

# To Catch a Killer: Could Enhanced Premerger Screening for “Killer Acquisitions” Hurt Competition?

BY KELLY FAYNE AND KATE FOREMAN

**I**N EARLY 2019, COLLEEN CUNNINGHAM, Florian Ederer, and Song Ma released a much-discussed paper hypothesizing the existence of a phenomenon in which pharmaceutical companies acquire other pharmaceutical companies, not in an effort to bring the targets’ drugs to market, but to prevent them from doing so.<sup>1</sup> According to Cunningham et al., “Incumbents acquire firms with overlapping drug projects and . . . these acquired drugs are less likely to be developed, particularly when they overlap with the acquirer’s product portfolio and when the acquirer has strong incentives to protect his existing market power.”<sup>2</sup> The authors label this type of transaction a “killer acquisition.”

Catchy branding for the theory formerly described as “the acquisition of a nascent or potential competitor” in order to neutralize that competitor hit the antitrust world at exactly the right moment. With the efficacy of existing merger control regimes in question, and broader popular and political angst about the tech industry simmering, the “killer acquisition” moniker found its way into antitrust discourse (and the Twitterverse). For example, one tweeter wrote, “Nobel prize winner #JeanTirole quotes only one article during his speech at @EU\_Commission @EU\_Competition conference . . . the @Yale article . . . on #killeraquisitions.”<sup>3</sup> The topic has also made it into U.S. Senate hearings, the antitrust conference circuit, and speeches by the Antitrust Division Assistant Attorney General and FTC leadership.

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There is room for debate and certainly for additional empirical research to assess the merits of this theory and its applicability to proposed transactions. However, if we assume (for the sake of argument) that killer acquisitions—or, more formally, destructive acquisitions of nascent or potential competitors—occur more often than is socially optimal, then is increased premerger scrutiny the policy response best suited to preserve competition and innovation? We conclude that it may not be, and that enhanced scrutiny could indeed entrench larger, well-capitalized firms while making it more costly and riskier for smaller firms to innovate and compete.

## The Killer Acquisition Theory

Cunningham et al. provide an empirical examination of the pharmaceutical industry. In particular, the authors use pharmaceutical industry data on acquired drug projects and measure whether a drug project is more or less likely to be developed based on whether the target’s project overlaps with the acquirer’s project and whether the acquirer faces strong competition or approaching patent expiration. The authors conclude that “about 6% of acquisitions in our sample are killer acquisitions.”<sup>4</sup> In addition, the authors also express concern that “killer acquisitions appear to routinely avoid regulatory scrutiny by acquiring entrepreneurial ventures at transaction values below the HSR review thresholds.”<sup>5</sup>

Although the influential paper was written about the pharmaceutical industry, the concept has been more widely applied, particularly to the technology sector, motivating cries to break up “Big Tech.” For example, the U.S. Senate Judiciary Committee held hearings in September 2019 on “Examining Acquisitions of Nascent or Potential Competitors by Digital Platforms.”<sup>6</sup> At the hearings, Bruce Hoffman, then Director of the FTC Bureau of Competition, spoke for the FTC and argued that “current law [including the Clayton Act, Sherman Act, and FTC Act] provides the Commission with several potential avenues to counter anticompetitive conduct by large technology firms to thwart nascent and potential threats by acquisition or other means,” citing sev-

eral recent cases, including CDK/AutoMate, Verisk/Eagle-View, Thoratec/Heartware, and Nielsen/Arbitron.<sup>7</sup> In a speech in June 2019 on “Antitrust Enforcement and Digital Gatekeepers,” Assistant Attorney General Makan Delrahim also indicated that the Antitrust Division is on the lookout for “the potential for mischief” of acquisitions that have “the purpose and effect . . . to block potential competitors, protect a monopoly, or otherwise harm competition by reducing consumer choice, increasing prices, diminishing or slowing innovation, or reducing quality.”<sup>8</sup>

