



ARTICLE

**Time for a New Antitrust Era:
Refocusing Antitrust Law to Invigorate
Competition in the 21st Century**

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Abstract. U.S. antitrust laws have repeatedly responded to the changing needs of the nation's economy. As the marketplace grows ever more data-driven, we find ourselves at yet another critical economic juncture that requires us to revisit antitrust practices to ensure healthy and sustainable competition. In this article, we propose two new antitrust approaches that fit into the existing regulatory landscape, detect signs of anticompetitive behavior early, and handle the unique nature of the digital marketplace. First, we advocate for an expanded definition of monopoly power under the Sherman Act that takes corporate data ownership into account. While current proxies for monopoly power, namely market share and price control, are symptoms of anticompetitive behavior, data ownership is increasingly its harbinger. Second, we advocate for an expanded premerger review process that seeks to prevent nascent competitors from being swallowed up by dominant players, a widespread practice that can be shown to reduce competitiveness. To this end, we leverage new insights from network science and empirical data to anticipate which types of mergers are most likely to have anticompetitive effects. Finally, we propose scalable regulatory strategies to discourage the anticompetitive behaviors we describe in their incipiency, without requiring case-by-case review.

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I. Introduction

Antitrust laws have responded to the changing needs of the U.S. economy since their emergence in the late 19th century. Rapid industrialization and the increasingly monopolistic market power of trusts led to the Sherman Act of 1890.¹ The Sherman Act did not prohibit firms from merging into conglomerates, a loophole that triggered a historic surge in mergers.² Congress responded by passing the Clayton Act of 1914 to shore up these statutory shortcomings.³ More recently, the Hart-Scott-Rodino Antitrust Improvements Act of 1976 (HSR Act) updated and amended the Clayton Act and established the premerger notification program.⁴ At critical junctures in the nation's history and economic development, Congress has modernized antitrust law to meet new challenges.

Once again, the economic tides are turning, and our increasingly global and digital economy presents a new antitrust landscape. To ensure a vibrant and competitive marketplace in the future, antitrust regulation must adjust to the unique needs of the 21st century economy. In this article we propose two ways in which existing U.S. antitrust regulation may be updated and reinterpreted to better address the needs of the digital economy. Our specific goal is to outline antitrust metrics that facilitate the identification of anticompetitive behavior in its early stages before significant damage to competition and consumer welfare can occur.

In Part II, we argue that traditional proxies for “monopoly power” under the Sherman Act, namely, price control and market share, fail to capture new ways in which a firm may exert—and abuse—power over markets by leveraging data ownership. We advocate for a definition of monopoly power that accounts for control over data resources. We explore how firms use data to exert control over markets and argue that this practice is remarkably similar to the traditionally monopolistic practice of exerting control over prices, which undermines the free market and excludes competition.

In Part III, we argue that antitrust intervention related to mergers under the Clayton Act is overly focused on transaction size and fails to prevent the concentration of “fitness” (a concept from network science that measures a firm's ability to translate size into growth) through acquisitions of emerging firms by dominant players. We propose an early warning system, supported by new computational techniques and empirical data, that seeks to identify mergers that will likely undermine competition.

Finally, we discuss in Part IV how our proposals can be implemented in practice by introducing incentive systems and computational regulatory mechanisms that discourage anticompetitive behavior in its incipency without relying solely on a case-by-case review.

¹ See Wayne D. Collins, *Trusts and the Origins of Antitrust Legislation*, 81 *FORDHAM L. REV.* 2279, 2282-92, 2314 (2013).

² See Debra A. Valentine, Former General Counsel, Fed. Trade Comm'n, Remarks at the INDECOPI Conference: The Evolution of U.S. Merger Law (Aug. 13, 1996) (transcript available at <https://www.ftc.gov/public-statements/1996/08/evolution-us-merger-law>).

³ See *id.*

⁴ See Earl W. Kintner et al., *The Hart-Scott-Rodino Antitrust Improvements Act of 1976: An Analysis*, 46 *GEO. WASH. L. REV.* 1, 3-15 (1977).

