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### **A New Approach to Digital Market Mergers: Platform Competition Analysis**

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Competition policy’s current approach to merger analysis relies on outdated frameworks. The traditional distinction between horizontal and vertical mergers does not capture modern market realities, especially in the digital world, and a new way of thinking about mergers is long overdue. In this paper, we propose a new analytical framework called *platform competition analysis* that better addresses anticompetitive behavior in the digital economy.

Today, courts and enforcers almost invariably begin merger analysis by asking whether a merger is horizontal or vertical. This legal-theoretical framework, which has been in force at least since the release of the first horizontal merger guidelines by the DOJ in 1968,<sup>1</sup> fails to address the complexities of the twenty-first century economy. In Part I, we outline the significant problems associated with this traditional approach to merger analysis. While courts have come to regularly approve vertical mergers, treating them as a heuristic for increased economic efficiency, both economic theory and empirical evidence tells us that vertical mergers can, in fact, have significant anticompetitive effects.<sup>2</sup> Moreover, significant mergers that occur in digital markets do not fit cleanly within either a horizontal or a vertical categorization, leaving courts without the theoretical apparatus to enforce structural remedies.

To address the anticompetitive market dynamics that have consequently emerged, and to better tailor enforcement to new market realities, we propose updating this outmoded distinction. In Part II, we describe contemporary forms of anticompetitive behavior that reflect both the drawbacks of vertical mergers and the distinctive characteristics of our digital economy. We depart from the current approach by centering dimensions of competition in our analysis. We hope our approach, which we term platform competition analysis, can be useful in supplementing the existing horizontal-vertical framework. For example, enforcers might treat digital mergers as “related market”<sup>3</sup> mergers subject to platform competition analysis. To help illustrate our framework, we introduce a recent “ecosystem” merger, Google-Fitbit, and use the merger to model the anticompetitive behaviors we describe. Accounting for potential risks in the digital marketplace, our framework moves beyond old binaries and allows consumers, policymakers, and courts to better protect competition. This update will better address anticompetitive conduct in digital markets while also benefiting “legacy” industries.<sup>4</sup>

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<sup>1</sup> U.S. Department of Justice, 1968 Merger Guidelines (1968), <https://www.justice.gov/archives/atr/1968-merger-guidelines>.

<sup>2</sup> Steven C. Salop, *Invigorating Vertical Merger Reinforcement*, 127 *YALE L.J.* 1963, 1963-66 (2018).

<sup>3</sup> For the purposes of this paper, “related market” refers to markets with related characteristics, users, or services that may be connected in platform or ecosystem mergers. Related markets are distinct from the discussion of a “relevant market,” whose boundaries is defined by competition enforcers to assess potential anticompetitive impact. A relevant market analysis may sometimes be insufficient to combating ecosystem mergers because it fails to take into account the effects of a merger both where the firms’ activity is dominant *and* where the effects of the abuse will be felt. *See* Michael G. Jacobides & Ioannis Lianos, *Ecosystems and competition law in theory and practice*, 30 *INDUS. & CORP. CHANGE* 1199, 1206 (2021).

<sup>4</sup> For instance, imagine a proposed merger of two companies that manufacture farming equipment (e.g., equipment used to till soil, plant seeds, apply fertilizer, etc.). If the equipment transmits back to the manufacturer data revealing how much seed farmers planted, how much pesticide was applied, etc., it seems possible the manufacturers might collect and analyze the data and use the data to their advantage in the commodities futures market. The proposed merger, then, could have effects in the market for the sale of newly manufactured farm equipment *and* in the commodities futures market. Our methodology may be helpful in better understanding the merger’s potential effects

In Part III, we show how antitrust doctrine already supplies some of the tools to regulate anticompetitive behavior in digital markets. This Part identifies three ways in which regulators could combat anticompetitive behavior that does not map neatly onto the horizontal-vertical framework. Regulatory goals might best be served by a legal strategy that applies the incipency doctrine under the Clayton Act or a strategy that broadens courts' application of a foreclosure theory of harm.

In Part IV, we extend our analysis of the legal and economic challenges facing antitrust enforcers and expand upon our proposed solution. Ahead of the expected release of the DOJ and FTC's new merger guidelines, we hope that these recommendations provide useful direction as to how regulatory agencies can adapt competition policies to new markets. Part V concludes.

## **I. The Traditional, Horizontal-Vertical Merger Typology Captures Neither the Nature nor the Competitive Dangers of Mergers Affecting Modern Digital Ecosystems.**

The traditional distinction between horizontal and vertical conduct emerged in response to specific market circumstances. After Congress passed the Sherman Act in 1890, which prohibits cartels,<sup>5</sup> businesses started forming single corporations to accrue market power. In response to this large wave of mergers, Section 7 of the Clayton Act prohibited mergers and acquisitions where the effect “may be substantially to lessen competition, or to tend to create a monopoly.”<sup>6</sup> This legislation was taken to refer mostly to “horizontal” competitors, or companies competing closely in consumer choice. When two firms in the same market (e.g., steel production) merge, economic theory clearly predicts the harms of increases in price and decreases in quality and innovation. Since the release of the first horizontal merger guidelines in the 1960s, regulators have screened horizontal mergers with skepticism, including through competitive effects analyses, and courts have regularly prohibited such mergers where appropriate.<sup>7</sup>

Vertical mergers, by contrast, are frequently considered efficient and are met with routine approval by regulatory agencies and courts.<sup>8</sup> Economic theory predicts that vertical integration solves the “double marginalization problem”: the distortion that successive markups by two independent firms with market power in the same supply chain can create. This double markup leads to a retail price higher than the optimal monopoly price, inducing deadweight loss and

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in these seemingly unrelated markets, whereas a traditional analysis might not capture the risks to competition in the futures market.

<sup>5</sup> 15 U.S.C. § 1.

<sup>6</sup> 15 U.S.C. § 18.

