.[64] Similarly, when Google purchased Nest, Nest "didn't rule out sharing […] data with Google."[65] About the acquisition, the Washington Post said, "By monitoring customers' thermostat use, Google would be able to determine when a user is at home and when they're out. It would know the limits of your comfort zone, and perhaps even combine it with information gathered from your cell phone to make even deeper determinations." As these examples show, internet platforms tend to acquire companies that collect specific types of consumer data that the platform itself collects imperfectly. For instance, Google was most likely able to collect, through Google search and Gmail, some kind of a health data before it acquired Fitbit, and data on individuals' schedules before it acquired Nest. However, these data collection endeavors were not the best they could be, and so the acquisitions might have significantly enhanced Google's ability to collect consumer health and daily routine data. "Practical indicia" outlined in *Brown Shoe* can be used to narrow down on "local competition" in certain types of consumer data, which can lead to a finding of harm via unilateral effects. As Jonathan Baker notes,

[63]Greg Bensinger, *Why Google, a Software Giant, is Spending Billions to Get into Gadgets*, WASHINGTON POST, Nov. 4. 2019, *available at* https://www.washingtonpost.com/technology/2019/11/04/googles-hardware-dreams-havent-yet-yielded-home-run/.
[64] Thomas Ricker & Nick Statt, *Google's Fitbit Acquisition Wins EU Approval*, THE VERGE, Dec. 17, 2020, *available at* https://www.theverge.com/2020/12/17/22158271/googles-fitbit-deal-eu-regulator-approval.
[65] Brian Fung, *Google Just Bought Nest for $3.2 billion, What Happens to Nest's User Data?*, WASHINGTON POST, Jan 13, 2014, *available at* https://www.washingtonpost.com/news/the-switch/wp/2014/01/13/google-just-bought-nest-for-3-2-billion-what-happens-to-nests-user-data/.

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"[t]here is no theoretical bar to using the market definition machinery – and the *Brown Shoe* practical indicia – to identify submarkets in which localized competition is important, even if a broader market is also defined for analyzing the likelihood of coordinated competitive effects."[66] Such an identification of a submarket could obtain support from the Horizontal Merger Guidelines, which aims to identify the smallest possible market satisfying the hypothetical monopolist test.[67]

Nonetheless, markets for data should not be defined too narrowly, because data variety matters for power in the consumer data market. Internet platforms tend to engage in acquisitions to obtain a greater variety of consumer data. These platforms would not target companies that accumulate substitute data sets; instead complementary consumer data are more valuable. Rather than acquiring companies that collect same types of consumer data, internet platforms would want to enrich their consumer data portfolio though acquisitions, because richer data troves would enable these companies to provide both higher quality data products in direct sales, and better consumer targeting, demand estimation and marketing services if they use data as inputs. With richer consumer data, these internet platforms are able to acquire or maintain power both in their primary markets and in other markets for which consumer data play a significant role.[68]

Once the market for consumer data, or a type of consumer data, is defined, market power of the merging entities can be measured by the number of subscribers to their services, on whom

[66] Baker, *Stepping Out in an Old Brown Shoe: In Qualified Praise of Submarkets*, *supra* note 44, at 216.
[67] Horizontal Merger Guidelines, *supra* note 22, at §4.1.1.
[68] *See* STUCKE & GRUNES, *supra* note 5, at 136 ("[t]he real issue in data-driven mergers like Google/Nest Labs is not whether Google's data is substitutable with the data collected from the thermostats and surveillance cameras. Instead, the issue is whether the merger, in enabling the firm to amass a greater variety of data, may likely increase the firm's ability to maintain its dominant position, to leverage its dominance into another market, or to otherwise lessen competition in any side of the multi-sided market."). *See also* STUCKE & GRUNES, *supra* note 5, at 136-137 "[C]ourts generally require the agencies to provide economic evidence that the merging parties' products are 'good substitutes' and therefore in the same market. Data-driven mergers at times defy this logic. The value of the target firm's data lies in its variety and non-substitutability with the data that the acquirer already possesses. Nonetheless, in acquiring the data, the firm can attain or maintain significant market power.")