II. Data Control Is Monopoly Power

Section II of the Sherman Act makes it unlawful to “monopolize” or “attempt to monopolize.”⁵ The Supreme Court has clarified that “monopoliz[ing]” under Section II has two elements: (1) the “possession of monopoly power in a relevant market,” and (2) the “willful acquisition or maintenance of that power.”⁶ The Supreme Court generally defines monopoly power as “the power to control prices or exclude competition.”⁷ These standards are vague, and courts have historically resorted to market share as a starting point for their monopoly power assessment. Different rules of thumb have emerged for when a firm’s market share has risen to a level that signifies monopoly power. As summarized by Professor Einer Elhauge: “90% is certainly enough, 33% is certainly not, and 60-64% is close to the line.”⁸ Since the 1970s, courts, under the belief that the Sherman Act was designed as a “consumer welfare prescription,”⁹ have increasingly looked at prices to gauge monopoly power.¹⁰ Both market shares and above-market prices can be viewed as proxies for monopolization.

Numerous scholars have, however, pointed to the defects of these metrics.¹¹ An increasing number of firms accused of antitrust violations do not seem to be using their market dominance to price gouge consumers.¹² Many alternative metrics have thus been proposed, ranging from demand elasticity¹³ to nuanced standards revolving around how exactly firms wield their market power to exclude competition.¹⁴ Nonetheless, courts and regulatory bodies continue to focus on market share and price as the primary tools to diagnose monopolization. In this section, we highlight the importance of a more data-oriented and computational approach to detecting monopoly power.

While prices and market shares are symptoms of anticompetitive behavior, data ownership is its harbinger. The modern, digital economy offers new avenues not only for innovation but also for monopolization. Specifically, firms have learned to leverage data to reduce or exclude competition. By accumulating and analyzing user data, companies can predict consumer behavior,¹⁵ identify loyal and profitable customers,¹⁶ launch customized marketing campaigns,¹⁷ anticipate their

⁵ 15 U.S.C. § 2; see also *Verizon Commc'ns, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004). Note that the Sherman Act is generally regarded as a “quasi-constitutional” statute and judicial doctrine largely governs. See e.g., *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 899 (2007) (explaining that the Supreme Court treats the Sherman Act as “a common-law statute” that is adapted by the Court to “meet the dynamics of present economic conditions”).

⁶ *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966).

⁷ *United States v. E. I. du Pont de Nemours & Co.*, 351 U.S. 377, 391 (1956).

⁸ Einer Elhauge, *Defining Better Monopolization Standards*, 56 STAN. L. REV. 253, 259 (2003).

⁹ *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343 (1979).

¹⁰ See, e.g., *Ginzburg v. Mem'l Healthcare Sys., Inc.*, 993 F. Supp. 998, 1015 (S.D. Tex. 1997).

¹¹ See e.g., Elhauge, *supra* note 8, at 257-58; Lina M. Khan, Note, *Amazon's Antitrust Paradox*, 126 YALE L.J. 710, 759 (2017); William M. Landes & Richard A. Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 939 (1981).

¹² See Khan, *supra* note 11, at 710.

¹³ See Landes & Posner, *supra* note 11, at 939.

¹⁴ See Elhauge, *supra* note 8, at 256.

¹⁵ See, e.g., U.S. Patent No. 10,430,803 (Issued Oct. 1, 2019) (available at <https://patents.google.com/patent/US20100161379A1/en>).

¹⁶ See, e.g., Thomas H. Davenport, *Competing on Analytics*, 84 HARV. BUS. REV. 98, 102 (2006).

¹⁷ See, e.g., Sunil Erevelles et al., *Big Data Consumer Analytics and the Transformation of Marketing*, 69 J. BUS. RES. 897, 897 (2016).

competitors' business strategies,¹⁸ and gain the upper hand in negotiating with suppliers and business partners.¹⁹ Companies can thus effectively exclude competition and exert anticompetitive influence long before their dominance is reflected in market share or price control.²⁰ As data analytics tools grow more sophisticated, the primary limit on the power of these tools is the availability of data. Those firms that control data will have the ability to exert outsized influence and extract excessive profits from consumers. In our view, 21st century antitrust enforcement must therefore consider a company's "data share" to determine its monopoly power.

