

NOTES

MERGER REVIEW 2.0: INFUSING CFIUS’S “CRITICAL TECHNOLOGIES” APPROACH INTO ANTITRUST OVERSIGHT OF NASCENT TECH ACQUISITIONS

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Nascent tech acquisitions have been the subject of renewed regulatory and antitrust scrutiny in recent years. These acquisitions can often be very small—hundreds of tech deals have occurred in the past decade below the current reporting threshold of \$101 million—and the current merger review process of the Federal Trade Commission (FTC) often fails to capture the harms unique to these early-stage deals. This Note argues that the FTC should look to another government agency—the Committee on Foreign Investment in the United States (CFIUS)—and learn from their experience reviewing very small but sensitive tech deals. CFIUS examines all foreign investment into companies that control technologies that may be sensitive for U.S. national security, focusing over the past few years on Chinese investment into U.S. startups as an area of concern. This Note examines the resources and renewed mission CFIUS received from Congress through the Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA) and argues that the FTC merger process can undergo a similar overhaul. Specifically, this Note lays out the arguments for the creation of a CFIUS-style critical technologies pilot program run by the FTC, which would allow the antitrust enforcement agency to orient its mission toward addressing emerging technological markets.

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INTRODUCTION

On August 19, 2021, the Federal Trade Commission (FTC) filed an amended complaint in its ongoing case against Meta, alleging that the social media giant had run afoul of federal antitrust law by adhering to the internal philosophy that “it is better to buy than compete.”¹ Central to the

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1. First Amended Complaint for Injunctive and Other Equitable Relief at 1, Fed. Trade Comm’n v. Facebook, Inc., No. 1:20-cv-03590-JEB (D.D.C. Aug. 19, 2021) [hereinafter First Amended Complaint] (emphasis omitted). This Note refers to the company as “Meta” for the sake of consistency and current accuracy, although many of the actions discussed occurred when the company was still known as “Facebook.” Press Release, Meta, Introducing Meta: A Social Technology Company (Oct. 28, 2021), <https://about.fb.com/news/>

complaint are Meta's 2012 acquisition of Instagram and 2014 acquisition of WhatsApp.² Referring to Meta's "anticompetitive spending spree," the agency alleged that Meta "systematically tracked potential rivals" and "[bought] up new innovators that were succeeding where [Meta] failed."³

But an acquisition not mentioned in the FTC complaint may play an even bigger role in shaping Meta's future. In 2014, Meta bought Oculus, a company that designed virtual reality (VR) gaming glasses.⁴ For years after its 2014 acquisition, Oculus and its VR gaming glasses were not widely used like Instagram.⁵ Meta's own press release announcing the deal noted that VR applications "beyond gaming are in their nascent stages."⁶ The press release, however, also hinted at Meta's future plans—"to extend Oculus' existing advantage in gaming to new verticals, including communications, media and entertainment, [and] education."⁷ Meta also noted that VR technology "is a strong candidate to emerge as the next social and communications platform."⁸ Oculus symbolized Meta's foray into a tentative side business in a newly emerging market; Meta's bread and butter remained social media and online ads.⁹ But this shift in strategy was officially codified on October 28, 2021, when then-Facebook announced that it was changing its name to Meta as part of its effort to become a company that "bring[s] the metaverse to life."¹⁰ More than seven years after its acquisition, Oculus's Quest VR headset, rebranded as Meta Quest, now stands at the center of Meta's vision for its future.¹¹

2021/10/facebook-company-is-now-meta/ [https://perma.cc/59Q9-SWUX] [hereinafter Meta, Introducing Meta].

2. First Amended Complaint, *supra* note 1, at 6.

3. *Id.* at 1, 3.

4. Todd Haselton, Facebook's \$2 Billion Bet on Oculus Looks Like One of Mark Zuckerberg's Rare Mistakes, CNBC (Oct. 11, 2017), <https://www.cnbc.com/2017/10/11/facebook-2-billion-bet-on-oculus-not-paying-off-commentary.html> [https://perma.cc/S3MP-9ZBV].

5. *Id.* ("[T]here will be 20 million [VR] headsets in the market by 2020 Instagram exploded from 30 million users . . . to more than 800 million. WhatsApp . . . now has more than 1.3 billion users. The return on those buys . . . seems to have been greater than . . . from Oculus.")

6. Press Release, Meta, Facebook to Acquire Oculus (Mar. 25, 2014), <https://about.fb.com/news/2014/03/facebook-to-acquire-oculus/> [https://perma.cc/SHD7-ZHF2] [hereinafter Meta, Facebook to Acquire Oculus].

7. *Id.*

8. *Id.*

9. Elizabeth Culliford & Nivedita Balu, Facebook Pours Billions Into "Metaverse" as Ad Business Falts, Reuters (Oct. 26, 2021), <https://www.reuters.com/technology/facebook-revenue-misses-estimates-apples-privacy-rules-bite-2021-10-25/> (on file with the *Columbia Law Review*) (reporting that "[t]he company's total revenue, which primarily consists of ad sales, rose to \$29.01 billion in the third quarter" of 2021).

10. Meta, Introducing Meta, *supra* note 1.

11. Oscar Gonzalez, Facebook Drops Oculus Name as Part of Meta Rebrand, CNET (Oct. 28, 2021), <https://www.cnet.com/tech/facebook-drops-oculus-name-as-part-of-meta->

The dramatic concentration in the tech industry over the previous decade has drawn increasing antitrust scrutiny. Meta currently owns the four most downloaded apps of the last decade—Facebook, Facebook Messenger, WhatsApp, and Instagram.¹² Over three decades, a group of companies known as GAFAM (Google, Apple, Facebook, Amazon, and Microsoft) have acquired 770 start-ups, including at least twenty-nine acquisitions worth over \$1 billion.¹³ While the biggest deals draw headlines, hundreds of these acquisitions occur at the smaller end of the dealmaking spectrum. In 2021, Apple CEO Tim Cook noted that Apple had acquired about 100 companies over the past six years, which averages out to an acquisition every three to four weeks.¹⁴ Tech concentration has attracted the scrutiny of Congress, with the House Subcommittee on Antitrust releasing a landmark report arguing that “[t]he effects of this significant and durable market power are costly. . . . [T]hese firms wield their dominance in ways that erode entrepreneurship, degrade Americans’ privacy online, and undermine the vibrancy of the free and diverse press. The result is less innovation, fewer choices for consumers, and a weakened democracy.”¹⁵

While much attention has been focused on what to do about the biggest deals of the past decade, less attention has been given to the small, early-stage deals still occurring apace in the tech industry today.¹⁶ Acquisitions of small start-ups in new and developing fields of technology—nascent acquisitions—pose a unique problem for

rebrand/ [https://perma.cc/27E7-9T5G] (“[T]he original Oculus vision remains deeply embedded in how Meta will continue to drive mass adoption for VR today.”).

12. Sam Shead, Facebook Owns the Four Most Downloaded Apps of the Decade, BBC (Dec. 18, 2019), <https://www.bbc.com/news/technology-50838013> [https://perma.cc/XXW7-BCXX].

13. Naushad K. Cherrayil, Microsoft Acquires More Unicorns Among Big Five Technology Companies, TechRadar (June 27, 2020), <https://global.techradar.com/en-ae/news/microsoft-acquires-more-unicorns-among-big-five-technology-companies> [https://perma.cc/L8KN-7CCB]. The temporal endurance, as well as sheer size of GAFAM, has been cited as additional evidence of the failure of disciplining competition. See Mark A. Lemley & Andrew McCreary, Exit Strategy, 101 B.U. L. Rev. 1, 5 (2021) (“Despite the vaunted speed of technological change, Amazon, Apple, Google, Microsoft, and Netflix are all more than twenty years old. Even the baby of the dominant firms, Facebook, is over fifteen years old. Where is the next Amazon, the next Facebook, the next Google?”).

14. Justin Harper, Apple Buys a Company Every Three to Four Weeks, BBC (Feb. 24, 2021), <https://www.bbc.com/news/business-56178792> [https://perma.cc/3W5P-GYQW].

15. Majority Staff of H. Subcomm. on Antitrust, Com. & Admin. L. of the Comm. on the Judiciary, 116th Cong., Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations 7 (Comm. Print 2020) [hereinafter Majority Staff Report].

16. James Fontanella-Khan, Stefania Palma & Kiran Stacey, Big Tech Companies Snap Up Smaller Rivals at Record Pace, Fin. Times (Sept. 19, 2021), <https://www.ft.com/content/e2e34de1-c21b-4963-91e3-12dff5c69ba4> (on file with the *Columbia Law Review*) (“[T]ech companies have spent at least \$264bn buying up potential rivals worth less than \$1bn since the start of 2021—double the previous record registered in 2000 during the dotcom boom.”).

regulators.¹⁷ Many of these deals lie below the \$101 million threshold set by the Hart–Scott–Rodino (HSR) Act, rendering them outside the realm of transactions that must be reported to the antitrust enforcement agencies.¹⁸ But even when regulators know of the transactions, these deals largely exist outside of the framework of what current antitrust law is designed to tackle. The FTC currently defines mergers as either horizontal or vertical, evaluating companies based on the idea of definable product markets and current measurements of market power.¹⁹ But in the case of digital start-ups:

The more plausible threat is from a startup that offers a differentiated version, a complement, or some novel innovation that has distinctive appeal. As a result, many of these acquisitions are only partially horizontal or not horizontal at all. . . . [M]ergers between firms whose relationship is neither horizontal nor vertical are rarely challenged, but this is where the startup-acquisition threat is most pronounced.²⁰

Another government agency has experience tackling a similar problem and may provide useful lessons for the FTC’s future. In 2018, Congress passed the Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA), transforming the Committee on Foreign Investment in the United States (CFIUS) by significantly upgrading the committee’s jurisdictional reach and resources for monitoring global technology flows.²¹ At first glance, the two regulatory regimes—domestic antitrust

17. C. Scott Hemphill & Tim Wu, *Nascent Competitors*, 168 U. Pa. L. Rev. 1879, 1886–89 (2020); see also *infra* section II.A.2.

18. 15 U.S.C. § 18a (2018); *infra* section I.B; see also Thomas G. Wollmann, *Stealth Consolidation: Evidence From an Amendment to the Hart–Scott–Rodino Act*, 1 Am. Econ. Rev.: Insights 77, 77 (2019) (noting that this process “can result in *stealth consolidation*: anticompetitive deals whose individual size enables them to escape regulatory scrutiny but whose cumulative effect is large”).

19. DOJ & FTC, *Horizontal Merger Guidelines § 1* (2010), https://www.ftc.gov/system/files/documents/public_statements/804291/100819hmg.pdf [<https://perma.cc/XM3U-DL8V>] [hereinafter *Horizontal Merger Guidelines*]; DOJ & FTC, *Vertical Merger Guidelines § 2* (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://perma.cc/W24V-AZ68>] [hereinafter *Vertical Merger Guidelines*]; see also *infra* section I.A.