<sup>7</sup> Even “some proponents of the outdated Chicago School approach contrast vertical and horizontal mergers, arguing there are intrinsic competitive concerns in horizontal mergers.” Salop, *supra* note 2, at 1972. This especially holds true when the government can establish a “structural presumption” against the proposed merger—which it does by showing a sufficiently high overall concentration and increase in concentration as a result of the merger. If it can do so, the government shifts the burden onto the merging parties to show that the merger will not have the stated anticompetitive effects. See Herbert Hovenkamp and Carl Shapiro, *Horizontal Mergers, Market Structure, and Burdens of Proof*, 1977 (2018).

<sup>8</sup> Salop, *supra* note 2, at 1963. He notes, “Enforcement has been infrequent, and remedies have been limited.”

leading to lower company profit, production, and consumer welfare. Vertical integration can make possible the elimination of double marginalization (“EDM”),<sup>9</sup> though regulatory agencies require that such “cognizable” benefits are both merger-specific and verified.<sup>10</sup> Imagine, for example, that a steel manufacturer merges with or acquires an upstream producer, like a mining company, or a downstream seller, like an automobile company.<sup>11</sup> Instead of two companies each passing on a price hike, the newly formed company would only raise prices once.

Vertical mergers have other potential efficiencies as well. Merged companies can combine distribution channels, achieve economies of scale in production, and sell a full line of products. They can also facilitate relationship-specific investments that could not otherwise be achieved by contract. Vertical mergers offer the possibility of resolving the conflicts of interest and misaligned incentives that result in supply chain inefficiencies and are passed down to consumers in the form of higher prices.<sup>12</sup>

But despite these potential efficiencies, which are not always achieved, vertical mergers can also lead to competitive harms. Decades of economic theory has demonstrated the possibility of foreclosure harms.<sup>13</sup> A similarly substantial empirical literature has assessed the outcome of vertical mergers and found frequent evidence of foreclosure.<sup>14</sup> These harms, already under-recognized by courts, are heightened in the digital economy. Unilateral and coordinated anticompetitive effects in digital markets take a variety of forms, including “foreclosure, [the] reduction or elimination of potential competition, misuse of competitively sensitive information, reduced incentives of the merging firm to disrupt upstream coordination, weakening mavericks or disruptive competitors, and evasion of regulation or long-term private contracts.”<sup>15</sup> These forms of conduct can lead to higher prices and entry barriers; lower quality, variety, and innovation; and reduced returns to workers on their labor and opportunities. The current vertical merger literature is replete with discussions of these drawbacks.<sup>16</sup> The literature shows that if firms have the ability and incentive to do so, they will often use vertical mergers to foreclose customers, suppliers, or distribution. Vertical mergers can also increase the ability of firms to engage in explicit collusion at some level. But these criticisms have not constrained courts. Compared to horizontal mergers, courts do not usually find the costs of vertical mergers to outweigh their efficiencies, leading to the rubber-stamped approval of anticompetitive mergers.

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<sup>9</sup> See, e.g., Robert H. Bork, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 226-27 (1978).

<sup>10</sup> Steven C. Salop, *The 2020 Vertical Merger Guidelines: A Suggested Revision* (31 December, 2021), Georgetown Law Faculty Publications and Other Works, 18 (2021).

<sup>11</sup> Susan Athey & Fiona Scott Morton, *Platform Annexation*, 84 *ANTITRUST L.J.* 693 (2022).

<sup>12</sup> *Id.*

<sup>13</sup> See, e.g., Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals’ Costs To Achieve Power over Price*, *YALE L.J.* (1986).

<sup>14</sup> Marissa Beck & Fiona Scott Morton, *Evaluating the Evidence on Vertical Mergers*, *REVIEW OF INDUSTRIAL ORGANIZATION* 273–302 (2021).

<sup>15</sup> Salop, *supra* note 10, at 4.

<sup>16</sup> Salop, *supra* note 2, at 1974–81.

While DOJ and FTC guidelines have long categorized mergers as horizontal (within the same market) or vertical (within the same supply chain), contemporary competition is not so easily separable and categorized. Although the current guidelines identify some of the competitive harms that the two types of mergers can present, digital markets present anticompetitive effects that fall outside of this simple framework. New merger guidelines should account for the unique characteristics of digital markets to ensure a sufficiently thorough merger review. Updating the current guidelines to address digital markets would give regulators and courts the tools necessary to “be able to treat digital platforms for what they are – firms that have unique features, but not so unique that we must abandon what we know about competition in high-technology, product-differentiated markets.”<sup>17</sup> Such an update presents an opportunity to better protect consumer welfare in the digital age.

#### A. *The Ecosystem Model*

Contemporary market realities make continued court enforcement of the horizontal-vertical distinction dangerous to consumer welfare. To be sure, mergers of firms in more traditional industries can still usefully be defined and treated as vertical mergers. But we emphasize that fewer and fewer mergers today fit that simple classification. Rather, many vertical mergers in the digital economy display anticompetitive effects ordinarily associated with horizontal mergers or produce entirely new risks to market competition. The traditional image of vertical mergers illustrated by our hypothetical steel company does not resemble most corporate mergers today.

Empirically, any individual vertical merger may or may not exhibit the inefficient externalities described above, and the merger may or may not even be able to internalize them. In this Part, we describe digital ecosystems before examining three different kinds of anticompetitive behavior in ecosystems where the horizontal-vertical distinction fails to capture the current and potential relationship between market actors. The existing literature offers multiple definitions for ecosystems and platforms, so rather than limiting our discussion to any one definition, we instead offer a set of defining characteristics that apply to different firms in varying degrees. Diana Moss’s writing on digital business ecosystems (“DBEs”) is especially helpful for our analysis.<sup>18</sup> She finds that mergers in DBEs often do not resolve inefficient externalities, undermining the “adequacy of conventional competition analysis in evaluating market power concerns” in this and other significant ways.<sup>19</sup> According to her research, merger enforcement in the digital technology sector ranks “unusually low” at 2.5%, compared to the average 15% across all sectors.<sup>20</sup> These platforms, especially when owned by a single firm and dominating a given market, demonstrate the limits of the horizontal-vertical distinction.

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<sup>17</sup> Herbert Hovenkamp, *Antitrust and Platform Monopoly*, YALE L.J. 1955, 2050 (2021).