The Federal Trade Commission (FTC) has also begun to take notice of the link between data ownership and monopoly power.²¹ In a 2019 presentation its general counsel, Alden Abbott, argued that the large collection of data by "high tech platforms" raises major antitrust concerns. Abbott argued, however, that access to big data alone should not be presumed to create market power and that such a presumption could chill innovation.²² In our view, certain types of data control ought to be viewed as per se anticompetitive because the insights derived from certain data sets can create a highly effective barrier to competition.

In fact, barriers to competition may appear naturally whenever a company controls data from a network of customers or suppliers. In these cases, the principle of Metcalfe's Law may be applied: namely, doubling the amount of data controlled by a platform company quadruples the company's value.²³ For example, ridesharing platforms like Uber and Lyft enjoy an outsized benefit from concentrating data on their platforms. When a user requests a ride, the data about the request is controlled by the platform on which it is made. A platform controlling a large number of ride requests will attract drivers, leading to a faster matching of riders to drivers which, in turn, attracts more ride requests. This feedback mechanism creates entry barriers for nascent platforms. In the instant case, data control alone acts as a barrier to entry. This illustration begs the question why a platform, and not the user, should control the user's data? If the user could broadcast her request for a ride on a ridesharing network, to which multiple companies have access, then the advantage of asymmetric data control vanishes. Indeed, as will be discussed in Part IV, frameworks with decentralized data ownership, such as data trusts,²⁴ generally reduce entry barriers.

¹⁸ See, e.g., Liang Guo et al., *Automated Competitor Analysis Using Big Data Analytics*, 23 BUS. PROC. MGMT. J. 735, 735-36 (2017).

¹⁹ See, e.g., Nada R. Sanders, *How to Use Big Data to Drive Your Supply Chain*, 58 CAL. MGMT. REV. 26, 32 (2016).

²⁰ For example, Amazon controlled approximately 46% of online shopping in 2016—below the thresholds cited by Elhauge—and the company does not seem to use its market position to charge above-market prices (in fact, Amazon is accused of predatory pricing). However, the company effectively cross-leverages data from different lines of business to gain a significant competitive advantage, for example, by using sales data from merchants on Amazon to inform what products to produce under the Amazon label or extracting insights from Amazon's cloud computing business to guide its investment strategy. See Khan, *supra* note 11, at 712, 780-83.

²¹ Alden F. Abbott, General Counsel, Fed. Trade Comm'n, *Big Data and Competition Policy: A US FTC Perspective*, Address at the Penn Wharton China Center (Jul. 6, 2019).

²² *Id.*

²³ James Hendler & Jennifer Golbeck, *Metcalfe's Law, Web 2.0, and the Semantic Web*, 6 J. WEB SEMANTICS 14, 14-15 (2008).

²⁴ In general terms, a data trust is a third party that holds data on behalf of individuals and allows other entities to use the data under a set of predefined conditions. See generally Alex Pentland & Thomas Hardjono, *Data Cooperatives*, in *BUILDING A NEW ECONOMY: DATA AS CAPITAL* (Alex Pentland et al. eds.,

Outright ownership of certain data sets by a company makes it impossible to audit how this data is used. As we will argue in Part IV, companies should be incentivized not to hold data outright but rather to entrust it to third-party data trusts or to the consumers themselves, from which they can obtain auditable insights. New computational techniques, like federated learning,²⁵ make it possible to extract insights from data without accessing the raw data directly. These techniques are increasingly making aggregated data ownership unnecessary for legitimate extraction of business insights, and so ownership of data ought to be viewed with suspicion.