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the companies collect data. Indeed, this component of the proposed framework is not without precedent. As John Newman points out, in *LiveUniverse, Inc.*, the court refused to define a firm's market share exclusively based on the "quantity of goods or services actually sold to consumers."[69] "Instead, the court adopted number of users as the market-share metric […]"[70] One obstacle to this definition of market power is the potential presence of multi-homing by subscribers. In the presence of multihoming, subscribers that engage in multihoming can be counted multiple times, giving the absolute number of subscribers/users each entity has. Alternatively, regulators and courts can measure market share by total user search hours spent on each platform. The acquisition can be deemed to result in an increase in market power if the combined company is able to gather more diverse data on each subscriber or gather data on a greater number of subscribers. In other words, the anticompetitive power can come from the ability both to increase the scope of data per subscriber and to increase the number of subscribers on whom consumer data are collected.

VI. Markets for Data and Vertical Merger Analysis

So far, the analysis provided focused on examining the competitive effects of mergers in data markets using the horizontal merger framework. However, acquisitions undertaken by internet platforms can also be examined for their competitive effects using the vertical merger framework. The key to this analysis is to view data as an important input to many of the goods and services that internet platforms provide.[71]

The main theory of harm that makes vertical mergers illegal is foreclosure. In *Brown Shoe*, the Supreme Court said,

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[69] LiveUniverse, Inc. v. MySpace Inc. No CV 06-6994 AHM (RXz), 2007 WL 6865852 (C.D. Cal. June 4, 2007), *aff'd*, 304 Fed. App'x 554 (9th Cir. 2008); Newman, *supra* note 49, at 73.
[70] Newman, *supra* note 45, at 73.
[71] Howard A. Shelanski, *Information, Innovation and Competition Policy for the Internet*, 161 U. PA. L. REV. 1663, 1679 ("[…] customer information can be an input of production that enables a business to improve its service offerings and increase its returns.")

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> The primary vice of a vertical merger or other arrangement tying a customer to a supplier is that, by foreclosing the competitors of either party from a segment of the market otherwise open to them, the arrangement may act as a 'clog on competition,' which 'deprive[s] […] rivals of a fair opportunity to compete.[72]

Consumer data are important inputs for many of the products and services that internet platforms sell. For instance, consumer data are a fundamental input for advertising, allowing platforms to target consumers more accurately. Given that consumers tend to be provided services by internet platforms free of charge, it is to be expected that such platforms generate revenue from elsewhere, and advertising tops the list for many of the major platforms. For instance, the New York Times reported that "advertising revenue, which makes up the bulk of Facebook's income, rose 46 percent to $25.4 billion [in 2021]."[73] Similarly, CNBC reported that "[m]ore than 80% of Alphabet's revenue comes from Google ads, which generated $147 billion in revenue [in 2020]."[74] As the House Committee on the Judiciary finds in their investigation of competition in digital markets, "[i]n 2017, *Business Insider* reported that Google and Facebook accounted for 99% of year-over- year growth in U.S. digital advertising revenue.[713] Today, advertisers and publishers alike have few options when deciding how to buy and sell online ad space."[75] In the same report, it is also found that "Google and Facebook do not provide access to this unique data in open data exchanges. Advertisers' only access to this information is indirect—through engagement with Google and Facebook's ad tech."[76] Assuming that firms that compete with these internet platforms in their primary product or service markets follow a similar business model to generate revenue, monopolization of consumer data closes off input sufficient to force platform competitors to enter

[72] Brown Shoe Co. v. United States, 370 U.S. 294, 323-324 (1962).
[73] Mike Isaac, *Facebook Nearly Doubles Its Profit and Revenue Risee 48 percent as Tech Booms*, N.Y. TIMES, Apr. 28, 2021, *available at* https://www.nytimes.com/2021/04/28/business/facebook-earnings-profit.html.
[74] Megan Graham and Jennifer Elias, *How Google's $150 billion Advertising Business Works*, CNBC, Oct. 13, 2021, https://www.cnbc.com/2021/05/18/how-does-google-make-money-advertising-business-breakdown-.html.
[75] *Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations*, *supra* note 1, at 131.
[76] *Id*.