20. Herbert Hovenkamp, *Antitrust and Platform Monopoly*, 130 Yale L.J. 1952, 2042 (2021); see also Lemley & McCreary, *supra* note 13, at 9 (“An adjacent challenger whose forte is different from the dominant firm’s may nonetheless . . . render the incumbent’s obsolete. . . . [J]ust as smartphone-based maps overtook paper ones, autonomous vehicles may soon overtake some smartphone-based mapping [T]hese . . . [orthogonal] acquisitions . . . should concern us most.”).

21. Foreign Investment Risk Review Modernization Act of 2018 § 1701, 50 U.S.C. § 4565 (2018); Robert Kim & Grace Maral Burnett, *Analysis: How Old CFIUS Grappled With New Challenges*, *Bloomberg L.* (May 9, 2019), <https://news.bloomberglaw.com/bloomberg-law-analysis/analysis-how-old-cfius-grappled-with-new-challenges> (on file with the *Columbia Law Review*); see also James K. Jackson, *Cong. Rsch. Serv.*, RL33388, *The*

merger review and national security review of foreign direct investment—do not appear to have similar aims. Digging deeper, however, reveals the parallels. The passage of FIRRMA came after years of mounting concern about Chinese investment in and access to U.S. technology.²² Chinese-owned companies utilized mergers, acquisitions, joint ventures, and more to gain access to technologies that could become the nexus points of future geopolitical competition.²³ The crisis built to a point where Congress needed to give CFIUS additional tools to stop tech deals that the committee previously failed to see or act on. FIRRMA created a mandatory filing regime for critical technology-related transactions and expanded CFIUS's ability to review non-notified transactions, empowering the committee to scan a broader universe of business transactions for national security risks.²⁴

Domestic antitrust law surrounding tech acquisitions may be at a similar political tipping point. Capitol Hill has held multiple hearings about dominant tech firms' acquisitions of their competitors—with some legislators signaling an appetite to empower antitrust enforcement agencies with a mandate to more aggressively tackle this decade-long trend.²⁵

Committee on Foreign Investment in the United States (CFIUS) 11–12 (2020) (“In general, FIRRMA . . . [b]roadens the scope of transactions under CFIUS’ purview . . . [and] [p]rovides for additional factors for consideration . . . [and] [p]rovides for more staff.”).

22. Jackson, *supra* note 21, at 11 (“During the 115th Congress, many Members expressed concerns over China’s growing investment in the United States, particularly in the technology sector.”).

23. See *id.* at 36 (“Chinese investors were the most active in acquisitions, takeovers, or mergers during the 2015-2017 period, accounting for 26% of the total number of transactions.”).

24. Chase D. Kaniecki & Pete Young, *A Look Behind the CFIUS Non-Notified Process Curtain; How It Works and How to Handle Outreach From CFIUS*, Cleary Gottlieb: Cleary Foreign Inv. & Int’l Trade Watch (Oct. 14, 2021), <https://www.clearytradewatch.com/2021/10/a-look-behind-the-cfius-non-notified-process-curtain-how-it-works-and-how-to-handle-outreach-from-cfius/> [<https://perma.cc/56PQ-CLWJ>]; see also Jackson, *supra* note 21, at 1.

25. See Press Release, Jerrold Nadler, Chairman, H. Comm. on the Judiciary, House Judiciary Antitrust Subcommittee Announces Series of Hearings on Proposals to Curb the Dominance of Online Platforms and Modernize Antitrust Law (Feb. 18, 2021), <https://judiciary.house.gov/news/documentsingle.aspx?DocumentID=4379> [<https://perma.cc/MT3P-RUE2>]; *infra* section II.A.3. Legislation being debated in Congress includes the Ending Platform Monopolies Act, which addresses incumbent platform conflicts of interest; the American Choice and Innovation Online Act, which prohibits dominant platform self-preferencing; and the Platform Competition and Opportunity Act, which would “shift the burden of proof in merger cases to dominant platforms.” Lauren Feiner, *Lawmakers Unveil Major Bipartisan Antitrust Reforms that Could Reshape Amazon, Apple, Facebook and Google*, CNBC (June 11, 2021), <https://www.cnbc.com/2021/06/11/amazon-apple-facebook-and-google-targeted-in-bipartisan-antitrust-reform-bills.html> [<https://perma.cc/R588-7JRL>] (last updated Dec. 13, 2021). Recent reporting has indicated that the American Choice and Innovation Online Act “has gained significant traction” due to support from Senator Chuck Grassley and other Republicans. Lauren Feiner, *2022 Will Be the ‘Do or Die’ Moment for Congress to Take Action Against Big Tech*, CNBC (Dec. 31, 2021), <https://www.cnbc.com/2021/12/31/2022-will-be-the-do-or-die-moment-for-congress-to-take-action-against-big-tech.html> [<https://perma.cc/E5VE-ZYXK>].

But the parallels between CFIUS and tech antitrust do not end at more aggressive enforcement—the CFIUS idea of “critical technology” also captures an essential element that is missing from consideration in current antitrust law. The nascent acquisitions drawing the most concern in antitrust literature involve companies that offer products that are not easily classified as substitutes or complements when compared with incumbents’ current market products. In these cases, it is difficult to say whether the firms are competitors at all.²⁶ The unique concerns surrounding these acquisitions focus on (1) the early-stage nature of the technology and market in which the acquiree operates and (2) a concern that whomever controls this technology will wield undue influence in shaping future technology markets.²⁷ In short, while most proposals addressing tech acquisitions focus on incumbent power and actions, this Note posits that the nature of the technology being acquired is a key determinant of the anticompetitive concern an acquisition should raise.

This Note argues that the FTC should develop its own “critical technologies” pilot program for merger review, creating a system that mandates reporting of all acquisitions related to certain nascent technologies regardless of the size of the transaction or whether it would traditionally raise anticompetitive concerns.²⁸ Under this framework, the FTC would decide which technologies it believes are critical to future economic infrastructure and innovation—possibly including, but not limited to, acquisitions related to augmented reality (AR), VR, cloud computing, cryptocurrencies, 5G technology, and certain types of artificial intelligence (AI)—and mandate reporting of all acquisitions in those industries, regardless of transaction size.²⁹ Such a program would allow the FTC to name and focus

26. Lemley & McCreary, *supra* note 13, at 92–94 (discussing how it was unclear whether Microsoft’s Internet Explorer competed directly with Netscape’s internet browser during the inchoate stages of the business); *id.* at 92 (“Does Google compete with Facebook? Did Facebook compete with WhatsApp before it bought them? The services have overlapping customers but serve different purposes.”).

27. Hemphill & Wu, *supra* note 17, at 1887 (“[N]ascent competitors can hold the promise of offering fresh competition *for* the market, not just *in* the market. They have the capacity to displace an incumbent through a paradigm shift—for example, a new platform for developing software or decoding a genome.”); *id.* (“[A] nascent competitor is relevant due to its promise of *future* innovation. Its potency is not yet fully developed and hence unproven.”).

28. Such a program would mandate reporting of transactions below the current HSR reporting threshold, which may require amending the HSR Act. See *infra* sections I.B and III.B.2 for more information on the program design. Alternatively, without altering the HSR statute, the FTC could enforce such a voluntary filing with an expanded program examining and pursuing anticompetitive concerns raised by HSR non-reportable transactions. This expanded program for non-reportable transactions would rely on the FTC’s existing authority to examine such deals and be modeled after CFIUS’s expanded oversight of non-notified deals.

29. See, e.g., Frank Chaparro, Crypto Industry M&A Activity Surged 131% in 2021, *The Block* (Dec. 20, 2021), <https://www.theblockcrypto.com/linkedin/128025/crypto-industry-ma-activity-surged-131-in-2021> [<https://perma.cc/YBA3-URA8>] (“Cryptocurrency deal-making clocked in record volumes after a frenzied year for merger and acquisitions, with approximately \$6.1 billion in M&A volume driven by crypto-native, finance, and technology

on the cause of concern raised by these transactions: Regulators believe this acquiree's technology will play a central role in the continued development of digital platforms and they will take special care in reviewing technology with strong potential to leapfrog or displace current incumbents.

This forward-looking approach can prevent and complement the much-discussed remedy of retrospectively breaking up "Big Tech" companies.³⁰ CFIUS, while still imperfect, took a major step forward in catching up with the new realities of the tech industry through the 2018 passage of FIRRMA. The political moment may be ripe for a similar system for the FTC. Part I of this Note provides an overview of current antitrust law on premerger notification and merger review. Part II examines the problem of nascent tech acquisitions, tracking both the history of the tech industry and the academic discussion surrounding tech concentration. Part II then analyzes the parallels between the FTC's nascent tech acquisition problem and the issues that CFIUS was facing before the passage of FIRRMA. Part III lays out the arguments for the creation of a CFIUS-style critical technologies pilot program run by the FTC, which would allow the antitrust enforcement agency to orient its mission toward addressing emerging technological markets.

I. THE CURRENT FTC MERGER REVIEW PROCESS

This Part gives an overview of the FTC's current merger review process, including the division between horizontal and vertical mergers and the HSR Act's transaction-size thresholds for premerger notification. Section I.A notes that the merger guidelines focus on measures of current market power and direct competition in assessing anticompetitive effects in a way often inapplicable to tech acquisitions. Section I.B explains the operation of the HSR Act, its impact in excluding transactions from regulatory review, and the antitrust enforcement agencies' power to investigate non-HSR reportable transactions.

companies."); Sheryl Estrada, *Dealmaking Is on a Tear—And There's No Sign of a Slowdown in 2022*, *Fortune* (Dec. 15, 2021), <https://fortune.com/2021/12/15/dealmaking-is-on-a-tear-and-theres-no-sign-of-a-slowdown-in-2022/> (on file with the *Columbia Law Review*) ("[Y]ou have this kind of acceleration of technological capability development that's driven by the increased processing power revolution of 5G in digital. [Regarding] infrastructure that's driving the software categories, think about cloud technologies and artificial intelligence." (internal quotations marks omitted) (quoting Barak Ravid, an EY-Parthenon expert on tech M&A)); Scott Stein, *The AR, VR Future Coming in 2022: What We Learned From CES*, *CNET* (Jan. 10, 2022), <https://www.cnet.com/tech/computing/vr-and-ar-looked-to-the-metaverse-at-ces-2022/> [<https://perma.cc/ST4R-PFF2>] (describing AR/VR competition from Meta, Apple, Microsoft, and other major technology firms).

30. Lemley & McCreary, *supra* note 13, at 72 ("Whether or not we would break up tech incumbents, slowing acquisitions . . . seems both independently desirable and more feasible than breaking the companies up altogether or compelling interoperability. Society has an interest in encouraging more productive startups to stay in business or . . . to sell to someone other than incumbents.").