III. Fitness-Based Merger Review

The second pillar of U.S. antitrust law, the Clayton Act, seeks to prevent mergers and acquisitions which substantially lessen competition or tend to create monopolies.²⁶ Under the Clayton Act, as modernized by the HSR Act, if a deal meets certain criteria related to transaction size, and size of the parties to the transaction, premerger notification is required and the FTC or the Department of Justice (DOJ) will review the merger.²⁷ These regulatory agencies may then issue a “second request” to obtain further business information to scrutinize the transaction.²⁸ In 2019, 2,089 premerger notifications were made and 61 transactions were scrutinized by the FTC or the DOJ.²⁹ Based on our analysis of private mergers and acquisitions presented below, at least half of all mergers in this time period did not meet the premerger reporting threshold.

The current approach to antitrust review of mergers fails to prevent “killer acquisitions,” in which dominant firms acquire nascent competitors with the primary goal of lessening competition.³⁰ A substantial number of these killer acquisitions fails to meet the threshold for premerger notification.³¹ The transactions that fall below the notification threshold are exempt from premerger review, and therefore, represent a blind spot for the agencies.³² As we show in this section, killer acquisitions represent just the tip of the iceberg. While some acquisitions of nascent companies by established firms are intended to take out competition, a greater number of acquisitions are completed without this intent but nonetheless have this effect. As we show below, a large fraction of such acquisitions falls below the reporting threshold.

MIT Press 2021), <https://wip.mitpress.mit.edu/pub/pnxgvubq/release/2>. Note that Pentland and Hardjono refer to data cooperatives rather than trusts. For the purposes of this article, a data cooperative is simply a specific type of data trust that is owned and governed by the individuals who make their data available to the cooperative, akin to a credit union.

²⁵ Federated learning is a machine learning technique that allows insights to be drawn from data without access to the raw data itself. See generally Keith Bonawitz et al., *Towards Federated Learning at Scale: System Design*, ARXIV PREPRINT (2019), <https://arxiv.org/pdf/1902.01046.pdf>.

²⁶ 15 U.S.C. § 18.

²⁷ *Premerger Notification and the Merger Review Process*, FED. TRADE COMM’N, 27, <https://www.ftc.gov/tips-advice/competition-guidance/guide-antitrust-laws/mergers/premerger-notification-merger-review> (last visited Mar. 9, 2021).

²⁸ *Id.*

²⁹ Joseph J. Simons & Makan Delrahim, *Hart-Scott-Rodino Annual Report, Fiscal Year 2019*, FED. TRADE COMM’N. & DEP’T OF JUSTICE (2020), https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-bureau-competition-department-justice-antitrust-division-hart-scott-rodino/p110014hsrannualreportfy2019_o.pdf.

³⁰ Colleen Cunningham et al., *Killer Acquisition*, 129 J. POL. ECON. 649, 685-87 (2021).

³¹ *Id.*

³² *Id.*

The conclusion that rampant under-the-radar acquisitions hamper competitiveness is not only intuitive, but it is also backed up by new research on the dynamics of complex systems. Lera, Pentland, and Sornette's recent paper in the Proceedings of the National Academy of Sciences outlines the conditions under which monopolies emerge in digital network environments.³³ The authors develop a method to anticipate the emergence of overly dominant agents and predict the effect of a merger on system-wide competitiveness. This method represents an early warning system that can detect anticompetitive conditions in a market and identify early interventions.

The authors' network model can be applied to the antitrust context by representing the relevant market as a network that consists of agents and connections between these agents. Agents represent firms, suppliers, and customers while the connections between agents represent business relationships between these entities. The authors assume that an agent's growth rate is proportional to the number of connections it has. This "law of proportional growth" has been used to describe the growth dynamics of firms since the early 20th century.³⁴ The proportionality constant that governs the relationship between a given firm's growth rate and this firm's number of connections is referred to as "fitness." In essence, fitness quantifies how well a given firm translates size (measured by the number of business relationships it has) into growth. When modeling networks that obey the law of proportional growth, the authors observe two distinct regimes: the fit-get-richer (FGR) regime and the winner-takes-all (WTA) regime.