True to its word, the DOJ challenged Sabre’s acquisition of Farelogix in August 2019 on the grounds that it was “a dominant firm’s attempt to eliminate a disruptive competitor after years of trying to stamp it out.”<sup>9</sup> The DOJ’s complaint details allegations that Farelogix developed and commercialized a technology for airline booking services that made it harder for Sabre to compete, citing colorful deal documents (e.g., describing Farelogix as one airline’s “Trojan horse to f\*\*\* us”).<sup>10</sup> The FTC followed suit in December 2019 by suing to block Illumina, which the FTC estimated as having a 90 percent share of a next-generation DNA sequencing market, from acquiring Pacific Biosciences (PacBio), which was estimated to have a 2 percent to 3 percent share.<sup>11</sup> The FTC alleged that “[t]he Acquisition, if consummated, would eliminate the nascent competitive threat that an independently owned PacBio poses to Illumina’s monopoly power.”<sup>12</sup>

Notwithstanding the DOJ’s and FTC’s actual and promised enforcement against transactions that might fit the killer acquisition archetype, critics argue that U.S. enforcement is not rigorous enough. At the Senate hearing on acquisitions by digital platforms, Diana Moss, President of the American Antitrust Institute, cited data showing high rates of acquisition activity for large tech platforms and argued that the FTC and DOJ have a weak record of merger enforcement in digital technology markets, in part because “digital market firms may purposely and strategically pursue deals that are unlikely to trigger antitrust concerns,” including deals that are not HSR-reportable.<sup>13</sup> In a report published by the Chicago Booth Stigler Center for the Study of the Economy and the State, the authors argued,

The behavior that may be of greatest concern to the many policymakers studying powerful digital businesses is their acquisition of potential competitors. These acquisitions often fall below the value threshold under which the buyer would need to notify competition authorities in advance of the deal. As a consequence, authorities have little or no ability to assess whether a given deal is procompetitive or harmful to competition before it closes.<sup>14</sup>

In an article published in the *American Economic Review: Insights*, Thomas Wollmann also argues that an abrupt increase in HSR reporting thresholds in 2001 corresponded with an increase in mergers between competitors, what he calls “stealth consolidation.”<sup>15</sup> And in a critique of the current level of merger enforcement in the digital space, Professor Carl Shapiro of the Haas School of Business at the

University of California, Berkeley, suggests that articles by Cunningham et al. and Wollmann “provide[] worrisome evidence about mergers taking place just below the threshold.”<sup>16</sup>

### Enhanced Premerger Scrutiny?

The Chicago Stigler Report proposes several potential solutions to address concerns about nonreportable acquisitions of potential or nascent competitors, one of which is to require notification and preclearance “for any acquisition by a business designated as having bottleneck power.”<sup>17</sup> The argument is that “[w]hen network effects are strong, a digital business with bottleneck power will likely only have very small competitors. Therefore, even small transactions can neutralize an important potential competitor that is poised to grow.”<sup>18</sup> Others have proposed alternative measures. For example, U.S. Senator Elizabeth Warren is reported to be working on legislation that would ban mergers in which one company has annual revenue of more than \$40 billion.<sup>19</sup> Yet others have argued for shifts in the burden of proof, requiring the parties in certain high-tech deals to prove the procompetitive benefits of the transactions, rather than applying current antitrust law, which places the burden of proof on the government.<sup>20</sup>

Outside the United States, moves to enhance premerger reporting have gained traction. In 2017, Germany amended the German Act Against Restraints of Competition to require companies to report transactions with high deal values even if target revenues are below €5 million.<sup>21</sup> Andreas Mundt, President of the German Federal Cartel Office, explained in a 2017 interview, “It is not unusual in the digital economy for important companies to start with a very low turnover,” and stated that the new notification threshold “could enable the Bundeskartellamt to look at such important deals.”<sup>22</sup> Austria made a similar amendment to its merger notification thresholds.<sup>23</sup> The Australian Competition and Consumer Commission (ACCC) is considering following suit. Australia has a voluntary merger notification regime where notification is recommended on the basis of the market share the parties will have as a result of the transaction. However, the ACCC signaled in its July 2019 *Digital Platforms Inquiry Report*:

[T]he mergers framework in Australia should be updated to make it clearer that [factors such as acquisition of potential competitors by the dominant firms and economies of scope created by control of data sets] should be taken into account in assessing whether an acquisition has the effect or likely effect of substantially lessening competition.<sup>24</sup>

Similarly, the March 2019 report *Unlocking Digital Competition*, commissioned by the UK government, recommends that “digital companies identified as having a strategic market status ought to make the CMA aware of every intended acquisition.”<sup>25</sup> Finally, the EC report *Competition Policy for the Digital Era* considers “whether the current regime of EU merger control needs to be adjusted to better address concerns relating, *inter alia*, to the early elimination

of potential rivals.”<sup>26</sup> While the report finds that “it is too early to change the EUMR’s jurisdictional thresholds,” it recommends continued study and consideration of whether an amendment to the thresholds may be justified in the future.<sup>27</sup>