A. *FTC's Current Merger Review Guidelines*

The FTC horizontal and vertical merger guidelines both draw their statutory authority from “Section 7 of the Clayton Act, 15 U.S.C. § 18, Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2, and Section 5 of the Federal Trade Commission Act, 15 U.S.C. § 45.”³¹ In particular, section 7 of the Clayton Act prohibits mergers and acquisitions if the effect of the transaction “may be substantially to lessen competition, or to tend to create a monopoly.”³² The FTC guidelines divide reviewed transactions between horizontal mergers—of rival sellers in the same market—and vertical mergers—of entities at different stages along the same or related supply chains.³³ The FTC recently withdrew the Vertical Merger Guidelines and has not yet reissued them.³⁴ The Horizontal Merger Guidelines aim to assess whether mergers between rival suppliers will “create, enhance, or entrench market power or . . . facilitate its exercise,” especially in a way that raises prices charged to consumers.³⁵

In assessing evidence of a merger’s potentially adverse competitive effects, the Horizontal Merger Guidelines primarily look to five types of evidence: (1) actual effects observed in consummated mergers, (2) direct comparisons based on evidence, (3) market shares and concentration in a relevant market, (4) substantial head-to-head competition, and (5) the disruptive role of a merging party.³⁶ The withdrawn Vertical Merger Guidelines cited to the same categories of evidence.³⁷

Most of this evidence aims to measure existing market power and is not easily applied to patterns of nascent acquisitions in the technology sector. First, observation of actual effects of a consummated merger is in large part evaluated on the basis of “post-merger price increases” or “other changes adverse to consumers.”³⁸ In the case of nascent technologies, some products

31. Horizontal Merger Guidelines, *supra* note 19, § 1; see also Vertical Merger Guidelines, *supra* note 19, § 1.

32. 15 U.S.C. § 18 (2018). Additionally, the FTC’s case against Meta was brought under section 2 of the Sherman Act, rather than section 7 of the Clayton Act. This choice may relate to a view articulated by some academics who argue that predatory nascent acquisitions are an exclusionary practice. See Hovenkamp, *supra* note 20, at 2041.

33. Horizontal Merger Guidelines, *supra* note 19, § 1; Vertical Merger Guidelines, *supra* note 19, § 1.

34. Press Release, Lina M. Khan, Rohit Chopra & Rebecca Kelly Slaughter, FTC, Statement on the Withdrawal of the Vertical Merger Guidelines 2 (Sept. 15, 2021), https://www.ftc.gov/system/files/documents/public_statements/1596396/statement_of_chair_lina_m_khan_commissioner_rohit_chopra_and_commissioner_rebecca_kelly_slaughter_on.pdf [<https://perma.cc/QB5H-HLXT>] (“[T]he 2020 VMGs’ flawed discussion of the purported procompetitive benefits (i.e., efficiencies) of vertical mergers . . . could become difficult to correct if relied on by courts. . . . Until new guidance is issued, the FTC will analyze mergers . . . [without] presum[ing] efficiencies for any category of mergers.”).

35. Horizontal Merger Guidelines, *supra* note 19, § 1.

36. *Id.* § 2.1.

37. Vertical Merger Guidelines, *supra* note 19, § 2.

38. Horizontal Merger Guidelines, *supra* note 19, § 2.1.1.

may not mature for years, making post-merger observations difficult (e.g., Meta acquired Oculus in 2014 and yet VR headsets are still not a major market).³⁹ Second, “direct comparisons based on experience” require there to be distinct geographic or product markets to compare against the market in which the merger took place; in the case of global tech firms, such a control group for the natural experiment may not be easily found.⁴⁰ Third, measuring market share and concentration in an existing market only sheds light on the incumbent’s current market power, not its ability to utilize a nascent technology to control a future market.⁴¹ Fourth, tech incumbents and nascent competitors in a brand new line of technology are unlikely to be substantial head-to-head competitors at the moment of acquisition.⁴²

The fifth category—“the disruptive role of a merging party”—is the most relevant for nascent acquisitions.⁴³ The Horizontal Merger Guidelines state that the FTC will “consider whether a merger may lessen competition by eliminating a ‘maverick’ firm, i.e., a firm that plays a disruptive role in the market to the benefit of customers.”⁴⁴ The Guidelines’ description of companies that “disrupt market conditions with a new technology or business model” appears to address nascent acquisitions, but empirical evidence suggests that the disruptive role of small start-ups in the tech industry has been inadequately considered.⁴⁵ For example, “of Facebook’s nearly 100 acquisitions, the Federal Trade Commission engaged in an extensive investigation of just one acquisition: Facebook’s purchase of Instagram in 2012.”⁴⁶ The FTC thus likely failed to consider the disruptive potential of dozens of other

39. While Meta currently leads in VR headset shipments, the market is still small and growing rapidly. The full effects of the acquisition on the VR market may not be apparent even though the acquisition occurred years ago, making any post-merger regulatory review both difficult and very delayed. Katharina Buchholz, *Meta’s Oculus Leads Virtual Reality Headset Shipments*, Statista (Oct. 29, 2021), <https://www.statista.com/chart/11006/vr-and-ar-headset-shipments/> [<https://perma.cc/5GU2-Z478>] (“The virtual reality business is still a small market but one that Mark Zuckerberg and his company are betting on big time. Annual XR headset shipments tripled as of Q1 of 2021, with the Oculus Quest 2 becoming the best-selling XR headset at 4.6 million units shipped.”).

40. Horizontal Merger Guidelines, *supra* note 19, § 2.1.2.

41. See *id.* § 2.1.3; Kevin A. Bryan & Erik Hovenkamp, *Startup Acquisitions, Error Costs, and Antitrust Policy*, 87 *U. Chi. L. Rev.* 331, 347 (2020) (“[A] startup is a new player that usually does not presently have a significant market share. Thus, a static analysis will typically suggest that there is no potential harm, but this may only be because the relevant anticompetitive threat involves diminished future competition.”).

42. See Horizontal Merger Guidelines, *supra* note 19, § 2.1.4; Lemley & McCreary, *supra* note 13, at 92–93.

43. Horizontal Merger Guidelines, *supra* note 19, § 2.1.5.

44. *Id.*

45. Majority Staff Report, *supra* note 15, at 11; Horizontal Merger Guidelines, *supra* note 19, § 2.1.5.

46. Majority Staff Report, *supra* note 15, at 11.

apps including WhatsApp, instead concluding that such acquisitions did not warrant additional investigation.⁴⁷

B. *Hart–Scott–Rodino Act*

Prior to the passage of the HSR Act, “US antitrust enforcement was relatively ineffective. The responsibility for discovering mergers near their completion fell to the agencies and proved difficult.”⁴⁸ Congress moved to address this information deficiency by passing the HSR Act in 1976.⁴⁹ Instead of relying on agencies to uncover serious merger attempts, the Act creates a premerger notification regime under which “[f]irms who wish to merge and are not explicitly exempted by the Act must notify the agencies of their intentions.”⁵⁰ The Act utilizes two tests of transaction size to decide whether premerger notification is required: (1) the Size of Transaction (SOT) Test; and (2) the Size of Person (SOP) Test.⁵¹ The current SOT test is set at \$101 million.⁵² There is no reporting obligation for transactions valued below \$101 million.⁵³ Transactions valued between \$101 million and \$403.9 million are reportable if they meet the SOP test, which places additional threshold requirements on the assets and net sales of the acquirer and acquiree.⁵⁴ All transactions above \$403.9 million must be reported to the agencies.⁵⁵

47. Id. (“In the overwhelming number of cases, the antitrust agencies did not request additional information and documentary material under their pre-merger review authority . . .”).

48. Wollmann, *supra* note 18, at 80 (citation omitted).

49. Id.

50. Id. at 80–81.

51. See Hart–Scott–Rodino Act, 15 U.S.C. § 18a (2018); see also FTC, Non-*HSR* Reported Acquisitions by Select Technology Platforms, 2010–2019: An FTC Study § 1 (2021), <https://www.ftc.gov/system/files/documents/reports/non-hsr-reported-acquisitions-select-technology-platforms-2010-2019-ftc-study/p201201technologyplatformstudy2021.pdf> [<https://perma.cc/W9EP-BGVH>] [hereinafter Non-*HSR* Reported Acquisitions Study]. A third test, the Commerce Test, is satisfied “in virtually all cases where one of the parties to the transaction operates in U.S. commerce.” Brian Mohr, Manatt, Phelps & Phillips, LLP, *HSR Thresholds Revised (and Lowered) and Early Terminations Suspended Pending Review*, *JDSupra* (Feb. 8, 2021), <https://www.jdsupra.com/legalnews/hsr-thresholds-revised-and-lowered-and-6505890/> [<https://perma.cc/9VPU-CX57>] (last updated Feb. 9, 2021).

52. Revised Jurisdictional Thresholds for Section 7A of the Clayton Act, 87 Fed. Reg. 3541, 3541 (Jan. 24, 2022) (to be codified at 16 C.F.R. pts. 801–803).

53. Steps for Determining Whether an *HSR* Filing Is Required, FTC, <https://www.ftc.gov/enforcement/premerger-notification-program/hsr-resources/steps-determining-whether-hsr-filing> [<https://perma.cc/BC42-LRT7>] (last visited Aug. 19, 2022).

54. Most tech-incumbent transactions discussed in this Note would meet the SOP test because of the very large assets and net sales controlled by the incumbent acquirer, as long as the start-up in question controls assets or annual net sales greater than \$20.2 million. *HSR Pre-Merger Reporting Threshold Increased to \$101 Million*, Cahill 3 (Jan. 25, 2022), <https://www.cahill.com/publications/firm-memoranda/2022-01-24-hsr-pre-merger-reporting-threshold-increased-to-101-million> [<https://perma.cc/K9GR-7FES>] (The test is met when “either the acquiring or acquired person has annual net sales or total assets of at least \$202 million . . . and the other has annual net sales or total assets of at least \$20.2 million”).

55. Id.

From 1977 to 2000, even fairly small deals were subject to premerger notification requirements. A 2000 amendment raised the threshold of the SOT test from \$15 to \$50 million; as a result, “premerger notifications fell abruptly by 70 percent.”⁵⁶ Since then, evidence has suggested that significant consolidation has occurred through transactions valued below the SOT test due to the absence of antitrust reporting as a deterrent and decreased regulatory investigations.⁵⁷ One study estimated that “stealth” mergers below the HSR reporting threshold consolidated \$407 billion in the U.S. economy between 1994 and 2011.⁵⁸ This Note will largely examine the SOT test, as it sets the floor above which the HSR premerger notification requirements begin to apply. The focus on the SOT test has also been shared by the FTC’s own report on non-HSR reported transactions, which found that the GAFAM corporations made 819 total non-HSR reportable transactions from 2010 to 2019.⁵⁹ Of all non-reported transactions, 616 transactions were above \$1 million and 65% of those were between \$1 and \$25 million.⁶⁰ But it is also important to note that the Department of Justice (DOJ) and FTC can investigate mergers below the HSR reporting threshold and have done so frequently. From 2009 to 2013, the DOJ “launched 73 preliminary inquiries into transactions that were not reportable under the HSR Act”; the DOJ then continued to investigate many of these smaller deals, with non-reportable transactions “represent[ing] nearly 20% of all merger investigations opened by the Division during that period.”⁶¹ Similarly, “[f]rom 2013 to 2016, almost 12% of the FTC’s merger challenges . . . involved non-reportable transactions.”⁶²

56. 15 U.S.C. § 18, amended by 15 U.S.C § 18(B) (i) (2000); Wollmann, *supra* note 18, at 78.