The wine industry provides an illustration of the FGR regime: there are thousands of wineries that compete with one another, some large, some small, but no one winery seems to exert significant control over the industry as a whole. Some wineries may become very successful but no one winery dominates the market for extended periods of time. The WTA regime is illustrated reasonably well by the U.S. telecommunications industry: a relatively small number of telecoms dominate the U.S. market, and all of them are large companies with slow growth, offering similar services. Although these telecoms would likely be characterized as low-fitness agents, it is challenging for a new firm to enter the telecommunications market. More abstractly, under the FGR regime, the influence of any one agent on the network as a whole is negligible. Meanwhile, under the WTA regime, the network is largely dependent on, and controlled by, a few agents.³⁵ From an antitrust perspective, the WTA regime is clearly undesirable.

Certain conditions related to the distribution of fitness in the marketplace tend to give rise to the desirable FGR regime. The study finds that, given sufficient competitiveness, a network will remain in the FGR regime. Under these sufficiently

³³ Sandro C. Lera, Alex Pentland & Didier Sornette, *Prediction and Prevention of Disproportionally Dominant Agents in Complex Networks*, 117 PROC. NAT. ACAD. SCI. 27090 (2020).

³⁴ *Id.* at 27094.

³⁵ The quantitative difference between the two regimes can be understood in terms of how the network degree distributions change over time: The FGR regime corresponds to a power-law degree distribution, with agents' influences distributed over a wide range of values. Meanwhile, in the WTA regime, the distribution exhibits a truncated power-law, where one or more agents have a degree larger than the point of truncation and hence dominate the system disproportionately.

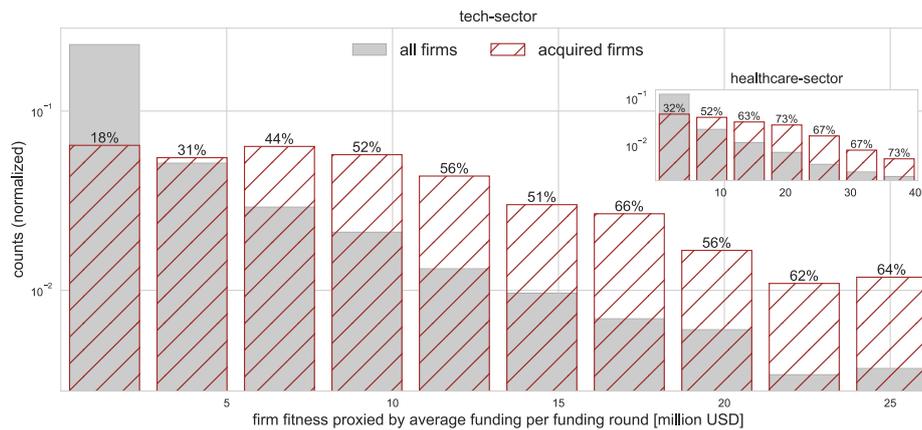
competitive conditions, some agents may temporarily become dominant, but these overly fit agents will predictably be replaced. However, when a market contains a majority of low-fitness agents, competition will be insufficient to guarantee this self-correction and the few fittest agents may take control. When competition is insufficient to ensure the FGR regime, an external force (e.g., a regulator) may need to intervene to ensure a healthy distribution of fitness and avoid the WTA regime. Crucially, the authors observe that this intervention should not simply punish the fittest agents. To remove one dominant agent from the network is to sever but one of the Hydra's many heads—a new agent will appear to take its place. To slay the beast, the underlying system-wide distribution of fitnesses must be balanced to promote the FGR regime. This insight implies that the seemingly intuitive and widespread countermeasure of preventing the most dominant agents from growing further does not solve the problem in the long run. Instead, it is the weakest agents that need to be supported to generate a more balanced fitness landscape and thus a healthier, more competitive system.