<sup>18</sup> See Diana L. Moss et al., MARKET POWER AND DIGITAL BUSINESS ECOSYSTEMS: ASSESSING THE IMPACT OF ECONOMIC AND BUSINESS COMPLEXITY ON COMPETITION ANALYSIS AND REMEDIES (2021).

<sup>19</sup> *Id.* at 1.

<sup>20</sup> *Id.* at 5.

Ecosystems refer to groups composed of multiple actors or multiple products that are cospecialized and “arise not from centralized control but from the interactions between the components of a correlated system.”<sup>21</sup> While ecosystems may rely on platforms, the two are distinct. A platform is a business model, social technology, and infrastructural formation that is “the core organizational form of the new emerging informational economy.”<sup>22</sup> By comparison, “if platforms are about technologies, ecosystems are about interorganizational relations.”<sup>23</sup> Business ecosystems are “uniquely characterized by relationship marketing, the diminished centrality of manufacturing, and the growth of business networks.”<sup>24</sup> The largest “Big Tech” companies are all ecosystems: Google is search engine-based with multiproduct scope, while Facebook is social network-based with multiproduct scope.<sup>25</sup> These firms continue to top market capitalization while gaining control over other incumbent firms.<sup>26</sup> In the platform and ecosystem context, therefore, “[m]uch value is orchestrated rather than created.”<sup>27</sup>

Ecosystems exist outside of the largest Big Tech companies as well. Take the computer software company Adobe, which provides a variety of digital services to the creative field. The Adobe Creative Cloud, available online by subscription, includes a set of over thirty software applications and services used for content creation, graphic design, video and photography editing, and more.<sup>28</sup> This software suite, which hosts such popular products as Photoshop and Illustrator, has become an important marketing and editorial ecosystem in which creatives can access multiple, related products across a common interface, leading to what one user termed a “muscle memory monopoly.”<sup>29</sup> Adobe continues to expand its 4,000-strong network to include more third-party partners and developer tools in design, creative, marketing, and advertising industries all in order to “[make] customer journeys seamless.”<sup>30</sup> This creative ecosystem allows users to more easily build new content, share and edit it with others, and deploy it for collective use.

This sort of relationship between actors on a platform, which facilitates transactions and other economic interactions, encompasses several forms of integration: horizontal, vertical, and “ecosystem.” Ecosystem acquisitions are motivated not by horizontal or vertical efficiencies but rather by “the co-creation of value between the DBE and third-party providers to be integrated with the platform.”<sup>31</sup> Multi-product and multi-actor ecosystems are supported by, and are often

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<sup>21</sup> Jacobides & Lianos, *supra* note 3, at 1201.

<sup>22</sup> Julie E. Cohen, *Law for the Platform Economy*, 51 U. C. DAVIS L. REV. 133, 135 (2017).

<sup>23</sup> Jacobides & Lianos, *supra* note 3, at 1201.

<sup>24</sup> Moss et al., *supra* note 18, at 2.

<sup>25</sup> Jacobides & Lianos, *supra* note 3, at 1208.

<sup>26</sup> *Id.* at 1202.

<sup>27</sup> Geoffrey Parker et al., *Platform mergers and antitrust*, 30 INDUS. & CORP. CHANGE 1307, 1308 (2021).

<sup>28</sup> “Adobe Creative Cloud,” <https://www.adobe.com/creativecloud/features.html>.

<sup>29</sup> David Gewirtz, “Like it or not, Adobe Creative Cloud has a monopoly on our muscle memory,” ZDNET (2018), <https://www.zdnet.com/article/like-it-or-not-adobe-creative-cloud-has-a-monopoly-on-our-muscle-memory/>.

<sup>30</sup> Adobe, “Adobe Announces Expansion of Ecosystem with New Partners and Developer Tools,” 2022, <https://news.adobe.com/news/news-details/2022/Adobe-Announces-Expansion-of-Ecosystem-with-New-Partners-and-Developer-Tools/default.aspx>.

<sup>31</sup> Parker et al., *supra* note 27, at 9.

connected to, multi-sided platforms and attention markets. These interactions, presenting opportunities for foreclosure, lead to a number of competition concerns including network effects, portfolio effects, data asymmetries, and de facto entrant discrimination.<sup>32</sup>

These concerns and their impacts on ecosystem actors are especially relevant when considering the role of complementors in an ecosystem. While the central actor (either a platform owner or hub firm) orchestrates value creation, complementors – sometimes known as “partners” or “developers” – provide innovative, complementary goods that create customer value, provide knowledge to the ecosystem, and increase overall user demand for the platform via network effects.<sup>33</sup> But power asymmetries can arise in the relationship between the complementors and platform owner, making the former dependent on the latter’s decisions with regards to platform structure, pricing, and other key features. The platform owner is well-poised to exploit its structural advantage over complementors whose business models may be specific to the platform – and who are best positioned to evolve into eventual competitors.

But these and other relevant anti-competitive concerns often cannot be situated within the horizontal-vertical framework, and so platforms’ acquisitions of smaller firms, especially complements or differentiated technologies, are frequently approved despite the risk they pose to market competition.<sup>34</sup> Indeed, it is insufficient to analyze mergers in these ecosystems as either vertical or horizontal – or even as both – because competition presents itself in dimensions that are not contemplated in traditional merger analysis. In digital ecosystems, a target firm might affect head-to-head competition for the acquiring platform, might aid multi-homing by creating price competition, or might even evolve into a competing ecosystem. “Related market mergers” that fall outside of vertical competition nevertheless undermine such head-to-head market competition and are exclusionary and anticompetitive.

## **II. Competition in Digital Ecosystem Markets Manifests Along Idiosyncratic Dimensions and is Vulnerable to Idiosyncratic Harms.**

### *A. Platform Competition Analysis*

By analyzing the following elements of particular concern in related market mergers, we examine what competition might look like in the context of proposed mergers. Using traditional analytical tools to predict the competitive effects of horizontal or vertical mergers would not sound the alarm bells that should ring as a consequence of anticompetitive conduct. But these elements could stifle or eliminate competition in one or more markets in an ecosystem to the detriment of consumer welfare.