### Motivating Innovation

As the Cunningham et al. paper acknowledges,<sup>28</sup> acquisitions of innovative targets in the early stages of development by established firms can be procompetitive. This is partly because “firms who are better at exploiting technologies acquire innovative targets to realize synergies, effectively enabling specialization and subsequently increasing innovation and overall welfare.”<sup>29</sup> Accordingly, if we align our thinking with the economic theory and begin with the viewpoint that firms are motivated to maximize profits, then we can begin to look at the motivation for acquisitions from a more balanced perspective. There are, of course, many potential procompetitive motivations for a small firm to be acquired and for an established firm to acquire a startup.

**Motivations for Being Acquired.** There are many reasons why a smaller firm might seek to be acquired. The Silicon Valley Bank (SVB) conducts an annual survey of startups. The results of the latest survey are published in the SVB’s *US Startup Outlook 2019*.<sup>30</sup> The survey comprises 1,377 respondent companies, the majority of which were privately owned, small (fewer than 25 employees), young (less than five years old), in the technology sector in the United States and had less than \$25 million in revenue.<sup>31</sup> Over half were expecting their next sources of funding to come from venture capital.<sup>32</sup> When asked what the long-term goals for their companies were, 50 percent answered that they were looking at being acquired and 15 percent said they did not know, “underscoring the difficulty of planning an exit amid increased market volatility.”<sup>33</sup> Thus, the promise of being acquired might be spurring innovation and incentivizing startups that otherwise would not have been born. Indeed, as Cunningham et al. point out, “[I]t is possible that the presence of an acquisition channel also has a positive effect on welfare if the prospect of entrepreneurial exit through acquisition (by an incumbent) spurs ex-ante innovation.”<sup>34</sup>

Why would a startup want to be acquired instead of taking a chance at the potentially more lucrative route of an IPO? Aiming for an IPO can be challenging: 2019 was supposed to be a banner year for IPOs, with many companies looking to the stock market to make a splash. But the year proved not to live up to the hype, with newly public companies suffering losses and other would-be public companies reassessing their plans to go public. A *New York Times* article dubbed 2019’s public offerings the “I.P.O. Fizzle.”<sup>35</sup> Indeed, at the end of 2019 only 24 percent of 2019’s public offerings were expected to have positive incomes in 2020.<sup>36</sup> When Lyft made its initial public offering in March 2019, its shares opened at \$87, and as of January 24, 2020, shares were

trading at \$48.<sup>37</sup> Uber made its initial public offering in May 2019, with shares opening at \$42, and as of January 24, 2020 (even pre-COVID-19 related declines), shares were trading at \$37.<sup>38</sup> This was despite the fact that Uber was the tech startup that had the highest level of equity funding (\$15 billion) in the United States from 2014 to 2019.<sup>39</sup> Pinterest and Slack Technologies have met similar fates. Airbnb decided to delay its IPO. WeWork put its IPO on hold since hitting a rocky path with its troubled leader, and its valuation has plummeted. There are some recent success stories, such as Zoom Video Communications, which went public in April 2019, with a share price of \$65; as of January 24, 2020, shares were trading at \$75.<sup>40</sup> However, if it is this difficult for well-known, well-established startups to go public, it is no wonder many startups are looking to be acquired rather than trying to strike it rich by going public.

The probability of a startup carrying out an IPO has dropped significantly in recent years. The number of IPOs in the United States has declined from 486 in 1999 to 159 in 2019.<sup>41</sup>

Besides planning toward acquisition as an exit strategy, firms might want to be acquired if they come up against the constraints that often face small innovative firms. For example, startups often face limits on the venture capital they can raise and the timing of when that capital comes in. Without cash on hand, it is hard to attract a competent workforce—offering a share in the venture can only go so far. As small firms get bigger, they also run into more regulation. For example, tipping from 49 to 50 employees sets off HR-related compliance requirements. Smaller firms also run into limitations on their legal resources and ability to comply with other regulations, such as the EU General Data Protection Regulation and the recently enacted California Consumer Privacy Act. Thus, using its small size and agility to get started and then selling itself to a larger firm to launch or grow can make a lot of sense for a small firm.