With its focus on transaction sizes, the Clayton Act takes the ineffective growth-preventing approach, improvidently slashing off heads without killing the Hydra. In doing so, it incurs precisely the harm predicted—it does nothing to stop dominant firms from swallowing up would-be competitors before they become big enough to pose a real threat. Facebook's acquisition of Instagram can be viewed as one example of a monopolistic practice that eluded the Clayton Act's enforcement powers.³⁶ The traditional antitrust approach addresses only the symptom of disproportionately dominant firms rather than the underlying cause, which is a fundamentally imbalanced distribution of fitness. A better approach is to foster more balanced competition by improving the relative fitness of underperforming agents. The most effective form of intervention is one which ensures that a large number of competitive, innovative, and fast-growing firms remains in the system. From this pool of fit firms, the dominant agent's future competition will predictably emerge.

We examine these insights empirically by analyzing four decades of U.S. private equity data which highlights the observation that ubiquitous under-the-radar acquisitions reduce the number of fit firms. Far from being a phenomenon unique to the technology sector, we observe that dominant firms across the economy use acquisitions to buy up precisely those firms that are most likely to compete with them down the line. We proxy the fitness of a private company by the average amount of money raised per round of funding (we obtain similar results for other measures of fitness). As shown below, firms with a high level of fitness are systematically more likely to be acquired, and approximately half of the transactions that involve a high fitness firm fall below the HSR reporting threshold. While we only consider the size-of-transaction threshold here, in reality even more transactions would likely go unreported because the parties to these transactions

³⁶ See *FTC Sues Facebook for Illegal Monopolization*, FED. TRADE COMM'N. (Dec. 9, 2020), <https://www.ftc.gov/news-events/press-releases/2020/12/ftc-sues-facebook-illegal-monopolization> (asserting that Facebook's acquisition of Instagram was part of a "systematic strategy" to "eliminate threats to its monopoly").

do not meet the size-of-person threshold.³⁷ The results support our hypotheses: (1) high-fitness companies are disproportionately more likely to be bought up, and (2) a significant fraction of acquisitions involving high fitness firms falls below the statutory reporting threshold. In the figure below we show our results for the U.S. technology and healthcare sectors, although other industries paint a similar picture.



The bars show the normalized distribution of fitness among firms. Red-dashed bars represent firms that are ultimately acquired while grey bars represent firms that are not. In both the technology sector (main plot) and the healthcare sector (inset plot) high fitness firms are more likely to be acquired. The numbers above each bar represent the fraction of acquired firms in that bar that fall above the HSR Act's size-of-transaction reporting threshold. Data source: Crunchbase.

The high number of under-the-radar transactions that may reduce competition poses two main challenges to antitrust enforcement. First, not all these transactions will substantially lessen competition and it is difficult to determine ex ante which of them are most likely to reduce a market's overall competitiveness. Second, the number of transactions dwarfs the number of second requests made by the FTC and the DOJ (e.g., 61 in 2019). This suggests that a case-by-case review of each transaction is unlikely to be feasible. Therefore, to address under-the-radar acquisitions which reduce fitness and promote monopolies, a framework is needed that disincentivizes transactions that concentrate fitness without directly penalizing these deals or requiring case-by-case review.

The HSR Act allows the FTC to exempt transactions from review if they are unlikely to violate antitrust law.³⁸ This language gives the agency the ability to incentivize deal structures that tend to preserve competition by exempting transactions that meet certain criteria. Specifically, firms that structure a deal in a way that minimizes the concentration of fitness could be excluded from filing requirements or secondary review and thereby be incentivized to contribute to a competitive marketplace.

³⁷ See *Steps for Determining Whether an HSR Filing is Required*, FED. TRADE COMM'N., <https://www.ftc.gov/enforcement/premerger-notification-program/hsr-resources/steps-determining-whether-hsr-filing> (last visited Mar. 9, 2021).

³⁸ 15 U.S.C. § 18(d)(2)(b).

IV. Computational Antitrust Remedies

We recognize that extending antitrust enforcement to consider data control and the fitness of merging entities would strain the current regulatory framework. Despite the recent decision to increase funding for both the FTC and DOJ by a total of \$38 million,³⁹ it is unlikely that traditional approaches are sufficient to monitor these new antitrust dimensions. In our view, the most effective interventions are those that disincentivize anticompetitive behaviors in the first place and provide computational means to track violations. This section will outline some computational regulatory mechanisms that discourage anticompetitive behavior and minimize monitoring costs.