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<sup>32</sup> *Id.*

<sup>33</sup> Marius Deilen & Manuel Wiesche, *The Role of Complementors in Platform Ecosystems*, *Wirtschaftsinformatik 2021 Proceedings X* (2021). The authors differentiate complementors according to at least the following five criteria: complementor size, scope of remuneration, incentive of complementor, scope of contribution to platform ecosystem, and organizational form.

<sup>34</sup> Hovenkamp, *supra note 17*, at 2046.

The following elements are generally descriptive of exclusionary, and not collusive, conduct and include not just direct but also indirect evidence. Historically, courts have erroneously presumed that it is harder to distinguish harms from efficiencies in dealing with exclusion compared to collusion. By contrast, our description of these elements underscores competitive harm, even where actors may justify the merger by arguing for vertical efficiencies. These competitive effects “may [substantially] lessen competition, or tend to create a monopoly,”<sup>35</sup> and as we argue in Section III, their regulation can be pursued under Section 7 of the Clayton Act.

*B. Application: Google-Fitbit*

For the purposes of this paper, we examine Google-Fitbit, a real-world ecosystem merger, to demonstrate how the following elements may be described for the purposes of our proposed platform competition analysis. Given limits on the amount of available and relevant consumer information, this paper does not provide a definitive analysis of the merger. Rather, this paper hypothesizes market information about the merger to ask what factors would make the merger more competitive on our account. This hypothetical account is well suited to an evaluation of indirect evidence, where harm to competition may not be as obvious as changed pricing or output.

Google is a dominant market player, where concerns around data collection and interoperability make the 2019 merger between Google and Fitbit a suitable model with which to toggle potential outcomes of a platform competition analysis. At the time of the merger, different competition authorities reached different conclusions regarding the proposal (the ACCC moved to prevent the merger, the EU allowed the merger to proceed with behavioral remedies, and the DOJ investigation did not conclude by the time of the acquisition). The merger is emblematic of a platform merger where the horizontal and vertical categories of merger enforcement are complicated by contemporary market realities.

Google is a subsidiary of Alphabet Inc. and provides services in search (Google Search) and an array of other services, including YouTube, Google Maps, Gmail, and advertising technology (“ad tech”) services.<sup>36</sup> These include services that allow for buying and selling of advertising on Google-owned and third-party websites, such as Google Ad manager. Additionally, Google develops Android products, including a mobile operating system and mobile apps. At the time of the Google-Fitbit merger, Google developed an operating system for smartwatches (Wear OS) and developed a health and fitness app (Google Fit). Google did not offer wearable products, but did develop smart mobile phones, including the Pixel.

Fitbit was founded in 2007 and develops wearable devices, principally smartwatches. “Fitbit’s wearables run on its own proprietary operating systems. These are exclusively used on Fitbit’s devices and are not licensed to third parties.” At the time of the merger, other prominent wearable manufacturers included Apple, Samsung, Garmin, Xiaomi, Huawei, and Fossil. Xiaomi

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<sup>35</sup> 15 U.S.C. § 18.

<sup>36</sup> ACCC, STATEMENT OF ISSUES, GOOGLE LLC – PROPOSED ACQUISITION OF FITBIT INC 4 (2020).



recently launched a Wear OS device and Fossil's watches use Wear OS. The other wearables rely on their own, proprietary operating systems. In this paper, we consider only the conduct of both firms at the time of the merger and exclude consideration of subsequent behavior. As such, we treat Google-Fitbit as a prospective, hypothetical merger to represent the elements below.

## 1. Multi-Homing

Parties “multi-home” when they use more than one platform for the same business task or purpose. Multi-homing refers to both the ability of users to engage with more than one app (e.g., a driver using both Uber and Lyft to solicit rides for work) and the ability of developers to create apps for multiple operating systems (e.g., developing Uber for both Apple and Android OS). Prevalent multi-homing is often necessary for smaller platforms to compete with larger ones. But when markets tip to dominant platforms, both consumer and smaller platforms can no longer benefit from multi-homing tools.<sup>37</sup>

Platform actions that reduce multi-homing are anticompetitive. Users who can use at least two platforms can easily switch between them in response to changes in price and quality. Consumers' ability to choose between available products is essential to maintaining a competitive market because it forces market participants to compete for market share on quality and price.<sup>38</sup> Multi-homing incentivizes platform owners to maintain competitive “take rates,” the equilibrium price that signifies “the gap between what the buyers pay and what the seller receives.” But the reduction of multi-homing locks users into a single platform and slows their ability to choose products on their merits, preventing genuine competition and potentially leading to higher “take rates.”

Platform mergers and many other tactics can be used to reduce multi-homing. For example, “platform annexation” occurs when a platform “possesses or acquires complementary multi-homing tools and operates those tools in a way that restricts or lessens efficient multi-homing by platform users.”<sup>39</sup> Platforms can manipulate multihoming tools, which help consumers interact with platforms, in ways that resemble more familiar types of anti-competitive conduct, such as bundling, tying, and mergers. Such anticompetitive manipulation of multi-homing tools can “reduce multi-homing in the short run and thus deprive rivals of scale economies and network effects in the longer run,” which are key to becoming a competitive platform.<sup>40</sup>

Turning to Google-Fitbit, the merger would appear more competitive if it increased multi-homing. The merger takes place in a landscape with several additional competitors in the wearables market, most significantly Apple and Samsung. Wearables generally rely on their own, proprietary operating systems. However, given that some third-party wearable manufacturers use Wear OS, Google has an incentive to continue interoperability with Android software and

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<sup>37</sup> See Athey & Morton, *supra* note 11, at 677, 678.

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

the provision of Wear OS to continue to collect data from third-party wearable users.

While consumers benefit from the accessibility of applications across wearables and wearable operating systems, it is unlikely that consumers have reason to use more than one wearable at any given time. Most wearables can collect adequate data (heart rate, steps, etc.) such that using two provides no additional benefits. Therefore, if Google’s acquisition of Fitbit increases opportunities for third-party development on Fitbit wearables, then multi-homing can be said to increase for developers who seek to create products for multiple wearable providers.