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the consumer data market that was foreclosed. Consumer data markets can easily be foreclosed both because new platforms would not be able to create networks robust enough to compete with those of the incumbent platforms due to network effects, and because acquisition targets also tend to provide differentiated products, preventing new platforms from finding substitute acquisition targets even if they wanted to acquire consumer data similar to what the incumbent platform is obtaining through its acquisition. Advertising is one, but not the only, service that depends on consumer data as inputs. For instance, as Symons and Bass report, "Facebook use their API to control who gets access to customers' social graph, Facebook Connect and Graph API. They can use this to cut off any developer who poses competitive threat. The result is that few developers invest seriously in creating alternatives."[77] Similarly, a former Amazon employee that the Subcommittee on Antitrust, Commercial and Administrative Law interviewed said,

> It's important to understand that Amazon has access to every piece of data on what products each customer has searched and purchased [or] not purchased. . . . With information about what customers have searched, Amazon is able to create customized marketing [and] targeting of products for the individual customer. "Is Amazon using a particular [third-party] seller's data here? No," but it is using all of the aggregate site data to develop a highly targeted marketing plan for each customer. Should Amazon choose to use that targeting information to focus [on] its own products, it can, while [third-party] sellers don't have access to similar data.[78]

Consequently, the power that technology firms obtain exogenously by purchasing other firms endows them with insurmountable data advantage that can foreclose to their rivals the markets for their primary goods or services.[79]

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[77] TOM SYMONS & THEO BASS, ME, MY DATA AND I: THE FUTURE OF PERSONAL DATA ECONOMY, 28 (2017).
[78] Investigation of Competition in Digital Markets, Majority Staff report and Recommendations, Subcommittee on Antitrust Commercial and Administrative Law of the Committee on Judiciary, page 283.
[79] *Id*. at n.24 (citing Howard A. Shelanski, *Information, Innovation and Competition Policy for the Internet*, 161 U.Pa. L. Rev. 1663, 1679 (2013) ("[C]ustomer data can be a strategic asset that allows a platform to maintain a lead over rivals and to limit entry into its market."); Frank Pasquale, *Paradoxes of Digital Antitrust: Why the FTC Failed to Explain Its Inaction on Search Bias*, Harv. J.L. & Tech., July 2014 (Occasional Paper Series) ("Google itself controls the chief input into better search services: the data that engineers need in order to better personalize results."); Damien

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VII. Other Proposals for Analyzing Internet Platform Acquisitions

There exists academics who proposed defining markets in antitrust analysis based on data. This paper builds upon and augments their proposals. For instance, FTC former Commissioner Pamela Jones Harbour and former Attorney Advisor of FTC Tara Isa Koslov suggested, "the definition of markets for data, separate and apart from markets for the services fueled by these data."[80] They also note that, "[i]nternet-based firms often derive great value from user data, far beyond the initial purposes for which the data initially might have been shared or collected, and this value often has important competitive consequences."[81] This paper builds on Harbour and Koslov (2010), filling a gap in the legal literature whose existence Harbour and Koslov explicitly acknowledge but do not address: "[w]e acknowledge, but do not attempt here, the challenge of deriving these kinds of product market definitions according to traditional market definition principles (e.g. defining buyers and sellers, identifying substitutes, applying the hypothetical monopolist test, etc.)"[82] This paper shows that the existing antitrust framework could be applied to data markets without major modifications.[83] Furthermore, Harbour and Koslov deal with "market definition in the context of evaluating unilateral conduct by dominant (or potentially dominant) firms under Section 2."[84] Although they "note […] that the same concepts could apply to product market definition in the merger context,"[85] they do not analyze the relationship between the increase in market power and acquisitions. This paper aims to provide a framework specifically tailored to mergers and acquisitions.