A – Discouraging Concentration Via Taxation

A theme in the arguments presented in this article is that a firm's ability to exclude competition is related to its number of customers. In Part II, we discussed how concentrated information about customers may be used to create barriers to entry. In Part III, we focused on the distribution of fitness, which may be proxied by the growth in the number of customers, to anticipate the types of mergers likely to have anticompetitive effects. It seems intuitive for a solution to be based directly on the number of customers a company has.

One such proposal would be a progressive tax that is related to the number of users a company has and the amount of data about these users it controls. Such a tax could counterbalance many of the subtle advantages that result from the concentrated ownership of user data. Moreover, a tax may disincentivize mergers that concentrate data or users. The idea of using taxation as an antitrust device is not without precedent, as the Corporate Excise Tax of 1909—passed between the Sherman Act and the Clayton Act—has been characterized as an antitrust device.⁴⁰ Furthermore, several recent proposals have called for a tax on data, although these plans tend to be motivated by factors other than antitrust concerns.⁴¹

The envisioned tax policy might proxy the number of users and the amount of user data controlled by an online platform through the cost of advertising on the platform and the platform's conversion rate (the rate at which users act on an advertisement they encounter). These metrics are important: the cost of advertising on a given platform is related to the relative number of individuals who use the platform while the conversion rate captures how much influence the platform exerts on its users. Based on these measures, a tax could be levied that aims to counterbalance the anticompetitive effect of concentrated data ownership.

³⁹ Press Release, After Push from Senator Klobuchar, Antitrust Enforcement Funding Increased (Dec. 28, 2020), <https://www.klobuchar.senate.gov/public/index.cfm/2020/12/after-push-from-senator-klobuchar-antitrust-enforcement-funding-increased>.

⁴⁰ See Marjorie E. Kornhauser, *Corporate Regulation and the Origins of the Corporate Income Tax*, 66 IND. L.J. 53, 53-54 (1990).

⁴¹ See, e.g., Eric Adams & Andrew Gounardes, Opinion, *A Tax on Data Could Fix New York's Budget*, WALL ST. J. (Jun. 1, 2020), <https://www.wsj.com/articles/a-tax-on-data-could-fix-new-yorks-budget-11591053159>; Saadia Madsbjerg, *It's Time to Tax Companies for Using Our Personal Data*, N.Y. TIMES (Nov. 14, 2017), <https://www.nytimes.com/2017/11/14/business/dealbook/taxing-companies-for-using-our-personal-data.html>.

Implementing such a tax regime may be challenging in practice for at least two reasons. First, measuring user numbers and data control can be difficult and may require different approaches in different industries. Second, identifying the correct relationship between these metrics and the applicable tax to achieve the desired effect without unintended consequence would be challenging. While taxation may be an attractive long-term solution to disincentivize the anticompetitive behavior we discuss here, the remainder of this section will focus on solutions that fit into the existing regulatory antitrust environment and which could be implemented more readily.

B – Disincentivizing Data Control

As discussed in Part II, we view control over data in a given market to be analogous to monopoly power. However, certain types of data and certain approaches to storing and utilizing data are more likely to undermine competition than others. The most problematic type of data control is direct ownership of data that is difficult for competitors to obtain or use and which can be used to create barriers to competition. When a company owns data outright, it is difficult to ascertain whether the data is used to lessen competition. When this data is not available to any competitors, then the likelihood that it might be used to undermine competition is especially high.