**Motivations for Acquiring.** The data on R&D spending seems to suggest that Big Tech companies are not acquiring competitors so that they can refrain from innovating. In 2017, the top spenders on R&D were Amazon.com at about \$22 billion per year,<sup>42</sup> Alphabet at about \$17 billion, followed closely by Samsung Electronics, Volkswagen, Microsoft, Huawei, Intel, and Apple.<sup>43</sup> Trailing them are a handful of pharmaceutical companies, such as Roche, Johnson & Johnson, Merck, and Novartis.<sup>44</sup> While internal spending on R&D is an excellent means to innovation, outsourcing innovation can also be a winning strategy for large companies. Smaller companies are more agile, and each can try something different, show at least the promise of proof of concept, and then be acquired by an established firm to let the technology take flight. Thus, the large firms can let the smaller firms compete for winning ideas and then the large firms can acquire the winners and launch the technology in a way that would have been difficult for the smaller firm to do alone.

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Companies in areas like the life sciences space face their own set of challenges that can be mitigated by consolidation. For example, pharmaceutical companies benefit greatly from economies of scale and scope. Economies of scale help streamline operations and reduce overhead. Economies of scope help manage risk and fund R&D by entering new therapeutic categories or broadening geographic reach to build larger portfolios and stronger pipelines. Businesses with high risk, such as pharmaceutical companies, often find it easier to finance their R&D via equity, rather than debt, which requires a stable cash flow. This is especially true for the pay-offs from R&D, which in life sciences are skewed to later years, after much of the R&D spending, clinical trials, and approval process has taken place. Moreover, the probability of advancing from one milestone to the next (e.g., clinical trial phases) is highly uncertain, and the costs can be prohibitive for a small firm. According to one estimate, only about 12 percent of drugs make it from Phase I of clinical trials through Phases II and III, through FDA approval, all the way to market. On average, this process costs approximately \$2.6 billion (including capitalization costs) and takes approximately eight years.<sup>45</sup> Whether this process will get even trickier with more biologics and gene therapies coming on board remains to be seen.

### **The Costs of Premerger Review (and Who Bears Them)**

In addition to the more obvious costs, such as legal bills and filing fees, premerger review creates other costs for the merging parties, including costs that arise from uncertainty about whether the deal will ultimately close intact (i.e., with no remedies), how long approval will take, the magnitude of the injury to the business in the time between signing and closing of the merger (e.g., if employees leave in the face of job uncertainty), and other opportunity costs (e.g., forgone financing or passed-up acquisition offers). While the parties are free to allocate the burden of those costs between themselves in the merger agreement (e.g., with a breakup fee), the ability of a target to decrease its own costs may be limited by its bargaining power when negotiating with a relatively large potential acquirer.

There are multiple factors that can increase the potential costs of premerger review. While the most obvious is whether the deal itself presents antitrust questions that will require additional scrutiny (e.g., a merger of close competitors, unhelpful deal rationale documents, angry customers), another

factor is whether there is premerger review at all. As numerous critics of the current antitrust merger review regime have observed, transactions that are not subject to HSR review may close without waiting for an antitrust investigation to complete. Those critics frequently imply that deals that are not subject to review could be detrimental to competition, innovation, and consumers. However, it is important to remember that the FTC and DOJ can open a Section 7 investigation at any time, including after a transaction has closed. Indeed, they have done this several times in recent history, including with Axon Enterprise/VieVu,<sup>46</sup> Otto Bock/FIH Group,<sup>47</sup> and Parker-Hannifin/CLARCOR.<sup>48</sup> Further, the investigative delay of a procompetitive transaction may actually cause harm to competition, innovation, and consumers, contrary to the intent of premerger review.

In his paper on “Stealth Consolidation,” Wollmann argues that the increased likelihood of detection from HSR review is an important deterrent in preventing anticompetitive mergers.<sup>49</sup> However, this ignores the important cost-shifting effect of a premerger enforcement regime. Premerger review allocates the risk and associated costs of an antitrust investigation on both of the merging parties. Postmerger review, on the other hand, allocates the risk and associated cost entirely to the acquirer. Moreover, when it comes to potential “killer acquisitions,” the costs of being blocked during premerger review may disproportionately fall on the target because the paradigmatic targets are smaller, more capital-constrained startups with unproven technologies.