That said, it remains true that some wearable manufactures were reliant on Android capabilities at the time of merger.<sup>41</sup> If all wearables had independent operating capacity, there would be less of a threat to the degradation of interoperability that Google is positioned to achieve by acquiring Fitbit. Google’s ability to control interoperability on third-party wearables, in conjunction with its purchase of Fitbit, could deprive rivals of scale economies and network effects. As further discussed below, the merger is also unique given the nature of the data dependent health services market. Google could sell fitness data to advertisers and data companies in the future, which may incentivize Google to degrade interoperability to lock users onto their platform.

## 2. Tipping

Positive network effects make a network or platform more valuable to all parties as more users and firms join it. Direct network effects imply that the value to a new user to a product increases based upon the number of users who also use it;<sup>42</sup> the more users, the more valuable the product. Social media platforms, for example, are more valuable to potential users whose friends have already joined the site. Indirect network effects, by contrast, describe the benefits that accrue to one side of a platform when more people join the other side of the platform. Take ride-sharing services like Uber and Lyft, where an increase in drivers makes the service more useful for riders (and vice versa), or e-commerce platforms like Amazon and eBay, where an increase in sellers benefits buyers (and vice versa).

The reverse is also true: a product may disappear without a “critical mass” of users.<sup>43</sup> So, network effects can also generate “tipping” to a dominant provider.<sup>44</sup> This can occur when the largest platform becomes increasingly attractive until the market “tips” entirely in its favor. This scenario has been described as a “winner-takes-all” outcome.<sup>45</sup> Some markets, like search and social media,<sup>46</sup> are especially prone to tipping, but even in these cases, enforcers have found it

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<sup>41</sup> Giancarlo Spagnolo, et al., *Google/Fitbit will monetise health data and harm consumers*, VOX<sup>EU</sup> (Sept. 20, 2020), <https://cepr.org/voxeu/columns/googlefitbit-will-monetise-health-data-and-harm-consumers>.

<sup>42</sup> Hal Varian, *USE AND ABUSE OF NETWORK EFFECTS* 1 (2017).

<sup>43</sup> *Id.*

<sup>44</sup> Moss et al., *supra* note 18, at 12.

<sup>45</sup> Helen Jenkins, *Tipping: should regulators intervene before or after? A policy dilemma*, AGENDA, 1 (April 2021).

<sup>46</sup> Özlem Bedre-Defolie and Rainer Nitsche, *When Do Markets Tip? An Overview and Some Insights for Policy*, 11 J. EURO. COMP. L. & PRACTICE 610 (2020).

difficult to show evidence of an imminent threat of tipping.<sup>47</sup> For any given market must be measured “relative to a well-defined, counter-factual market outcome.”<sup>48</sup> This requirement makes an evidentiary showing challenging because defining the but-for world inevitably involves making contestable assumptions about the unknown. But despite these empirical challenges, our conceptual framework demonstrates that platform mergers are anticompetitive when they generate network effects that result in tipping, which can in turn block new entrants or disadvantage smaller competitors. For example, in the UK, and likely in the US, the social network market tipped in Facebook’s favor such that no other networks could attract users away from Facebook (and those that were, like Instagram and WhatsApp, were acquired by Facebook).<sup>49</sup>

Returning to Google-Fitbit, we might consider tipping with an eye to interoperability. With continued interoperability, users have no strong incentives to use the same wearable as their social network. In comparison to a two-sided market like a credit card, where network effects increase as both more merchants and cardholders participate in a credit card’s services,<sup>50</sup> it is unclear whether the wearables market is at similar risk of tipping, at least as it is currently constituted. Users turn to wearables to receive information on their personal fitness data. Should the merger produce a market where health data becomes routinely available to advertisers, advertisers and merchants will be drawn to the wearable manufacturer that has the largest number of users. These network effects can be characterized as indirect, given that the benefits of tipping would largely accrue to one side of the platform.

### 3. (Data-Driven) Economies of Scale/Scope

Economies of scale and scope constitute a third source of indirect evidence of market power that figures into platform competition analysis. A merger promotes entrenchment and reduces competition when it cements a dominant firm as the primary supplier of platform services. Entrenchment also reduces incentives for new entry.<sup>51</sup> Dominant firms can “swing” their market power to newly emerging markets by tying their primary goods to complementary products that might otherwise allow for entry into the newly emerging market.<sup>52</sup> In this landscape, data aggregation can create economies of scope where merged datasets have more economic value than they otherwise would separately.<sup>53</sup> Large firms are also able to achieve economies of scale by leveraging newly acquired users or markets through the acquisition of

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<sup>47</sup> Katz and Shapiro 1994; *see also* Jean-Pierre Dubé et al., TIPPING AND CONCENTRATION IN MARKETS WITH INDIRECT NETWORK EFFECTS (2008).

<sup>48</sup> Dubé et al., *supra* note 47, at 4.

<sup>49</sup> Fiona Scott Morton and David C. Dinielli, *Roadmap for an Antitrust Case Against Facebook*, 27 STAN. J.L. BUS. & FIN. 267 (2022),

<sup>50</sup> *Ohio v. Am. Express Co.*, 138 S. Ct. 2274, 2281 (2018).

<sup>51</sup> ACCC, *supra* note 36, at 4.

<sup>52</sup> Giulio Federic et al., *Antitrust and Innovation: Welcoming and Protecting Disruption*, 20 INNOVATION POL’Y & THE ECON. 125, 160 (2020).