Geradin & Monika Kuschewsky, *Competition Law and Personal Data: Preliminary Thoughts on a Complex Issue*, at 2 (Feb. 12, 2013) ("The acquisition of large volumes of data by "first mover" provides may, however, raise barriers to entry and thus deprive users from the benefits of competition.")).

[80] Harbour & Koslov, *supra* note 5, at 773 Section 2 in a Web 2.0 World, Antitrust Law Journal, Vol 76 2010,773

[81] *Id*.

[82] *Id*.

[83] *Id* at 774.

[84] *Id*. at 774.

[85] *Id*.

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Howard Shelanski highlights the importance of information, which this paper calls consumer data, for online platforms, and calls for the inclusion of information markets in the antitrust enforcement against these platforms.[86] Shelanski asserts that "[w]hile increased competition, at least on its own, will not always cause firms to better use or protect customer information, any competitive effects analysis that misses these two nonprice dimensions of platform market performance will be incomplete and could be biased toward underenforcement."[87] Shelanski also asserts that platform acquisitions that combine databases of valuable customer data can be examined using the horizontal merger framework applied to markets for data. This paper further develops these ideas and additionally provides a thorough application of the current merger framework, which includes tools for market definition and for the examination of competition between horizontally and vertically related firms, to internet platform acquisitions that result in a significant aggregation of consumer data.

Maurice Stucke also conducts an antitrust analysis of technology firms whose operations depend on data. In contrast to this paper, which focuses on market definition, Maurice Stucke describes potential competitive harms caused by what he calls data-opolies, such as "degraded quality, surveillance and security risks, wealth transfers, loss of trust, significant costs on third parties, less innovation, less autonomy, and political risks." [88] He then discusses reasons for the durability of these technology firms.

Additionally, acquisitions by internet platforms could be evaluated using the nascent competition framework, or the conglomerate merger paradigm. While some of these frameworks, such as nascent competition, prove fruitful when applied to certain examples provided in Section

[86] Shelanski, *supra* note 71,
[87] Id 1687.
[88] Stucke, *supra* note 49**Error! Bookmark not defined.**, at 285.

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II, they cannot be applied to all of them. These frameworks also leave out the importance of consumer data and do not acknowledge accumulation of such data as an important objective of the proposed acquisitions.

Nascent competitors refer to firms that have the potential to become competitors.[89] As Jonathan Baker observes, "[s]ometimes no one, the firms included, knows whether the acquired firm will ever try to enter, or whether its attempt would succeed. In each case the acquired firm could have developed into a strong challenger to the incumbent. The merger forecloses that possibility […]"[90] As described in Jonathan Baker's book, Carl Shapiro identifies two manners by which nascent competitors can be acquired: "In the first, a large incumbent firm acquires 'a highly capable firm operating in an adjacent space.' He has in mind mergers such as vertical acquisitions by dominant platforms […] In Shapiro's second possibility, a large incumbent firm merges with a supplier, customer, or seller of complementary product or services, where the acquired firm is one able to enter in competition with the incumbent."[91]

The first issue with nascent competition framework is that the probability of the nascent competitor evolving into an actual competitor is always a point of contention. As Jonathan Baker demonstrates with the example of Facebook's Instagram acquisition, the federal agencies can be inclined to not find nascent competition, even when there exist strong arguments for finding such competition. Other issues with nascent competition framework arise out of the two reasons

[89] Horizontal Merger Guidelines, *supra* note 22, at §5.3 ("In analyzing mergers between an incumbent and a recent or potential entrant, to the extent the Agencies use the change in concentration to evaluate competitive effects, they will do so using projected market shares. A merger between an incumbent and a potential entrant can raise significant competitive concerns. The lessening of competition resulting from such a merger is more likely to be substantial, the larger is the market share of the incumbent, the greater is the competitive significant of the potential entrant, and the greater is the competitive threat posed by this potential entrant."). *See also* JONATHAN B. BAKER, THE ANTITRUST PARADIGM: RESTORING A COMPETITIVE ECONOMY 160 (1st ed. 2019) [hereinafter BAKER, THE ANTITRUST PARADIGM].