57. Wollman, *supra* note 18, at 78 (“As the ability of the agencies to detect harmful deals falls, anticompetitive mergers may rise not only because more transactions ‘slip past’ the authorities—holding firm behavior fixed—but also because more direct competitors attempt to merge. . . . [T]he latter, endogenous response can easily exceed the former, mechanical effect.” (emphasis omitted)). Wollmann also notes that “32 percent of all HSR-related investigations prior to the amendment target deals valued at less than \$50 million,” demonstrating that these small deals actually often raised anticompetitive concerns. *Id.*

58. *Id.* at 79.

59. Non-HSR Reported Acquisitions Study, *supra* note 51, at 10.

60. *Id.* at 13.

61. Jonathan Lewis & Lee Simowitz, To Report, or Not to Report, Your Non-Reportable Transaction Is the Question, *JDSupra* (May 2, 2014), <https://www.jdsupra.com/legalnews/to-report-or-not-to-report-your-non-re-40694/> [<https://perma.cc/8PB2-J22H>].

62. Erin L. Shencopp, Non-Reportable Transactions: Antitrust Risk, *Jones Day* 3 (Oct. 19, 2018), <https://www.jonesday.com/-/media/files/publications/1/01/nonreportable-transactions-antitrust-risk/files/nonreportable-transactionsantitrust-risk-with-date/fileattachment/nonreportable-transactionsantitrust-risk-with-date.pdf> [<https://perma.cc/N6FW-Q3C8>].

II. THE ONGOING PROBLEM OF NASCENT TECH ACQUISITIONS AND THEIR PARALLELS TO PRE-FIRRMA GAPS IN CFIUS OVERSIGHT

While most of the nascent tech acquisitions of the past decade did not lead to contemporaneous antitrust investigations, a growing literature now examines their role in concentrating the tech industry. Section II.A of this Note presents a brief overview of patterns within tech acquisitions and then examines how academics and policymakers have responded to these developments. Section II.B then looks at the problem of tech acquisitions through its parallels to the issues facing CFIUS pre-FIRRMA and the changes FIRRMA made to address these concerns.

A. *Nascent Acquisitions Are a Central Concern in Recent Discussions About Tech Industry Concentration*

1. *History of Acquisitions.* — Many of Big Tech’s signature products came from acquisitions. Google is now synonymous with Android, but the mobile operating system was actually one of Google’s early acquisitions, purchased for \$50 million in 2005.⁶³ Siri has been part of iPhones for a decade now, but prior to its acquisition by Apple in 2010, it was just another app that offered mobile personal assistant services.⁶⁴ Google’s other famous acquisitions include YouTube, Waze, and Fitbit, while Microsoft has acquired Skype, LinkedIn, and GitHub.⁶⁵ Even in the face of tightening government scrutiny, tech acquisitions have continued apace. In the first half of 2021, tech mergers and acquisitions worldwide were valued at over \$671 billion—setting a global record.⁶⁶

Industry observers have noted two key trends in recent GAFAM acquisitions. First, many tech companies have invested significantly in the video game and AR/VR space.⁶⁷ In 2021, Meta bought BigBox VR as its fifth VR

63. Google’s 12 Biggest Acquisitions and What They Mean for You, *Gadgets Now* (Nov. 3, 2020), <https://www.gadgetsnow.com/slideshows/googles-12-biggest-acquisitions-and-what-they-mean-for-you/photolist/71862166.cms> [<https://perma.cc/BX2A-NZDN>].

64. Erick Schonfeld, *Silicon Valley Buzz: Apple Paid More Than \$200 Million for Siri to Get Into Mobile Search*, *TechCrunch* (Apr. 28, 2010), <https://techcrunch.com/2010/04/28/apple-siri-200-million/> [<https://perma.cc/3ZLN-22BP>].

65. Google’s 12 Biggest Acquisitions, *supra* note 63; Infographic: Microsoft’s Biggest Acquisitions, *CBInsights* (Apr. 4, 2019), <https://www.cbinsights.com/research/infographic-microsoft-biggest-acquisitions/> [<https://perma.cc/62NG-XZUD>].

66. Nicolas Rivero, *The Tech Industry Is Leading a Record Boom in Mergers and Acquisitions*, *Quartz* (July 3, 2021), <https://qz.com/2028920/the-tech-industry-is-leading-a-record-ma-boom/> [<https://perma.cc/7936-ZMLV>] (last updated July 20, 2022).

67. For Meta’s analysis of the importance of the AR/VR market, see Michael E. Porter & James E. Heppelmann, *Why Every Organization Needs an Augmented Reality Strategy*, *Harv. Bus. Rev.*, Nov.–Dec. 2017, at 46, 48 (“AR transforms volumes of data and analytics into images or animations that are overlaid on the real world. Today most AR applications are delivered through mobile devices, but . . . will shift to hands-free wearables . . . [and no longer] require[] people to mentally translate 2-D information for use in a 3-D world.”); *supra* notes 4–11 and accompanying text.

game development studio acquisition—its other acquisitions include Unit 2 Games, Beat Games, Sanzaru Games, and Ready at Dawn.⁶⁸ One tech article observed that the acquisitions mirror Meta’s “most famous bets on nascent technology from years ago: the purchases of Instagram and WhatsApp, which helped the company cement its position as the dominant player in social networks.”⁶⁹ Alex Heath, a reporter from the *Verge* specializing in AR and VR technologies, also tweeted, “[Meta] is probably going to have a near-monopoly in VR software before it even matters,” and noted that VR game acquisitions may be Meta’s most lucrative yet.⁷⁰ Meanwhile, in March 2021, Microsoft announced the launch of its “mixed reality” offering for remote work: Mesh for Microsoft Teams.⁷¹ The new program works with AltspaceVR, “one of the first mainstream VR social platforms,” which Microsoft acquired in 2017 and folded into its “Mixed Reality division within Microsoft’s Cloud and AI group.”⁷²

Additionally, every GAFAM company bought at least one AI start-up in the last year.⁷³ For example, Meta bought AI.Reverie, a synthetic data-focused start-up, for an undisclosed amount in October 2021.⁷⁴ Additionally, the AI start-ups Meta bought during 2018 and 2019 show the company’s pattern of purchases. One news account noted that “[o]ver the last few years, Meta has been busy building out AI capabilities in areas like computer vision, natural language processing (NLP)[,] and ‘deep learning,’ in part by acquiring promising start-ups in the space.”⁷⁵ In 2018, Meta acquired London-based NLP start-up Bloomsbury AI for an

68. Ian Hamilton, Facebook Acquires POPULATION: ONE Developer BigBox VR, Upload VR (June 11, 2021), <https://uploadvr.com/population-one-facebook-bigbox-acquire/> [<https://perma.cc/3SRP-VDUY>]; Casey Newton, Is Facebook Cornering the VR Market?, *The Verge* (June 16, 2021), <https://www.theverge.com/2021/6/16/22537795/is-facebook-cornering-the-vr-market> [<https://perma.cc/FMF5-3KAV>].

69. Newton, *supra* note 68.

70. Alex Heath (@alexheath), Twitter (June 11, 2021), <https://twitter.com/alexheath/status/1403454403072253954> [<https://perma.cc/8AUK-HKR8>]; Alex Heath (@alexheath), Twitter (June 11, 2021), <https://twitter.com/alexheath/status/1403456085395079168> [<https://perma.cc/6D98-KW4M>].

71. David Roe, How Microsoft Mesh May Transform Remote Work, *Reworked* (Nov. 8, 2021), <https://www.reworked.co/digital-workplace/microsoft-mesh-aims-to-make-mixed-reality-mainstream/> [<https://perma.cc/38Q3-FW3M>].

72. *Id.*

73. Zacharie Tazrout, GAFAM: A Look Back at Their AI Strategies and Acquisitions in 2020, *ActuIA* (May 5, 2021), <https://www.actuia.com/english/gafam-a-look-back-at-their-ai-strategies-and-acquisitions-in-2020/> [<https://perma.cc/9C7M-JVB7>].

74. Kyle Wiggers, Facebook Quietly Acquires Synthetic Data Startup AI.Reverie, *VentureBeat* (Oct. 11, 2021), <https://venturebeat.com/2021/10/11/facebook-quietly-acquires-synthetic-data-startup-ai-reverie/> [<https://perma.cc/EB4D-FFNG>].

75. Steve O’Hear, Facebook Quietly Acquired Another UK AI Startup and Almost No One Noticed, *TechCrunch* (Feb. 10, 2020), <https://techcrunch.com/2020/02/10/facebook-quietly-acquired-atlast-ml/> [<https://perma.cc/3TKR-S2KQ>] [hereinafter O’Hear, Facebook Quietly Acquired].

undisclosed price estimated to be between \$23 and \$40 million.⁷⁶ At the end of 2019, Meta bought another U.K. AI start-up, Deeptide, with a non-public price estimated to also be about \$40 million.⁷⁷ In 2020, Meta paid about \$40 million for Scape Technologies, whose CEO previously described his company's technology as "a large-scale mapping pipeline that creates 3D maps from ordinary images and video."⁷⁸ Tech reporters have noted that Meta's AI acquisitions fit into the company's pattern of "investment in next generation platforms."⁷⁹ Buying early start-ups has become so ubiquitous in the tech world that it has sparked a revitalized conversation about nascent competition within antitrust law.

2. *Academic Theory About Nascent Acquisitions and the Effects of Big Tech Concentration.* — A 2020 article by Professors C. Scott Hemphill and Tim Wu established a working definition of "nascent acquisitions," a term that traces its roots to the seminal DOJ antitrust suit against Microsoft.⁸⁰ Their definition points to three criteria to identify nascent competitors: A nascent competitor (1) is an innovator, (2) "is relevant due to its promise of *future* innovation," and (3) "poses a serious threat to the incumbent."⁸¹

Killer acquisitions are distinct from nascent acquisitions, but the two phenomena are often discussed together. An article from scholars at the London Business School and the Yale School of Management ignited the killer-acquisition debate when it first circulated as a working paper in 2018 before ultimately being published in 2021.⁸² The paper defined a "killer acquisition" as the phenomenon of an incumbent company acquiring a nascent competitor to ensure that competitor's product never reaches market.⁸³ While the quantitative proof in the paper came from analyzing

76. Anthony Ha, Facebook Confirms that It's Acquiring Bloomsbury AI, TechCrunch (July 3, 2018), <https://techcrunch.com/2018/07/03/facebook-confirms-bloomsbury-ai-acquisition/> [<https://perma.cc/V93C-4MF3>].