<sup>53</sup> Bertin Martens, *Data Access, Consumer Interests, and Social Welfare: An Economic Perspective* 8 (May 18, 2020) (available at SSRN: <http://dx.doi.org/10.2139/ssrn.3605383>).

competitors.<sup>54</sup> These structural conditions allow platforms to collect increasing amounts of information from users, which they can use to improve the quality of their digital goods and services at low variable cost, attracting even more users (and their data) and leading to tipping.<sup>55</sup>

Ecosystems can achieve said entrenchment through various routes. For example, non-generic complementarities, or the complementarities specific to a particular ecosystem, can lead to “lock-in” within that ecosystem. Lock-in occurs when ecosystem actors make it difficult for users to move their data or activity to alternative firms or ecosystems; the result is that the given ecosystem maintains control over user data.<sup>56</sup> A central actor in an ecosystem can also attempt to “expand into neighboring markets to maintain [its] grip on captive consumers.”<sup>57</sup>

One-directional demand or network externalities further allow companies to harvest information about their competitors, and economies of scale and learning can create feedback loops that entrench incumbents. Having achieved entrenchment, ecosystems then exploit their dominance in several ways. Information that is incidentally harvested by ecosystems can be used asymmetrically. Ecosystems harvest information about consumers and drive consumers’ agenda with that information, thereby shaping and exploiting their behavior. As a result of the above dynamics, ecosystems can increase prices, lower quality, and without strong competitors, are prone to less innovation. For instance, by way of platform annexation, dominant platforms can acquire smaller platforms to reduce the risk of competition.

In Google-Fitbit, perhaps the greatest concern regarding the acquisition is Google’s access to healthcare data. Google had invested in some health services technology prior to the acquisition. If Google already collected a similar class of data from users, the merger would be less concerning. However, without significant health services investment, Google’s acquisition of Fitbit appears as defensive leveraging, used to build upon Google’s ad services dominance. Diana Moss describes Google’s acquisition of Fitbit as an ecosystem acquisition, wherein the acquisition is “not directly in a vertical or horizontal relationship to the acquirer’s asset(s). Rather, [it] is motivated by the co-creation of value between the [ecosystem] and third-party providers, largely by capitalizing on innovative technologies that can be integrated with the platform.”<sup>58</sup> Absent behavioral remedies—and even with them in place—Google will almost certainly leverage user data differently than Fitbit was able to pre-acquisition. By leveraging newly acquired users through Fitbit, Google could create an economy of scale that produces tipping and erases smaller competitors, both in the wearables and data dependent health services markets.

### **III. Existing Doctrine Supplies Many of the Analytical Tools Necessary to Police Modern Mergers; Legislation Should Fill In the Gaps.**

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<sup>54</sup> Parker et al., *supra* note 27, at 1308.

<sup>55</sup> *Id.*

<sup>56</sup> Michael G. Jacobides et al., REGULATING BIG TECH IN EUROPE: WHY, SO WHAT, AND HOW UNDERSTANDING THEIR BUSINESS MODELS AND ECOSYSTEMS CAN MAKE A DIFFERENCE 27 (2020).

<sup>57</sup> Jacobides & Lianos, *supra* note 3, at 1212.

<sup>58</sup> Moss et al., *supra* note 18, at 9.

The foregoing effects, common in digital markets, are not sufficiently addressed by the horizontal-vertical approach to competition enforcement. We offer three proposals to show ways in which antitrust doctrine can address digital market realities. This is not to say that antitrust does not need the support of legislative solutions: recent proposals to improve competition enforcement (e.g., S.225, the Competition and Antitrust Law Enforcement Reform Act of 2021)<sup>59</sup> would strengthen enforcement by modifying the standard for determining if mergers are illegal. Still, we suggest that the application of the following legal theories and strategies across a broader set of actors and conduct could be useful for preserving competition in the absence of or in conjunction with new legislation.

#### A. *Foreclosure*

Foreclosure theories and vertical theories of competitive harm have been tied together. The 2020 Vertical Merger Guidelines, for example, describe foreclosure as occurring when a “vertical merger . . . use[s] its control of the related product to weaken or remove the competitive constraint from one or more of its actual or potential rivals in the relevant market.”<sup>60</sup> Enforcement agencies have pursued vertical merger cases under theories of input foreclosure and customer foreclosure harms.<sup>61</sup>

However, foreclosure theories of harm need not be limited to the vertical merger context. Indeed, theories of “naïve foreclosure”<sup>62</sup> fail to take into account process-based and long-term foreclosure, both of which apply to the ecosystem context. In ecosystem mergers, efficiencies that are created by complementarity and economies of scope may actually lead to foreclosure in the long term.<sup>63</sup> For example, Google’s 2008 acquisition of the advertising exchange DoubleClick allowed Google to create a “one-stop-shopping’ solution for advertisements [that] proved hugely popular with both large and small undertakings.”<sup>64</sup> In the decade following the merger, however, Google captured a greater (and almost total) share of advertising revenue, increased advertising prices, and has acted with impunity in its data collection practices.<sup>65</sup>

Two elements of exclusionary conduct discussed above – reduction of multihoming and economics of scale/scope – explain the heightened risk of foreclosure in platform ecosystems.

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<sup>59</sup> Available at <https://www.congress.gov/bill/117th-congress/senate-bill/225/text>.  
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U.S. Department of Justice, 2020 Vertical Merger Guidelines (2020), [https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-trade-commission-vertical-merger-guidelines/vertical\\_merger\\_guidelines\\_6-30-20.pdf](https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-trade-commission-vertical-merger-guidelines/vertical_merger_guidelines_6-30-20.pdf).

<sup>61</sup> *In re The Boeing Company*, Dkt. C-4188 (complaint filed Oct. 6, 2006); *U.S. v. AMC Entertainment Holdings, Inc. and Carmike Cinemas, Inc.*

<sup>62</sup> Joshua D. Wright & Alexander Krzepicki, *Rethinking Foreclosure Analysis in Antitrust Law: From Standard Stations to Google*, CONCURRENTIALISTE (Dec. 17, 2020)

<sup>63</sup> Jasper van den Boom & Peerawat Samranchit, *Digital Ecosystem Mergers in Big Tech—A Theory of Long-Run Harm with Applications*, 13 J. EURO. COMP. L. & PRACTICE 365 (2022).

<sup>64</sup> *Id.* at 367-68.