Data trusts represent a relatively new approach to storing and utilizing data that reduces the probability of data misuses (not only in the context of antitrust) while facilitating auditability.⁴² Put simply, a data trust is a third-party entity that controls data while allowing other entities to extract insights from it. Crucially, data trusts create transparency by allowing the use of data to be audited. Through new computational techniques such as federated learning, a data trust could control data and allow outside entities to derive insights without ever sharing the raw data. In our view, companies that control a significant portion of relevant data in a market but chose to silo it in an auditable data trust that is open for business with competitors should be presumed not to use the data to gain monopoly power,⁴³ provided they allow relevant regulatory agencies to audit data use. This solution does not deprive companies of the ability to use data science to gain legitimate business advantage, but it creates accountability and transparency while generally discouraging anticompetitive behavior.

⁴² Pentland & Hardjono, *supra* note 24.

⁴³ Under the data trust model, the company that collected the data originally retains the ability to set a price for querying its data. This yields another stream of income that compensates the firm for its data, while providing a transparent system of incentives that makes anticompetitive data control less likely and less attractive.

C – Disincentivizing Fitness Concentration

Some deal structures are more likely to concentrate fitness in problematic ways than others. It would be unwise to block all mergers that concentrate firm fitness as it would deprive entrepreneurs and investors of an important avenue for remuneration, likely chilling innovation. Moreover, while it is predictable that some mergers involving fit emerging firms will concentrate fitness and promote a WTA regime, it is not possible to say which of these combinations will have an anticompetitive effect. Therefore, companies should be incentivized to pursue transaction structures that minimize the probability of anticompetitive effects. Conveniently, the HSR Act allows the FTC to exempt “classes of persons, acquisitions, transfers, or transactions which are not likely to violate the antitrust laws.”⁴⁴ Building on these insights, we propose some criteria for mergers and acquisitions involving high-fitness companies that are unlikely to violate antitrust laws.

First, any transaction structure that provides a clear path to independence of the parties to the transaction is unlikely to concentrate fitness. For example, partnerships where a dominant player takes a minority stake without board representation in an emerging firm in order to collaborate and co-develop should be encouraged and subject to reduced scrutiny.

Second, in mergers where data ownership plays a significant role, a scenario we expect to occur more and more frequently, companies should be encouraged not to merge datasets. The combination of different data sets can give rise to unprecedented insights and may result in market dominance. For example, the European Commission’s recent approval of the acquisition of Fitbit by Google was conditional on Google siloing Fitbit data for at least a decade and not using this data to drive Google’s advertising business.⁴⁵ In general, where data plays a significant role in a transaction, companies should be subject to reduced scrutiny if they chose to silo relevant data in a data trust.

Finally, it is also our recommendation that FTC and DOJ take into account the relative fitnesses of two merging entities (proxied as appropriate by revenue growth, user growth or other relevant metrics) to determine when to issue a second request in the merger review process.

V. Conclusion

In the fast-paced and increasingly data-driven digital economy, new antitrust methods must be developed to foster a competitive marketplace. It is especially important to identify proxies and metrics which allow anticompetitive practices to be discovered in their nascency so as to minimize the damage done to the economy. At the same time, these measures must not chill innovation or unreasonably strain the resources of our regulatory system.

⁴⁴ 15 U.S.C. § 18(d)(2)(b).

⁴⁵ *Mergers: Commission Clears Acquisition of Fitbit by Google, Subject to Conditions*, EUR. COMM’N (Dec. 17, 2020), https://ec.europa.eu/commission/presscorner/detail/en/ip_20_2484.

In this article we propose two new approaches to antitrust which fit into the existing regulatory landscape, detect antitrust early, and are tailored to handle the unique nature of the digital marketplace. First, we propose that data control should be viewed as a proxy for monopoly power, analogously to the criteria of price control and market share. While exclusive control of data alone does not technically represent anticompetitive behavior, the availability of methods like data trusts and federated learning suggest that outright ownership is generally unnecessary to obtain legitimate business insights and therefore undesirable. Second, we suggest that the fitness of merging entities should be considered when reviewing mergers. Concentration of fitness can be shown to reduce competitiveness and promote a winner-takes-all regime. Therefore, we propose to exempt transactions that are structured in ways that minimize concentration of fitness under the HSR Act to incentivize corporate combinations that minimize their anticompetitive effect.