As Assistant Attorney General Makan Delrahim has recognized, even though the Antitrust Division issues second requests in less than 1 percent of reported transactions, “[t]hat 1%, however, is expensive . . . [and] resource intensive.”<sup>50</sup> A 2014 survey of antitrust practitioners reported a median cost of second request compliance of \$4.2 million, with a reported range of \$2 million to \$9 million. This same survey reported, on average, production of documents from 26 document custodians, typically employees of the merging parties.<sup>51</sup>

So how are these costs paid? The acquirer can usually absorb these costs with little trouble. The target likely faces more cashflow constraints. Startups go through several phases of raising capital. The first is seed funding. In this round, startups typically raise between \$1.1 million and \$5.6 million, and this stage lasts around three years.<sup>52</sup> Before moving to the next phase, Series A (which fewer than 10 percent of seed-funded startups reach), an increasing number of startups (82 percent in 2018) are already generating revenue. In Series A, a startup can expect to reach between \$10.5 million and \$15.7 million in funding, and by the time they reach Series B, they are raising around \$25 million to \$32 million, on average. Therefore, a \$2 million to \$9 million premerger review bill could eat up a significant amount of cash for a firm that is in a race to make it to the next round of financing.

Apart from the monetary costs, there are also time costs to consider. A merger review that takes six months uses up the

valuable resources of the startup's already overtaxed human capital. Whether or not a startup could survive long enough to get more funding is also an important question. Rounds of financing are typically years apart. A firm that is living from round to round may simply be unsure that it could have enough cash on hand to stay afloat during a multi-month merger review process, particularly if there is uncertainty at the end of that process. The existential risk of extended merger review may be particularly untenable for a startup subject to (as startups often are) interim operating covenants that both prohibit bringing on more investors and require the startup to maintain the value of the business.

### Following the Money (and Moneymakers)

Ideas, skilled labor, and capital are critical inputs for startup success. If enhanced premerger review for smaller transactions means that more ultimately benign acquisitions of startups are subject to an augmented risk of premerger scrutiny, the implications for startup formation and funding should be factored into the policy analysis. Additional risk of intensive premerger scrutiny raises the costs associated with acquisition as an exit option. While this could mean fewer startups are acquired (potentially reducing the number of killer acquisitions), it also means the expected rewards of starting, working at, and funding a startup are reduced. This could be particularly costly if, as Cunningham et al.'s paper suggests, "killer acquisitions" occur at a relatively low rate.

The importance of financing to startups cannot be overstated. Many of these firms do not expect to see substantial revenue or turn a profit for years. Startups need cash to fund their operations in the meantime. This cash flow often comes from venture capitalists, who must invest time in due diligence before tying up their funds in illiquid assets for several years prior to seeing returns on their investments. If the potential of being acquired as an exit strategy is seriously threatened, the venture capitalists will factor this increased risk into their calculus and perhaps invest elsewhere. If the potential returns to startup formation diminish, larger tech firms with proven success may be a more attractive investment vehicle.

Reduced access to financing (and to the promise of a big payday upon being acquired) may also affect how people with great ideas monetize those ideas. Instead of taking a short-term risk on starting a company that may one day be acquired, the safer bet for a would-be entrepreneur may simply be to use her intelligence and skills at a job at an established tech company.

It may not only be entrepreneurs who are affected, but their skilled workforces, as well. In the 2019 SVB Survey, over 80 percent of respondents answered that they were looking to increase their workforce in 2019. When asked how challenging it is to find skilled workers, 91 percent of respondents replied that it was somewhat or extremely challenging.<sup>53</sup> The positions that most need filling are in "product development/R&D, sales and technical positions."<sup>54</sup> Moreover, when

asked what are the most important public policy issues affecting their companies, 63 percent of respondents answered "access to talent."<sup>55</sup> This answer ranked number one, above healthcare costs, cybersecurity, consumer privacy, and other answers. With the much-anticipated banner year of IPOs not materializing in 2019, startup employees are finding that pay cuts and long hours are less worthwhile if there is no IPO producing substantial stock payouts.<sup>56</sup> Making payday-by-acquisition more difficult could further deter an otherwise willing startup employee. If long hours and low pay are paired with little promise of a future reward, the best tech talent may find that established tech firms are the best places to invest their talent.