<sup>65</sup> Dina Srinivasan, *Why Google Dominates Advertising Markets—Competition Policy Should Lean on the Principles of Financial Market Regulation*, 24 STAN. TECH. L. REV. 55 (2020)

Prohibiting the possibility of multi-homing constitutes a direct form of customer foreclosure in the sense that potential users are forced to operate on only a single platform. It can also lead to input foreclosure because competing platforms are cut off from access to users' data, which serves as a critical input to maintaining a competitive level of quality in platform services. The anticompetitive effects of data-driven economies of scale and scope are also characteristic of foreclosure. Take platform envelopment, the merger of companies in two different platform markets to create a multi-platform bundle with shared users. Through a corporate strategy called "privacy policy tying," in which firms combine users' data in both markets, the enveloping firm can proceed by "monetizing data in the origin market," allowing it to "monopolize the target market, and entrench its dominant position in the origin market."<sup>66</sup> By generating increased returns through economies of scope, the enveloping firm can engage in two forms of foreclosure. It can leverage its market power in the first market to drive out competitors in the second, and it can protect its market power in the first market from potential entrants currently in the second.<sup>67</sup>

While courts can draw on foreclosure doctrine to fend off these anti-competitive tendencies, judges today rarely choose to address related market mergers through this lens. Platform competition analysis shows the utility of drawing on foreclosure doctrine in current or slightly modified form.

### *B. Incipieny Doctrine*

Incipieny describes the test by which mergers, acquisitions, and certain anticompetitive practices are prohibited under Section 7 of the Clayton Act when the effect may be "substantially to lessen competition or tend to create a monopoly."<sup>68</sup> Incipieny doctrine does not concern itself with present harms but instead considers the future impacts of a merger.<sup>69</sup> A hypothetical merger wherein the merging firms do not currently create competing products, but instead are dominant producers for related products that *could* compete in the near term, could be enjoined under the incipieny doctrine.<sup>70</sup> The merger of two companies with substitutable products, in particular, could lead to the loss of market choices and other harms to consumer welfare.

Interpreted under the incipieny doctrine, the acquisition of a small but innovative firm by a larger one can raise competition concerns.<sup>71</sup> A traditional merger analysis could justify such a merger by its increased efficiencies. Though the firms may not be competitors when the merger occurs, and though the merger may not have effects on price, the possibility that the merger forestalls the firm's future competition may raise incipieny concerns.<sup>72</sup> In digital ecosystems, network effects intensify particular incipieny concerns. Firms with high levels of usage or which

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<sup>66</sup> Daniele Condorelli and Jorge Padilla, *Harnessing Platform Envelopment in the Digital World*, J. COMP. L. & ECON. 1, 143 (2020).

<sup>67</sup> *Id.* at 17.

<sup>68</sup> 15 U.S.C. § 18.

<sup>69</sup> Peter Carstensen & Robert H. Lande, *The Merger Incipieny Doctrine and the Importance of Redundant Competitors*, 2018 WIS. L. REV. 783, 794-95 (2018).

<sup>70</sup> *Id.*

<sup>71</sup> Herbert Hovenkamp, *Prophylactic Merger Policy*, 70 HASTINGS L.J. 45, 70 (2019).

<sup>72</sup> *Id.*

have collected significant amounts of data can use those advantages to improve the quality of their platforms. This increase in quality, in turn, leads to higher usage, and so on, until potential monopolization occurs. This increased risk of tipping characteristic of digital markets could be readily addressed through existing incipency doctrine. In those markets prone to tipping, incipency concerns could justify the enjoinder of mergers that accelerate such risk. Notwithstanding courts' current reluctance to draw on incipency doctrine, and the difficulty of quantitative measurement, platform ecosystem mergers have frequently accelerated the danger of tipping and must be addressed in an according legal manner.

C. *Defensive Leveraging, or the Core Monopoly Theory*

Dominant market actors can entrench their position by acquiring related, or seemingly unrelated, companies. Traditional, or offensive, leveraging occurs when a firm uses monopoly power in one market to foreclose sales in another market, thereby monopolizing both.<sup>73</sup> Defensive leveraging, which is our focus here, occurs when a firm uses the same monopoly power to gain advantage in a different market—for the purposes of preventing “erosion of a primary monopoly.”<sup>74</sup> Defensive leveraging is of special theoretical concern in ecosystem competition. Empirically, this concern is borne out by the record of dominant technology firms acquiring both nascent and established related market firms in order to bolster their own monopoly position.<sup>75</sup> In Google-Fitbit, defensive leveraging would be an appropriate theory of enforcement if Google could defensively leverage the Fitbit product, data, or business to protect its market power in search and advertising.

Defensive leverage theory may also be instructive when applying economic analysis to zero-price technology markets: “[i]n zero-price markets, the benefits of leverage may be closely related to welfare-enhancing network effects on the one hand, and the maintenance of dominance over nonfungible datasets on the other.”<sup>76</sup> In these instances, though the acquisition of data allows firms to reinforce monopoly power, consumers also benefit from increased platform integration.<sup>77</sup> For example, Facebook’s acquisitions of WhatsApp and Instagram admittedly increased integration for users, but these mergers ultimately “aimed to eliminate a potential competitor that threatened to unseat a dominant player.”<sup>78</sup> This strategy can also describe Facebook’s acquisition of Onavo, a mobile analytics company that tracked its users’ web browsing and mobile usage. Facebook was able to defensively leverage this data to imitate its competitors’ most popular features, thus maintaining its core monopoly in the social media

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<sup>73</sup> Robin Cooper Feldman, *Defensive Leveraging in Antitrust*, 87 GEO. L.J. 2079, 2089 (1999).

<sup>74</sup> *Id.* at 2080.

<sup>75</sup> Robin C. Feldman & Mark A. Lemley, *Atomic Antitrust*, 63 WILLIAM & MARY L. REV. 1869, 1936 (2022)

<sup>76</sup> Matthew Levinton, *Defensive Leveraging as Monopolization*, [https://www.americanbar.org/groups/antitrust\\_law/resources/newsletters/defensive-leveraging-as-monopolization/](https://www.americanbar.org/groups/antitrust_law/resources/newsletters/defensive-leveraging-as-monopolization/).