77. O'Hear, Facebook Quietly Acquired, *supra* note 75.

78. Steve O'Hear, Facebook Has Acquired Scape Technologies, the London-Based Computer Vision Startup, TechCrunch (Feb. 8, 2020), <https://techcrunch.com/2020/02/08/scapebook/> [<https://perma.cc/DA8K-KJFS>].

79. *Id.*

80. Hemphill & Wu, *supra* note 17, at 1883–89.

81. *Id.* at 1886–89; see also Competition in Digital Technology Markets: Examining Acquisitions of Nascent or Potential Competitors by Digital Platform: Hearing Before the Subcomm. on Antitrust, Competition Pol'y & Consumer Rts. of the S. Comm. on the Judiciary, 116th Cong. 3 (2019) (statement of John M. Yun, Assoc. Professor, Antonin Scalia L. Sch., Geo. Mason Univ.) [hereinafter Yun Hearing Statement] ("[C]onsider potential competition as [a product that does not yet exist . . . Whereas, nascent competition is about a product or technology that exists but has not yet matured into a significant competitor . . .]").

82. See Colleen Cunningham, Florian Ederer & Song Ma, Killer Acquisitions (2018) (unpublished working paper), <https://economics.sas.upenn.edu/system/files/2019-07/SSRN-id3241707.pdf> [<https://perma.cc/K9NS-CMXL>]; see also Colleen Cunningham, Florian Ederer & Song Ma, Killer Acquisitions, 129 J. Pol. Econ. 649, 655 (2021) [hereinafter Killer Acquisitions] (referring to the published paper).

83. Killer Acquisitions, *supra* note 82, at 650.

pharmaceutical acquisitions, the paper kicked off substantial discussion about whether a similar phenomenon existed in the tech world.⁸⁴ Recent analyses have emphasized that killer motives are not always behind acquisitions of nascent competitors,⁸⁵ killer acquisitions may be a rare phenomenon,⁸⁶ and identifying killer acquisitions *ex post* may be difficult.⁸⁷ A widely cited 2020 Center for Economic Policy Research article suggested that “reverse” killer acquisitions may be “the more prevalent phenomenon”; such acquisitions kill off the incumbent’s own internal development efforts, as opposed to the acquiree’s competitor product.⁸⁸ In the Meta case, for example, Meta did not “kill” Instagram so much as avoid the work of improving its own mobile offerings.⁸⁹ Regardless of whether incumbents actually quash a nascent acquiree’s technology, the industry’s mere expectation of acquisition could inhibit a nascent company’s growth trajectory. A National Bureau of Economics Research working paper found that “the prospect of being acquired . . . [can] reduc[e] [new entrants’] incentive to innovate” under certain market conditions.⁹⁰ Venture capitalists may also be more reluctant to finance start-ups in the space, as empirical evidence shows a decline in venture capital investment in sectors where major tech giants move in through acquisition.⁹¹

84. *Id.* at 696; see also Hovenkamp, *supra* note 20, at 2046–47 (describing the complexity of identifying killer acquisitions); Sai Krishna Kamepalli, Raghuram Rajan & Luigi Zingales, *Kill Zone 5–7* (Nat’l Bureau of Econ. Rsch., Working Paper No. 27146, 2022), https://www.nber.org/system/files/working_papers/w27146/w27146.pdf [<https://perma.cc/A5JB-QMHC>] (analyzing the innovation-limiting effects of tech company acquisitions); Cristina Caffarra, Gregory Crawford & Tommaso Valletti, ‘How Tech Rolls’: Potential Competition and ‘Reverse’ Killer Acquisitions, CEPR: VoxEU Blog (May 11, 2020), <https://cepr.org/voxeu/blogs-and-reviews/how-tech-rolls-potential-competition-and-reverse-killer-acquisitions> [<https://perma.cc/YCY3-WKY8>] (assessing acquisition strategies that reduce competition in the tech sector).

85. See, e.g., Hovenkamp, *supra* note 20, at 2047 (“[O]ther cases are harder to classify. . . . Antitrust policy should not have a *per se* rule against postacquisition shutdowns where the acquiring firm has tried to put the acquired assets to productive use.”).

86. See, e.g., Oliver Latham, Isabel Tecu & Nitika Bagaria, *Beyond Killer Acquisitions: Are There More Common Potential Competition Issues in Tech Deals and How Can These Be Assessed?*, *Competition Int’l Pol’y Antitrust Chron.*, May 2020, at 1, 3 (2020) (“Overall, killer acquisitions are best thought of as a rare, but high impact event . . .”).

87. See, e.g., Hovenkamp, *supra* note 20, at 2047.

88. Caffarra et al., *supra* note 84 (“Once bought, the target may be cannibalised for certain assets to power the incumbent’s own effort. Or the incumbent’s own project quietly may be shelved. Either way, . . . [i]t’s the killing of one of the two efforts, but not the target’s – the buyer’s.”).

89. See First Amended Complaint, *supra* note 1, at 19–20, 22, 27, 32 (describing Meta’s struggle to develop internal mobile offerings and its resulting strategy to acquire Instagram).

90. Kamepalli et al., *supra* note 84, at 35.

91. See *id.* at 2, 10; see also Stigler Committee on Digital Platforms, Stigler Center for the Study of the Economy and the State, Final Report 9 (2019), <https://www.chicagobooth.edu/-/media/research/stigler/pdfs/digital-platforms-committee-report-stigler-center.pdf> [<https://perma.cc/2XL6-ND2H>] (“Many online

Neither nascent nor killer acquisitions are a perfect match for the critical technologies problem addressed by this Note. While Hemphill and Wu advocate for assessing the potency of the nascent acquiree's innovation and their potential to challenge the incumbent,⁹² their criteria likely cover a broader range of transactions than what would constitute critical technology. For example, borrowing from the pharmaceutical context, an incumbent acquisition of a small biotech firm's generic drug could constitute a nascent acquisition because of the small firm's potent challenge to the incumbent's product. That nascent acquisition, however, does not necessarily give the incumbent greater control over the development of the entire next generation of the drug market; that analysis would need to be conducted separately.⁹³ Additionally, a critical technologies analysis need not delve into whether killer acquisitions predominate over reverse killer acquisitions or vice versa. In theory, tech companies could build their dominance in future markets by acquiring some start-ups to quash and others to co-opt, leaving themselves in the strongest position possible to defend against future comers. The exact prevalence of these tactics, however, is beyond the scope of this research. Killer or not, acquisitions of nascent competitors have often been cited as a major contributor to rising concentration in the tech industry. As Hemphill and Wu note:

Nascent rivals play an important role in both the competitive process and the process of innovation. New firms with new technologies can challenge and even displace existing firms; sometimes, innovation by an unproven outsider is the only way to introduce new competition to an entrenched incumbent. That makes the treatment of nascent competitors core to the goals of the antitrust laws. As the D.C. Circuit has explained, "it would be inimical to the purpose of the Sherman Act to allow monopolists free rei[]n to squash nascent, albeit unproven, competitors at will"⁹⁴

markets present extremely high profit margins and no new relevant entry, a sign of significant barriers to entry. . . . [And] there is evidence that venture capitalists are reluctant to fund businesses in sectors that compete directly with DPs. Venture capitalists label this phenomenon 'kill zones.'").

92. Hemphill & Wu, *supra* note 17, at 1882.

93. This example is borrowed from the context in which Cunningham, Ederer, and Ma analyze killer acquisitions. See *Killer Acquisitions*, *supra* note 82, at 650.

94. Hemphill & Wu, *supra* note 17, at 1880 (alteration in original) (quoting *United States v. Microsoft Corp.*, 253 F.3d 34, 79 (D.C. Cir. 2001) (en banc) (per curiam)). For more on the relationship between lax merger control, "superstar" firms, and rising concentration in the U.S. economy, see Carl Shapiro, *Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets*, 33 *J. Econ. Persps.* 69, 75 (2019). Some academics have tied nascent acquisitions to concentration by their function in blocking or co-opting cycles of "creative destruction," whereby new technologies "persistently upturn the status quo over time." Bryan & Hovenkamp, *supra* note 41, at 349. The idea of "creative destruction" comes from the work of Austrian economist Joseph Schumpeter, who

Through their ongoing dominance and lack of significant new competitors, GAFAM companies have developed gatekeeping power “over technologies other firms rely on to do business in the online economy.”⁹⁵ Additionally, dominant platforms can leverage their power across different markets and exploit the power of the data that they collect.⁹⁶ The Stigler Report from the University of Chicago Booth School of Business noted that “market power may manifest itself through lower quality, lower privacy protection, less creation of new business/entry, less variety of political viewpoints, and, importantly, less investments in innovation.”⁹⁷ These degradations can also include effects on the quality of content on social media sites or effects on other aspects of the digital product, such as privacy protections.⁹⁸

One particular cause for concern is the effect of tech monopolies on innovation. Wu argues that external, as opposed to internal, co-opted innovation, is “more likely to be of a ‘disruptive’ nature—a giant leap forward, so to speak.”⁹⁹ An incumbent firm usually innovates only within “the path it has already blazed, lest it lose the value of its existing investments.”¹⁰⁰ It thus fails to take the more drastic and risky steps that a smaller start-up may be willing to take. Additionally, Wu notes that internal innovation, when it does occur, “can depend on the existence of an external challenge. That is to say, established firms tend to innovate when they actually face a challenge from a startup or an outsider.”¹⁰¹

has been cited both for more and less aggressive nascent acquisition enforcement. See Joseph A. Schumpeter, *The Theory of Economic Development* 55–56 (2020) (“[N]ew combinations are . . . embodied . . . in new firms which generally do not arise out of the old ones but start producing beside them; . . . it is not the owner of stage-coaches who builds railways.”). Some argue that creative destruction will simply continue and regulators do not need to take action against GAFAM firms, whose dominance is merely fleeting; others argue that incumbents’ anticompetitive behavior has stalled this natural economic cycle. For more on this debate, see Jonathan B. Baker, *Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation*, 74 *Antitrust L.J.* 575, 582 (2007); Bryan & Hovenkamp, *supra* note 41, at 349 (“Schumpeter states that ‘it is not [price] competition which counts but the competition from . . . the new technology . . . competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits . . . of the existing firms but at their foundations and their very lives.’” (Joseph A. Schumpeter, *Capitalism, Socialism and Democracy* 81–86 (5th ed. 1976))).