### Promoting Innovation

As with most issues at the intersection of antitrust and innovation, policy questions about acquisitions of nascent and potential competitors present a number of complications. It is critical, however, to address those questions with an eye to what the ultimate goal of any policy change would be. If the objective is to protect and promote innovation, we should be cautious about any solution that puts increased burdens on the entrepreneurs who we hope will drive that innovation. Proposals to change or enhance premerger scrutiny of acquisitions involving smaller tech startups may indeed subject more anticompetitive deals to review and could even result in more anticompetitive deals being blocked before closing. The counterweight, however, is that such a move will inevitably subject more startups to higher costs and higher risks associated with antitrust merger review. The implications could be significant if the returns to investing capital, talent, and time into startups (and the resulting innovation) are diminished as a result. ■

<sup>1</sup> Colleen Cunningham, Florian Ederer & Song Ma, *Killer Acquisitions* (2019), [ssrn.com/abstract=3241707](https://ssrn.com/abstract=3241707); see also Florian Ederer & Song Ma, *Do Large Companies Buy Competitors in Order to Shut Them Down?*, YALE INSIGHTS (June 4, 2018), <https://insights.som.yale.edu/insights/do-companies-buy-competitors-in-order-to-shut-them-down>. The paper has also been discussed in related press and academic news. See, e.g., *Big Pharma's Costly Strategy*, LONDON BUSINESS SCHOOL (June 20, 2018), <https://www.london.edu/news/big-pharmas-costly-strategy-1485>; Greg Ip, 'Stealth' Consolidation Erodes Competition, WALL ST. J. (June 19, 2019), <https://www.wsj.com/articles/how-stealth-consolidation-is-undermining-competition-11560954936>; Brian Wallheimer, *How to Speed Up the Next Medical Breakthrough*, CHICAGO BOOTH REV. (Aug. 19, 2019), <https://review.chicagobooth.edu/economics/2019/article/how-speed-next-medical-breakthrough>.

<sup>2</sup> Cunningham et al., *supra* note 1, at 41.

<sup>3</sup> Roderick Nieuwmeier (@Nieuwmeier), TWITTER (Jan. 17, 2019, 8:22 AM), <https://twitter.com/Nieuwmeier/status/1085890133046358016>. Concurrency tweeted, "The first panel «Killer acquisitions: Should they be prevented?» has ended. It was moderated by Mike Cowie (@cowiem, @dechertllp) and Clemens York (@dechertllp). #GlobalMerger19 #KillerAcquisitions @dechertllp @News\_CRA @FrontierEcon[.]" Concurrency (@CompetitionLaws), TWITTER (Dec. 6, 2019, 3:40 AM), <https://twitter.com/CompetitionLaws/status/1202870356383588352>.

<sup>4</sup> Cunningham et al., *supra* note 1, Abstract.

<sup>5</sup> *Id.* at 42.