<sup>77</sup> *Id.*

<sup>78</sup> Jacobides & Lianos, *supra* note 3, at 1202.

market.<sup>79</sup>

The most prominent enforcement against defensive leveraging occurred in *United States v. Microsoft*. There, the D.C. Circuit concluded that Microsoft had leveraged its operating system (“OS”) monopoly into the market for web browsers for the purposes of protecting its OS monopoly.<sup>80</sup> Microsoft imposed restrictions related to its Windows OS to reduce the usage of alternative web browsers, which through the hosting of web-based applications had been threatening to supplant Windows as platforms for software development. The *Microsoft* court accepted a viable theory of harm that did not require proof that a core monopoly threatened to monopolize a second market. Instead, the relevant anticompetitive threat was that the monopolist was denying consumers the benefits of market innovation. Viewed thusly, defensive leveraging is a powerful tool in identifying and preventing anticompetitive mergers.

#### **IV. Moving from Effects-Based Antitrust to a Platform Competition Analysis Better Captures Contemporary Market Realities for the Purposes of Merger Review.**

The previous sections have described the idiosyncratic qualities of competition in digital ecosystem markets and possible doctrinal pathways that antitrust enforcement already provides to address those qualities. In this Part, we show how enforcers can provide evidence of the harms we introduced in Part II in addition to the doctrinal approaches we explored in Part III. In particular, we move away from an effects-based analysis: a focus on examining effects produces the burden of calculating an effect. By moving to a platform competition analysis, we suggest that courts and enforcers need not analyze mergers with decimal point accuracy. Rather, focusing on dimensions of competition according to the framework provided here allows courts and enforcers to look directly at the process of rivalry and competition between two merging firms.

##### *A. Platform Competition Analysis Encourages Examination of Indirect Evidence of Harm in Ecosystem Mergers, Which Can Provide the Theoretical Basis for Antitrust Enforcement Against Platforms.*

Recognizing the nature of competition as expressed in digital ecosystems, enforcers should emphasize indirect expression anticompetitive effects when evaluating ecosystem mergers. The presence of anticompetitive effects can be shown directly or indirectly. In *Ohio v. American Express Co.*, for example, the Supreme Court found that Amex’s anti-steering provisions – which prevent merchants from implying a preference for credit cards other than Amex<sup>81</sup> – were not anticompetitive and did not violate Section 1 of the Sherman Act. In categorizing anti-steering provisions as vertical restraints, subject to the rule of reason, the Court reiterated that plaintiffs can make either direct or indirect showings of anticompetitive effects.<sup>82</sup>

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<sup>79</sup> *Facebook's Onavo could be key to monopolization case against the company*, mlex (Sept. 26, 2019), <https://mlexmarketinsight.com/news-hub/editors-picks/area-of-expertise/antitrust/facebook-s-onavo-could-be-key-to-monopolization-case-against-the-company>.

<sup>80</sup> *United States v. Microsoft Corp.*, 253 F.3d 34, 67 (D.C. Cir. 2001) (per curiam).

<sup>81</sup> *Ohio v. Am. Express Co.*, 138 S. Ct. at 2283.

<sup>82</sup> *Id.* at 2284.



While direct evidence of anticompetitive effects requires proof of “actual” detrimental effects, like “reduced output, increased prices, or decreased quality in the relevant market,”<sup>83</sup> indirect evidence would be satisfied by “proof of market power plus some evidence that the challenged restraint harms competition.”<sup>84</sup>

In *Amex*, the Court relied solely on direct evidence against Amex’s anti-steering provisions, including evidence of price increases.<sup>85</sup> But indirect evidence had prevailed in the lower courts, with the district court concluding that evidence of concentration, high barriers to entry, and inelastic demand discharged the plaintiff’s burden.<sup>86</sup> Indirect evidence can take a number of more easily accessible forms. For instance, if merging firms were previously involved in “an intensive rivalry directed against each other to shape their respective nodes as commodities or sites of differentiated value, then the merger might reduce consumer welfare,”<sup>87</sup> even without foreclosure effects on either firm’s horizontal rivalry, or when there are innovation harms.<sup>88</sup>

A platform competition analysis should prioritize indirect evidence of anticompetitive behavior. Here, we reiterate that platform antitrust enforcement should begin not by categorizing restraints as horizontal or vertical, but instead by inquiring how competition presents itself between the merging firms. Again, in platform mergers, it is of particular importance to address indirect effects on competition because of the complicated nature of digital markets.

*B. Platform Competition Analysis Directs Focus on Dimensions of Competition, Thereby Promoting Enforcement Against Anticompetitive Behaviors Illegible in the Horizontal-Vertical Framework.*

By proposing platform competition analysis as a way to assess mergers, we aim to foreground dimensions of competition that currently go unrecognized. Courts should account for concepts such as multi-homing, tipping, and economies of scale that are essential to the way competition manifests in ecosystems. Enforcement agencies should be aware of the ways in which otherwise non-threatening behaviors can combine with features of the digital economy to threaten competition.<sup>89</sup>

There are various tools that courts and enforcers have at hand. The doctrines of foreclosure and incipency have powerful purchase in regulating ecosystem actors, and the theory of defensive leveraging provides legal as well as practical guidance. But these harms cannot be fully understood within the horizontal-vertical framework. Instead, an ecosystem perspective is necessary to apprehend market realities, and to pursue the appropriate economic analysis and theories of competition.

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<sup>83</sup> *Id.*

<sup>84</sup> *Id.*

<sup>85</sup> *Id.* at 2288.

<sup>86</sup> See *United States v. Am. Express Co.*, 88 F. Supp. 3d 143, 212 (E.D.N.Y. 2015).

<sup>87</sup> Daniel A. Crane, *Ecosystem Competition and the Antitrust Laws*, 98 NEB. L. REV. 412, 424 (2019).

<sup>88</sup> *United States v. Am. Express Co.*, 88 F. Supp. 3d at 202.

<sup>89</sup> See Feldman & Lemley, *supra* note 75.

## V. Conclusion

The idiosyncratic characteristics of digital markets make anticompetitive conduct less readily captured by the traditional horizontal-vertical distinction of antitrust enforcement. New approaches are urgently needed to prevent continued mergers by large ecosystems that work to reduce competition in the digital space. Our proposal for such an approach, which we call *platform competition analysis*, recognizes anticompetitive harms unique to digital markets and emphasizes the need for enforcers to pursue indirect evidence of anticompetitive harms.