[90] BAKER, THE ANTITRUST PARADIGM, *supra* note 90, at 161 (1st ed. 2019). *See also* C. Scott Hemphill & Tim Wu, *Nascent Competitors*, 168 U. PENN. L. REV. 1879 (2020).

[91] BAKER, THE ANTITRUST PARADIGM, *supra* note 90, at 161.

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identified by Carl Shapiro for which technology firms acquire nascent competitors. The traditional vertical merger analysis described by Carl Shapiro does not encompass all of the acquisitions undertaken by technology firms despite the fact that even mergers that fall outside the scope of vertical analysis strengthen the acquirer's market power. Vertical merger framework does not reach such acquisitions because this framework does not identify consumer data as the main product of interest. Furthermore, federal agencies and courts have a more lenient outlook on vertical mergers. Consequently, even those acquisitions that could be evaluated under the vertical merger framework, without identifying consumer data as the main product, escape regulation. The second reason given by Carl Shapiro also does not apply to all of the acquisitions by internet platforms that anticompetitively increase the acquirer's market power. When regulators examine primary products or services provided by merging entities, they tend to find that these products or services do not belong to even adjacent markets. Specifically, not all acquisition targets are "able to enter in competition with the incumbent," because they do not provide complementary or substitute services. For instance, it is unlikely that Fitbit or YouTube will enter into competition with Google in any market besides the market for consumer data.

Lastly, conglomerate merger framework might be applied to acquisitions undertaken by internet platforms; however, this framework is very weak in the U.S. antitrust laws and will unlikely to be successful in preventing the accumulation of power. As expressed in a note by the Department of Justice and the Federal Trade Commission, federal agencies evaluate mergers of complements within the vertical merger framework rather than creating a new category of conglomerate mergers. Furthermore, under the U.S. merger law, "[c]onglomerate mergers that

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raise neither vertical nor horizontal concerns are unlikely to be problematic."[92] As a result, conglomerate merger concept fails to provide a tool that is rigorous enough for the analysis of internet platform acquisitions.

VIII. Conclusion

Observing that almost every acquisition proposed by internet platforms within the last two decades is approved by federal authorities without any significant limitations, this paper aims to propose a new framework for analyzing such acquisitions. It provides a detailed application of the Clayton Act §7 analysis developed by courts and regulators to acquisitions by internet platforms. In doing so, it highlights the importance of defining markets for data, a market that is missing from the existing antitrust analysis. Markets for data are defined using the existing antitrust tools, such as buyer substitution and practical indicia of *Brown Shoe*. This paper also outlines theories of harm that are applicable to the acquisitions of internet platforms that have competitive consequences in markets for data. In conducting this analysis, the main objective of this paper is to show how consumer data constitute a product that should be brought within the scope of antitrust laws, rather than limiting their presence to the jurisdiction of consumer protection laws. Overall, this paper aims to close the gap between the markets in which internet platforms actually operate, as evidenced by the importance of consumer data in numerous acquisitions that these platforms have thus far undertaken, and the market definition applied by federal regulatory and judicial authorities in the antitrust examination of such deals.

[92] DEP'T OF JUST. & FED. TRADE COMM'N, CONGLOMERATE EFFECTS OF MERGERS 2 (2020), *available at* https://www.ftc.gov/system/files/attachments/us-submissions-oecd-2010-present-other-international-competition-fora/oecd-conglomerate_mergers_us_submission.pdf. *See also* JONATHAN B. BAKER (unpublished manuscript).

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