95. Lina M. Khan, *Sources of Tech Platform Power*, 2 *Geo. L. Tech. Rev.* 325, 326 (2018).

96. See *id.* at 328–29 (describing fines levied against these companies by the European Union for leveraging their data collection).

97. Stigler Committee on Digital Platforms, *supra* note 91, at 8.

98. See *id.* at 63–66.

99. Tim Wu, *Taking Innovation Seriously: Antitrust Enforcement if Innovation Mattered Most*, 78 *Antitrust L.J.* 313, 317–18 (2012) (“External innovation consists of . . . a new product developed by [an outside firm, like] . . . Apple’s entrance into the mobile telephone market in 2008 with its iPhone. . . . [In contrast,] internal innovation . . . refers to a firm already in a given market introducing an improved product . . .”).

100. *Id.* at 318.

101. *Id.*

Finally, economist Thomas Philippon argues that increased concentration leads not only to lower business investment and productivity growth, but it also causes democratic harm.¹⁰² Philippon notes that the biggest firms in the U.S. economy undertake a disproportionate amount of lobbying activity, leading to potential economic inefficiencies as the firms seek policies that will allow them to engage in rent-seeking.¹⁰³ Philippon also notes that “the top 0.01 percent of donors contribute an astounding 40 percent of all contributions” in U.S. political campaigns and that higher amounts of political donations in state attorney general races correlate with fewer antitrust enforcement actions in the years after a state election.¹⁰⁴ The Stigler Report noted that tech platforms possess many of the attributes of a natural monopoly, including network effects and high barriers to entry.¹⁰⁵ The Report argues that such a predisposition for monopoly, combined with the potential for abuse of democratic systems, requires aggressive antitrust enforcement as a counterbalancing force: “In a market with strong tendencies toward monopolization, a mistake in the approval of a merger can condemn an industry to a monopoly. If you add the political power of these monopolies, the mistake could become irreversible.”¹⁰⁶

3. *Antitrust Enforcers and Congress Have Also Spotlighted the Issue of Nascent Acquisitions.* — Current regulator and congressional attention has largely focused on well-known acquisitions from the previous decade. In the FTC’s refiled complaint against Meta, the FTC repeatedly emphasized that Instagram and WhatsApp—although small start-ups at the time—were future innovators who posed existential threats to Meta.¹⁰⁷ The FTC has also evinced its concern with nascent acquisitions by issuing a call for information to the GAFAM companies about their unreported acquisitions from the years 2010 to 2019.¹⁰⁸ Congress has also moved to spotlight the issue: The House Subcommittee on Antitrust Report included a forty-five

102. See Thomas Philippon, *The Great Reversal: How America Gave Up on Free Markets* 79 (2019) (“Industry leaders’ shares of investment and capital have decreased, and their profit margins have increased. Given that leaders in concentrating industries do not feel the urge to invest and choose to increase their pay-outs to shareholders, it is hardly surprising that productivity growth is lackluster.”); *id.* at 161, 167–69 (“[L]obbying expenditures are three times more concentrated than revenues, which are themselves already fairly concentrated. This means that large firms play an even more outsized role in the political system than they do in the economy itself.”).

103. *Id.* at 161, 167–69.

104. *Id.* at 180, 197.

105. Stigler Committee on Digital Platforms, *supra* note 91, at 7–8.

106. *Id.* at 16.

107. See First Amended Complaint, *supra* note 1, at 1, 5 (claiming Meta has “acquired companies that it viewed as serious competitive threats” and referring to app developers as “potential competitive threats to [Meta]”).

108. Non-HSR Reported Acquisitions Study, *supra* note 51, at 1.

page appendix listing GAFAM acquisitions, sending a clear signal that Congress is monitoring the trend.¹⁰⁹

Both houses of Congress are currently evaluating the Platform Competition and Opportunity Act of 2021. Introduced by Senators Amy Klobuchar and Tom Cotton in the Senate and Representatives Hakeem Jeffries, Ken Buck, David Cicilline, Jerry Nadler, and Lance Gooden in the House, the bill would presumptively prohibit current Big Tech incumbents from acquiring potential competitors.¹¹⁰ The bill provides that “[a] designated firm will have the burden of showing that any purchase of greater than \$50 million does not contribute to or sustain its dominant market share.”¹¹¹ The bill would only apply to designated firms that are “dominant technology platforms” with over 50 million U.S.-based monthly active users or 100,000 monthly active business users, a market capitalization above \$600 billion, and critical trading partnerships with other businesses.¹¹² While the bill is currently under consideration, some news accounts indicate that the American Innovation and Choice Online Act, which focuses on Big Tech companies’ self-preferencing practices in online markets, could be a greater focus for lawmakers in 2022 given its powerful bipartisan supporters.¹¹³

B. *The FTC’s Challenges Surrounding Nascent Acquisitions Mirror CFIUS’s Pre-FIRRMA Oversight Gaps*

While there is momentum surrounding antitrust legislation, it remains to be seen whether the tech acquisition crisis can capture the bipartisan support that propelled FIRRMA’s reforms through Congress. This section will first give a brief overview of CFIUS and FIRRMA, then

109. See Majority Staff Report, *supra* note 15, at 406–50.

110. See S. 3197, 117th Cong. § 1 (2021) (prohibiting “covered platforms” from “directly or indirectly” acquiring certain stocks or assets, allowing only certain enumerated exclusions); see also H.R. 3826, 117th Cong. § 1 (2021) (same).

111. One-Pager on Senate Platform Competition and Opportunity Act, Sen. Tom Cotton (Nov. 5, 2021), https://www.cotton.senate.gov/imo/media/doc/antitrust_one_pager.pdf [<https://perma.cc/RT78-HH2X>].

112. *Id.* The Senate bill interestingly limits “designated firms” to companies that meet those thresholds within thirty days after the bill’s passage—freezing the definition of a monopolist in time. Senator Cotton’s one-pager released with the bill stated that such a temporal limit was included in the Senate version so as not to prohibit other firms from growing, as they “do not have the same monopolistic practices of big tech.” *Id.*

113. See Rebecca Kern, Senate Judiciary Prepares for Its Antitrust Showdown, *Politico* (Jan. 11, 2022), <https://www.politico.com/newsletters/morning-tech/2022/01/11/senate-judiciary-sets-a-date-for-its-antitrust-showdown-799804> [<https://perma.cc/8N37-PFEV>] (“S. 2992 has the backing of 10 additional lawmakers on both sides of the aisle . . .”); see also Margaret Harding McGill & Ashley Gold, Tech Antitrust Bills’ Make or Break Moment, *Axios* (Jan. 10, 2022), <https://www.axios.com/antitrust-bills-make-or-break-big-tech-6b1451bb-a66a-4204-b23d-f2640c18a9fd.html> [<https://perma.cc/N4C6-8EVA>] (noting that the act is backed by “leaders of the Senate Judiciary Committee” in addition to Democratic Senator Amy Klobuchar and Republican Senator Lindsey Graham).

examine the parallels between FIRRMA's concerns surrounding Chinese tech investments and the nascent-acquisition problem facing antitrust law.

CFIUS is an interagency committee chaired by the Secretary of the Treasury that reviews foreign direct investments in the U.S. economy that may pose national security risks.¹¹⁴ Members of CFIUS include the heads of the Departments of Justice, Homeland Security, Commerce, Defense, State, and Energy.¹¹⁵ Although CFIUS has existed since 1990, Presidents in office pre-FIRRMA had only blocked five foreign investment transactions based on the committee's recommendations.¹¹⁶ A recent wave of investments by Chinese companies in "Fourth Industrial Revolution industries, such as semiconductors, artificial intelligence, robotics, and information technology" then drew bipartisan attention.¹¹⁷ Senator John Cornyn, speaking at a 2018 Senate Banking Committee hearing, stated: "China has also been able to exploit . . . investments in early-stage technology companies in places like Silicon Valley The Chinese have figured out which dual-use emerging technologies are still in the cradle, so to speak . . ." ¹¹⁸ One of Cornyn's former staffers later commented that FIRRMA was driven by a recognition that "cutting-edge technologies developed by startups and other small companies . . . had become just as important as large

114. CFIUS derives its authority from section 721 of the Defense Production Act of 1950, as amended by the Exon-Florio amendment of 1980, which gives the President the authority "to suspend or prohibit certain transactions" in the name of national security. A 2018 appendage to the Exon-Florio amendment became effective through a supplement to 50 U.S.C. § 4565. See 50 U.S.C. § 4565 (2018); CFIUS Laws and Guidance, U.S. Dep't of the Treasury, <https://home.treasury.gov/policy-issues/international/the-committee-on-foreign-investment-in-the-united-states-cfius/cfius-laws-and-guidance> [<https://perma.cc/UG4H-2PHZ>] (last visited July 26, 2022). In Executive Order 11858, President Gerald Ford authorized the Secretary of the Treasury to make the necessary regulations to achieve section 721's aims. Exec. Order No. 11,858, 3 C.F.R. 990 (1971-1975).

115. CFIUS Overview, U.S. Dep't of the Treasury, <https://home.treasury.gov/policy-issues/international/the-committee-on-foreign-investment-in-the-united-states-cfius/cfius-overview> [<https://perma.cc/TM4T-L3Y8>] (last visited Sept. 10, 2022).

116. James K. Jackson & Cathleen D. Cimino-Isaacs, Cong. Rsch. Serv., RL33388, CFIUS Reform Under FIRRMA 21 (2020).

117. See *id.* (noting that the 2018 enactment of FIRRMA was in response to "concerns over Chinese and other foreign investment in U.S. companies with advanced technology"); Adam Chan, CFIUS, Team Telecom and China, *Lawfare* (Sept. 28, 2021), <https://www.lawfareblog.com/cfius-team-telecom-and-china> [<https://perma.cc/BQ4B-L4YD>] ("[U]nder Beijing's 2015 'Made in China 2025' plan, China seeks to dominate Fourth Industrial Revolution industries . . . by 2025. Chinese businesses had already increased their technological capabilities through foreign direct investment in the U.S., which rose approximately 18,000 percent in a decade, to \$45.2 billion in 2016.")