- <sup>6</sup> *Competition in Digital Technology Markets: Examining Acquisitions of Nascent or Potential Competitors by Digital Platforms: Hearing Before the Subcomm. on Antitrust, Competition Policy, and Consumer Rights of the S. Comm. on the Judiciary*, 116 Cong. (2019) [hereinafter *Senate Digital Platform Acquisitions Hearing*].
- <sup>7</sup> *Id.* (testimony of Bruce Hoffman, Director, Bureau of Competition of the Fed. Trade Comm'n at 17); see Complaint, CDK Global, Inc., FTC Matter No. 1710156 (Mar. 19, 2018); Complaint, Verisk Analytics, Inc., FTC Matter No. 1410085 (Dec. 16, 2014); Complaint, Thoratec Corp., FTC Matter No. 0910064 (July 28, 2009); Complaint, Nielsen Holdings N.V., FTC Matter No. 1310058 (Sept. 20, 2013).
- <sup>8</sup> Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, ". . . And Justice for All": Antitrust Enforcement and Digital Gatekeepers, Remarks Prepared for Delivery at Antitrust New Frontiers Conference: The Digital Economy and Economic Concentration 11 (June 11, 2019), <https://www.justice.gov/opa/speech/file/1171341/download>.
- <sup>9</sup> Complaint at 1, *United States v. Sabre Corp.*, No. 19-cv-01548-UNA (D. Del. Aug. 20, 2019).
- <sup>10</sup> *Id.* at 4.
- <sup>11</sup> Complaint, Illumina, Inc., FTC Matter No. 1910035 (Dec. 17, 2019).
- <sup>12</sup> *Id.* at 12.
- <sup>13</sup> *Senate Digital Platform Acquisitions Hearing*, *supra* note 6 (testimony of Diana Moss, President, American Antitrust Institute at 4).
- <sup>14</sup> STIGLER CENTER FOR THE STUDY OF ECONOMY AND THE STATE, STIGLER COMMITTEE ON DIGITAL PLATFORMS FINAL REPORT 111 (2019), <https://research.chicagobooth.edu/-/media/research/stigler/pdfs/digital-platforms---committee-report--stigler-center.pdf?la=en&hash=2D23583FF8BCC560B7FEF7A81E1F95C1DDC5225E> [hereinafter STIGLER REPORT].
- <sup>15</sup> Thomas G. Wollmann, *Stealth Consolidation: Evidence from an Amendment to the Hart-Scott-Rodino Act*, 1 AER: INSIGHTS 77 (2019).
- <sup>16</sup> Carl Shapiro, *Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets*, 33 J. ECON. PERSPS., Summer 2019, at 69, 78 (2019).
- <sup>17</sup> STIGLER REPORT, *supra* note 14, at 111.
- <sup>18</sup> *Id.* at 111 n.221.
- <sup>19</sup> Eric Newcomer & Joshua Brustein, *Warren Is Drafting Legislation to Reverse "Mega Mergers"*, BLOOMBERG (Dec. 4, 2019), <https://www.bloomberg.com/news/articles/2019-12-04/warren-is-drafting-u-s-legislation-to-reverse-mega-mergers>.
- <sup>20</sup> See e.g., Press Release, Senator Amy Klobuchar of Minnesota, Klobuchar Introduces Legislation to Modernize Antitrust Enforcement and Promote Competition (Feb. 1, 2019), <https://www.klobuchar.senate.gov/public/index.cfm/2019/2/klobuchar-introduces-legislation-to-modernize-antitrust-enforcement-and-promote-competition>.
- <sup>21</sup> Wettbewerbsbeschränkungen [GWB] [Act Against Restraints of Competition], June 26, 2013, BGBl I at 1750, 3245, as amended, July 12, 2018, BGBl I at 1151, § 35 (1a) (Ger.).
- <sup>22</sup> Andreas Mundt, *Next Stop: Digital Markets*, IFLR SURVEY (Dec. 13, 2016), <http://www.iflr.com/Article/3646765/Next-stop-digital-markets.html>.
- <sup>23</sup> *Germany/Austria: Merger Notification Rules Updated for Digital Economy Transactions*, COMPETITION POL'Y INT'L (July 10, 2018).
- <sup>24</sup> AUSTRALIAN COMPETITION AND CONSUMER COMMISSION, DIGITAL PLATFORMS INQUIRY FINAL REPORT 10 (June 2019), <https://www.accc.gov.au/publications/digital-platforms-inquiry-final-report>.
- <sup>25</sup> JASON FURMAN ET AL., UNLOCKING DIGITAL COMPETITION: REPORT OF THE DIGITAL COMPETITION EXPERT PANEL 95 (Mar. 2019), <https://www.gov.uk/government/publications/unlocking-digital-competition-report-of-the-digital-competition-expert-panel>.
- <sup>26</sup> JACQUES CRÉMER ET AL., DIRECTORATE-GENERAL FOR COMPETITION, EUROPEAN COMMISSION, COMPETITION POLICY FOR THE DIGITAL ERA 10 (2019).
- <sup>27</sup> *Id.*
- <sup>28</sup> Cunningham et al., *supra* note 1, at 1.
- <sup>29</sup> *Id.*
- <sup>30</sup> SILICON VALLEY BANK, US STARTUP OUTLOOK 2019: KEY INSIGHTS FROM THE SILICON VALLEY BANK STARTUP OUTLOOK SURVEY 10 (2019), [http://www.svb.com/globalassets/library/uploadedfiles/content/trends\\_and\\_insights/reports/startup\\_outlook\\_report/us/svb-suo-us-report-2019.pdf](http://www.svb.com/globalassets/library/uploadedfiles/content/trends_and_insights/reports/startup_outlook_report/us/svb-suo-us-report-2019.pdf) [hereinafter SVB SURVEY].
- <sup>31</sup> *Id.* at 3.
- <sup>32</sup> *Id.* at 6.
- <sup>33</sup> *Id.* at 7.
- <sup>34</sup> Cunningham et al., *supra* note 1, at 40.
- <sup>35</sup> Nellie Bowles & Kate Conger, *Where Are the Tech Zillionaires? San Francisco Faces the I.P.O. Fizzle*, N.Y. TIMES (Dec. 19, 2019), <https://www.nytimes.com/2019/12/19/technology/tech-IPO-san-francisco.html>.
- <sup>36</sup> Roshan Srinivas, *Start-Ups and IPOs in 2019*, MEDIUM: THE STARTUP (Sept. 22, 2019), <https://www.medium.com/swlh/start-ups-and-ipos-in-2019-d079cda33984>. COVID-19-related market declines at the time of writing indicate that performance may fall even shorter of expectations.
- <sup>37</sup> LYFT, NASDAQ, <https://www.nasdaq.com/market-activity/stocks/lyft> (last visited Jan. 24, 2020).
- <sup>38</sup> UBER, NASDAQ, <https://www.nasdaq.com/market-activity/stocks/uber> (last visited Jan. 24, 2020).
- <sup>39</sup> CB Insights, Apr. 2019.
- <sup>40</sup> ZM, NASDAQ, <https://www.nasdaq.com/market-activity/stocks/zm> (last visited Jan. 24, 2020).
- <sup>41</sup> *Number of IPOs in the United States from 1999 to 2018*, STATISTA, <https://www.statista.com/statistics/270290/number-of-ipos-in-the-us-since-1999/> (last visited Jan. 21, 2020).
- <sup>42</sup> Amazon.com labels its R&D spending "technology and content."
- <sup>43</sup> Justin Fox, *Amazon, the Biggest R&D Spender, Does Not Believe in R&D*, BLOOMBERG (Apr. 12, 2018), <https://www.bloomberg.com/opinion/articles/2018-04-12/amazon-doesn-t-believe-in-research-and-development-spending>.
- <sup>44</sup> *Id.*
- <sup>45</sup> Joseph A. DiMasi et al., *Innovation in the Pharmaceutical Industry: New Estimates of R&D Costs*, 47 J. HEALTH ECON. 20–25 (2016).
- <sup>46</sup> Complaint, Axon Enter., Inc., FTC Matter No. 1810162 (Jan. 3, 2020).
- <sup>47</sup> Complaint, Otto Bock HealthCare N. Am., Inc., FTC Matter No. 1710231 (Dec. 20, 2017).
- <sup>48</sup> Complaint, *United States v. Parker-Hannifin Corp.*, No. 17-cv-1354-UNA (D. Del. Sept. 26, 2017).
- <sup>49</sup> Wollmann, *supra* note 15.
- <sup>50</sup> Makan Delrahim, Assistant Att'y Gen., Antitrust Div., U.S. Dep't of Justice, It Takes Two: Modernizing the Merger Review Process, Remarks at the 2018 Global Antitrust Enforcement Symposium (Sept. 25, 2018), <https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-2018-global-antitrust>.
- <sup>51</sup> Amanda Wait et al., *Merger Review Takeaways from New Hart-Scott-Rodino Data*, LAW360 (Oct. 4, 2019).
- <sup>52</sup> Connie Loizos, *A Quick Look at How Series A and Seed Rounds Have Ballooned in Recent Years, Fueled by Top Investors*, TECH CRUNCH (Apr. 25, 2019), <https://techcrunch.com/2019/04/25/a-quick-look-at-how-fast-series-a-and-seed-rounds-have-ballooned-in-recent-years-fueled-by-top-investors/>; Ryan Law, *From Pre-Seed to Series C: Startup Funding Rounds Explained*, MEDIUM: THE SAAS GROWTH BLOG (Aug. 29, 2017), <https://www.medium.com/the-saas-growth-blog/from-pre-seed-to-series-c-startup-funding-rounds-explained-f6647156e28b>; *Series A, B, C Funding—The Ultimate Guide*, FUNDZ, <https://www.fundz.net/what-is-series-a-funding-series-b-funding-and-more> (last visited Jan. 21, 2020).
- <sup>53</sup> SVB SURVEY, *supra* note 30, at 10.
- <sup>54</sup> *Id.*
- <sup>55</sup> *Id.* at 12.
- <sup>56</sup> Bowles & Conger, *supra* note 35.