118. David R. Hanke, Visiting Fellow, Antonin Scalia L. Sch., Geo. Mason Univ., Testimony Before the U.S.-China Economic and Security Review Commission: Hearing on U.S.-China Relations in 2021: Emerging Risks Panel III: Assessing Export Controls and Foreign Investment Risk 4 (Sept. 8, 2021), https://www.uscc.gov/sites/default/files/2021-08/David_Hanke_Testimony.pdf [<https://perma.cc/K4B3-P5YV>] [hereinafter Hearing on U.S.-China Relations].

defense contractors” in terms of national security risks.¹¹⁹ In one notable pre-FIRRMA example, Chinese telecom company Huawei had declined to notify CFIUS about its \$2 million acquisition of 3Leaf, “a U.S. server technology company[,] . . . believing the transaction too insignificant to require reporting.”¹²⁰ Although CFIUS subsequently ordered 3Leaf’s divestment, Huawei “had already gained access to 3Leaf’s sensitive technology.”¹²¹

FIRRMA’s key provisions include lengthening the time for CFIUS reviews and investigations, increasing CFIUS staff and funding, and drastically expanding the types of transactions that CFIUS can review.¹²² Two FIRRMA provisions are particularly relevant to this Note. First, FIRRMA authorized the creation of a pilot program to regulate foreign investments that were “seeking to acquire certain interests in US businesses involved in critical technologies.”¹²³ The initial pilot program came into effect on November 10, 2018, and requires mandatory declarations for transactions in twenty-seven critical technology-related industries, including aviation, semiconductors, and biotechnology.¹²⁴ CFIUS then has a thirty-day assessment period to evaluate whether the technology involved is covered by the pilot program, whether the transaction will “result in foreign government control,” and whether “there is credible evidence to support a belief that a foreign person might take action that threatens to impair US national security.”¹²⁵ In 2020, the Department of Treasury issued regulations tying the definition of “critical technology” to the Department of Commerce’s

119. *Id.* at 3 (noting also that “these types of technologies were later captured in the statutory term ‘emerging technologies’”).

120. Chan, *supra* note 117.

121. *Id.* (“From 2008 to 2018, Chinese investments went from being reviewed less than those of France, Canada, the United Kingdom, or Japan to being the most scrutinized . . . with more Chinese deals examined than . . . the next three countries combined, with particular attention paid to acquisitions in advanced technology sectors.”).

122. Jackson & Cimino-Issacs, *supra* note 116, at 1–2.

123. Ignacio E. Sanchez & Christine Daya, CFIUS Pilot Program Mandates Declarations for Certain Non-Controlling Investments in Critical Technologies, DLA Piper (Oct. 17, 2018), <https://www.dlapiper.com/en/us/insights/publications/2018/10/cfius-pilot-program-mandates-declarations/> [<https://perma.cc/928D-V8DD>]; see also Foreign Investment Risk Review Modernization Act of 2018 § 1701, 50 U.S.C. § 4565 (2018).

124. Sanchez & Daya, *supra* note 123 (concluding that CFIUS’s authority reaches not only mergers and acquisitions but may even affect small percentages of venture capital investments); see also Hearing on U.S.-China Relations, *supra* note 118, at 4 (noting that the CFIUS critical technology program covers even noncontrolling minority investments in critical technologies and explaining that a declaration is a “short-form CFIUS filing” used “for more benign transactions”); FIRRMA Pilot Program Requires National Security Filings for Some Investments in U.S. Businesses Involving Critical Technologies, Sidley Austin (Oct. 12, 2018), <https://www.sidley.com/en/insights/newsupdates/2018/10/firma-pilot-program-expands-cfius-jurisdiction> [<https://perma.cc/2M8A-45JU>].

125. Sanchez & Daya, *supra* note 123.

export controls definitions of “emerging and foundational technologies,” rather than relying on an industry-by-industry NAISC code.¹²⁶

Second, while CFIUS always had the power to review non-notified transactions, FIRRMA expanded CFIUS’s resources to do so. Prior to FIRRMA, CFIUS had few staff members and rarely had the resources to uncover a potentially problematic but small deal.¹²⁷ After the passage of FIRRMA, CFIUS’s “largest division is now sifting through deals that have already been completed to make sure none got through that shouldn’t have.”¹²⁸ One law firm described the non-notified team’s work as follows:

We suspect (because specific information regarding all non-notified transactions is not public) that the team has now identified and investigated hundreds of mergers and acquisitions, joint ventures, corporate restructurings, bankruptcies, real estate deals, early-stage fundraising rounds, investments, and other transactions. In doing so, we understand that the team has focused on non-notified transactions in a number of strategically important industries, including quantum computing, semiconductors, artificial intelligence, telecommunications, biotechnology, defense, aerospace, and additive manufacturing.¹²⁹

126. Sylwia Lis, Rod Hunter & Callie C. Lefevre, CFIUS Final Rule Aligning Critical Technologies Filing Requirement With US Export Controls Effective Oct. 15, Baker MacKenzie: Foreign Investment & Nat’l Sec. Blog (Oct. 16, 2020), <https://foreigninvestment.bakermckenzie.com/2020/10/16/cfius-final-rule-aligning-critical-technologies-filing-requirement-with-us-export-controls-effective-oct-15/> [https://perma.cc/MH9K-2TYZ]. In November 2018, the Bureau of Industry and Security (BIS) of the Department of Commerce asked for public input “on how it should define [emerging technology], sources for identifying relevant technologies, and the impact of potential controls on US technological leadership.” Peter Lichtenbaum, Victor Ban & Lisa Ann Johnson, Defining “Emerging Technologies”: Industry Weighs In on Potential New Export Controls, *China Bus. Rev.* (Apr. 17, 2019), https://www.cov.com/-/media/files/corporate/publications/2019/04/defining_emerging_technologies_industry_weighs_in_on_potential_new_export_controls.pdf [https://perma.cc/9PN8-YQAL]. The rulemaking request started by listing “representative technology categories” including “biotechnology, artificial intelligence (AI) and machine learning technology, microprocessor technology, quantum computing and sensing technology, and additive manufacturing (e.g., 3D printing).” *Id.* After receiving 230 comments from companies like Amazon and Boeing, BIS released its six categories of emerging technologies in October 2020. *Id.*; New Controls on Emerging Technologies Released, While U.S. Commerce Department Comes Under Fire for Delay, Gibson Dunn (Oct. 27, 2020), <https://www.gibsondunn.com/new-controls-on-emerging-technologies-released-while-us-commerce-department-comes-under-fire-for-delay/> [https://perma.cc/EA7U-WBR9].

127. See generally Jackson, *supra* note 21 (illustrating changes in CFIUS capabilities post-FIRRMA implementation).

128. Sabri Ben-Achour, U.S. Ramps Up Scrutiny of Chinese Companies Buying American Tech Firms, *Marketplace* (May 6, 2021), <https://www.marketplace.org/2021/05/06/u-s-ramps-up-scrutiny-chinese-companies-buying-american-tech-firms/> [https://perma.cc/Z3Y9-7C5H].

129. Kaniecki & Young, *supra* note 24.

The new CFIUS non-notified process has demonstrated that a government agency can track the vast amounts of dealmaking in nascent tech industries. As a *Wall Street Journal* article from January 2021 described, “CFIUS’s actions over the past year have challenged a widely held skepticism in venture-capital circles that a wonky government group could interfere with the frenzied pace of startup [dealmaking] and pin down obscure funding sources.”¹³⁰ In contrast, the FTC and DOJ still have little visibility into non-HSR reportable transactions. They rely on consumers, legislators, and trade press to discover small deals that raise antitrust concerns in an ad hoc fashion.¹³¹ Although the FTC and CFIUS technically have the authority to unwind non-HSR reportable and non-notified deals, respectively, in reality such authority is only a deterrent if the likelihood of discovery by the agencies is high.

III. AN FTC CRITICAL TECHNOLOGIES PILOT PROGRAM FOR DOMESTIC MERGER REVIEW

As Part I and Part II demonstrate, the FTC faces both informational and legal gaps in addressing current patterns of small tech acquisitions. Part III of the Note lays out a solution to address the small tech acquisitions that raise the greatest anticompetitive concern—those where the acquiree operates in a field of critical technology. Section III.A lays out the benefits of an FTC merger review process that focuses specifically on nascent markets and technologies, modeled after CFIUS’s critical technologies pilot program. Section III.B addresses some design choices in the creation of such a program, including the program’s interaction with the HSR Act, how to identify the critical technologies, and the depth of the reporting requirement. Section III.C examines existing overlap between CFIUS and FTC jurisdiction in the area of tech regulation and how the two pilot programs may intersect moving forward. Section III.D addresses two key counterarguments: that the program would dampen tech innovation and that the FTC could not accurately define “critical technology.”

A. *The FTC Should Create Its Own Critical Technologies Review Program*

The FTC should develop its own pilot program mandating reporting of all acquisitions related to critical technologies, even if they lie below the current HSR Size of Transaction threshold. The FTC should define its own critical technologies entirely separate and apart from CFIUS, although there may be some overlap. While CFIUS structures its list of technologies

130. Heather Somerville, Government ‘SWAT Team’ Is Reviewing Past Startup Deals Tied to Chinese Investors, *Wall St. J.* (Jan. 31, 2021), <https://www.wsj.com/articles/government-swat-team-is-reviewing-past-startup-deals-tied-to-chinese-investors-11612094401> (on file with the *Columbia Law Review*).

131. See *supra* section II.A.3; see also Robert B. Bell, Voluntary HSR Filings: A Modest Proposal, *Antitrust*, Spring 2009, at 69, 69–70 (noting the risks in a non-reportable transaction).

based on their civilian–military dual-use nature and evaluates transactions with national security risk as the ultimate guidepost, the FTC would instead choose technology areas based on future economic competition as the guiding principle.¹³² Accordingly, the FTC should adopt new key criteria: evaluating whether the acquisition helps an incumbent dominate an emerging technology and whether that technology is likely to have outsized importance in shaping the future of the digital economy.¹³³

1. *Looking Forward to Where Concentration Is Likely to Develop.* — An FTC critical technology program would help shift the focus of the agency toward next-generation technologies and encourage the development of a premerger review framework specifically for examining trends in emerging markets. As explained in Part I, the problem of nascent acquisitions in technology markets does not neatly fit into the FTC’s current conceptions of merger review, as these acquisitions occur in economic sectors lacking clearly defined markets, market shares, and concentration indices.¹³⁴ On the other hand, certain technology areas are likely to be far more determinative than others in shaping future economic concentration. Suppose, in a fairly realistic hypothetical, that each of the five GAFAM companies acquires five AR/VR start-ups in the year 2022. Given the current framing of the merger guidelines, it may be unlikely that the FTC would block any of the individual transactions, as it is difficult to quantify whether any company has existing market power in such a new and uncertain field.¹³⁵ But any GAFAM company that develops a

132. CFIUS critical technologies include “certain export-controlled ‘dual-use’ items with both civilian and military applications, defense articles, nuclear technologies, select agents and toxins, and emerging and foundational technologies.” Committee on Foreign Investment in the United States: Key Questions Answered, Latham & Watkins 3 (2020), <https://www.lw.com/thoughtLeadership/committee-foreign-investment-united-states-key-questions-answered-CFIUS> [<https://perma.cc/5L3K-8KCM>]. The Export Administration Regulations (EAR) describe “dual-use” as an item with “civil applications as well as terrorism and military or weapons of mass destruction (WMD)-related applications.” 15 C.F.R. § 730.3 (2021). The EAR notes that the dual-use definition can be extremely broad, covering any item, even purely civilian ones, so long as it does not conflict with another U.S. government agency’s export regulations or an exemption to the EAR. *Id.*

133. See Stigler Committee on Digital Platforms, *supra* note 91, at 16–17. One factor to consider is whether this emerging technology market exhibits traits that tend toward a natural monopoly, such as network effects. If so, regulators should be even more cautious about allowing concentration-enhancing acquisitions in the field before it develops, as whoever wins the initial competition in such a market is likely to be locked in. See, e.g., C. Scott Hemphill, *Disruptive Incumbents: Platform Competition in an Age of Machine Learning*, 119 *Colum. L. Rev.* 1973, 1975–78 (2019) (observing the natural monopoly tendencies of machine learning technology). The same effect may be relevant for AI as well. See Anthony Severin, *Keeping Up With China: CFIUS and the Need to Secure Material Nonpublic Technical Knowledge of AI/ML*, 19 *Duke L. & Tech. Rev.* 59, 63 (2021) (“AI is particularly prone to monopolies. AI is driven by data and data processing. Sorting data into a useful format is frequently difficult . . . [but] the primary barrier to improving AI algorithms is the time it takes to train a model on such a large amount of data.”).

134. See *supra* section I.A.

135. See Bryan & Hovenkamp, *supra* note 41, at 347–48.

stranglehold on the next phase of AR/VR development—VR glasses or the infrastructure for the metaverse, for example—would wield market power not unlike Apple and Google’s current duopoly over mobile app access.¹³⁶

2. *Informational Benefits.* — A reporting program would also improve regulators’ insight into burgeoning industries and help the FTC see potential trends of concentration before they solidify. As the FTC’s non-HSR reported transaction analysis shows, the agency has only retroactively shone a spotlight on the concentration effects of GAFAM acquisitions.¹³⁷ A critical tech pilot program serves the premerger information-gathering mission of the HSR act in two ways. First, the program helps to address a concern about “stealth” consolidation that occurs below the HSR reporting threshold due to “anticompetitive deals whose individual size enables them to escape regulatory scrutiny but whose cumulative effect is large.”¹³⁸ Second, critical technology transactions constitute the most important area where regulators lack visibility. Tech dealmaking occurs at a frenzied pace; if regulators are to keep up, they need designated time and resources to research and understand these areas of the market.¹³⁹ The current approach for non-HSR reportable transactions allows tech incumbents like Meta to acquire start-ups for \$40 million—as it has done repeatedly—without even being required to notify the FTC. In order to examine the deal, the FTC has to start by reading the trade presses; in some instances, the transaction price may not even be publicly available.¹⁴⁰ A mandatory filing regime would put regulators on a more equal footing with investors, start-ups, and tech incumbents as to what deals are shaping the future of tech markets and where the industry is headed.¹⁴¹

136. Peter Kafka, Facebook Is Quietly Buying Up the Metaverse, *Vox* (Nov. 11, 2021), <https://www.vox.com/recode/22776461/facebook-meta-metaverse-monopoly> [https://perma.cc/DQ9Z-X23W] (“One of the main reasons Zuckerberg is interested in the metaverse, after all, is that he imagines it can give him a way to connect directly with his customers without having to depend on Apple and Google’s phone duopoly.”). The United Kingdom is currently considering antitrust action against the Google–Apple app store duopoly. Natasha Lomas, Apple and Google’s Mobile Duopoly Likely to Face UK Antitrust Action, *TechCrunch* (Dec. 14, 2021), <https://techcrunch.com/2021/12/14/cma-mobile-ecosystem-market-study/> [https://perma.cc/XA6X-JFGD] (“[T]he Competition and Markets Authority (CMA) said today that it has ‘provisionally’ found Apple and Google have been able to leverage their market power to create ‘largely self-contained ecosystems’; and that the degree of lock-in they wield is damaging competition” (quoting Press Release, Competition and Markets Authority, Apple and Google Duopoly Limits Competition and Choice (Dec. 14, 2021), <https://www.gov.uk/government/news/apple-and-google-duopoly-limits-competition-and-choice> (on file with the *Columbia Law Review*))).

137. Non-HSR Reported Acquisitions Study, *supra* note 51, at 1.

138. Wollmann, *supra* note 18, at 77.

139. See Fontanella-Khan et al., *supra* note 16.

140. See Bell, *supra* note 131, at 69–70; see also *supra* section II.A.1.

141. This is especially important because there is evidence that incumbents have better information about start-up dealmaking and potential than almost anyone else operating in the market. See Lemley & McCreary, *supra* note 13, at 40 (“Incumbents may understand a startup’s market opportunity better than public traders Strategic acquirers already

B. *Design Choices*

1. *Designing Around the HSR Act.* — A mandatory filing regime may require amending the HSR Act because it would create a premerger notification program below the Act’s current thresholds.¹⁴² This may be possible for Congress to consider alongside its bevy of current antitrust bills.¹⁴³

Alternatively, in the absence of statutory change, the FTC could use its “broad power under the HSR Act” to implement a “voluntary HSR filing[]” regime, as suggested by practicing antitrust attorney Robert Bell.¹⁴⁴ The agency could incentivize companies to voluntarily file by expanding its oversight of non-reportable deals in critical technology industries and by emphasizing the benefits of premerger review. Bell noted, “The Federal Trade Commission is granted broad power under the HSR Act to ‘prescribe such other rules as may be necessary and appropriate to carry out the purposes’ of the Act.”¹⁴⁵ He further elaborated that voluntary HSR filings could “enable the agencies to conduct antitrust investigations before transactions close and assets are shut down or integrated into the buyer’s business in ways that make effective divestiture difficult if not impossible.”¹⁴⁶

In the critical technology context, the voluntary filing option can also be combined with increased scrutiny of non-reportable deals.¹⁴⁷ This would incentivize companies who want to avoid unpleasant, after-the-fact remedies to voluntarily file.¹⁴⁸

Critical technology concerns should also inform the agency’s thinking on large mergers above the HSR threshold. Not all companies operating in a nascent market are engaged in transactions below the HSR threshold—a multi-billion dollar deal like Meta’s acquisition of Oculus can still have major effects on and be part of a nascent market.¹⁴⁹ In adopting a critical technology program, the FTC would scrutinize all transactions in a tech sector like AR/VR, gaining a fuller picture of transactions occurring

possess much of the needed information, and sometimes even more contextual information, than does the startup.”).

142. See supra section I.B. The agency has the authority to index the threshold every year to U.S. economic indicators, but it may not have the authority to unilaterally extend its premerger notification authority to transactions below the statutorily set threshold.

143. See supra section II.A.3; supra note 25.

144. Bell, supra note 131, at 72.

145. *Id.* (quoting 15 U.S.C. § 18(a)(d)(2)(C) (2018)).

146. *Id.*

147. For a discussion on FIRRMA’s changes to CFIUS’s non-notified transaction review process, see supra section II.B.

148. See supra section II.B.

149. See Haselton, supra note 4 (“It’s still early for the VR industry . . . Canalis also estimates that there will be 20 million headsets in the market by 2020, which means there’s still time for Facebook to turn this ship around and show the world why we really need to buy an Oculus.”).

both above and below the HSR line. The program would improve assessments of the degree of concentration in the developing market and thus inform whether larger mergers should go through as well.

2. *Covering All Critical Tech Transactions, Not Just GAFAM.* — All critical technology acquisitions, not merely those by GAFAM, should be covered under the new program. This approach would differ from that advocated by Senators Klobuchar and Cotton in their Platform Innovation and Opportunity Act, which presumptively prohibits nascent acquisitions by current monopolists as defined by market capitalization and user number.¹⁵⁰ Presumptive prohibition of the acquisition is a far stronger deterrent to the transaction than the reporting requirement advocated by this Note, which may explain why the restriction is limited to so few companies.¹⁵¹ Limiting the program's coverage to GAFAM would make the program more manageable and ease the burden on both regulators and small companies that may not have the resources to keep up with regulatory requirements. Such an approach, however, would not give the FTC full insight into emerging tech markets—without knowing how many non-GAFAM deals there are, the agency will not know what percentage of the market GAFAM deals constitute.

In practice, the program would likely develop a “soft” focus on GAFAM because of antitrust law's mandate to address concentration—acquisitions by the biggest companies with the largest market shares generally raise more red flags.¹⁵² For example, acquisitions by GAFAM would more likely be subject to preliminary investigations after the initial disclosure. This approach would also mirror CFIUS's policy to cover all transactions, while tackling concerns of Chinese and Russian ownership and investment most aggressively.¹⁵³

3. *Short Filings Ease the Burden of the Program.* — The FTC critical tech pilot program need not take up a lot of companies' time when they are trying to merge. The program could simply ask for a “postcard” filing or a

150. See *supra* section II.A.3.

151. Lemley & McCreary, *supra* note 13, at 97–98. Presumptive prohibitions would require incumbents to meet high standards in order for the acquisition to go through, including possibly proving that “(1) the startup would not be viable as a freestanding entity and (2) there are no other plausible acquirers.” *Id.* at 97.

152. See *supra* section I.A; *supra* note 16.

153. Such a “soft” focus on current incumbents would also be consistent with the U.K. approach, which looks to an actor's “strategic market status” in a particular market, rather than the E.U. approach, which regulates firms based on overall revenues and size. Scrutiny would be based not on GAFAM's overall size and revenues but on their particular actions and positioning in an area of critical technology. Laurie Clarke, UK Prepares to Implement Its Big Tech-Taming Competition Policy, *Tech Monitor* (Aug. 12, 2021), <https://techmonitor.ai/policy/digital-economy/uk-digital-markets-legislation-amazon-facebook-apple-google> [<https://perma.cc/T3GS-7NUB>]; see also Kaniecki & Young, *supra* note 24 (“As a result of FIRRMA, there is now a team within CFIUS dedicated to identifying and investigating non-notified transactions.”).

five-page CFIUS-style declaration, as described above.¹⁵⁴ The exact length of the filing would depend on how much information the agency feels like it needs to assess anticompetitive effects, but even the bare minimum amount of information—acquirer, acquiree, transaction price, technology type—would help to fill in the market picture. Proponents of CFIUS have recently suggested adopting just such “a new, purely informational ultra-light filing In the paper age, such a filing might have been referred to as a ‘postcard’ filing. Today, it could be a very basic online filing that imposes only a minimal burden on transaction parties.”¹⁵⁵

4. *FTC Should Define Critical Tech Based on Notice and Comment Rulemaking.* — The FTC should have the authority to decide for itself what areas constitute critical technology. The agency should not be bound by any external objective markers but should define the relevant technology categories by utilizing its notice and comment rulemaking authority and soliciting feedback from relevant industry players.¹⁵⁶ In this area as well, the FTC can learn from CFIUS’s experience and avoid its early mistakes. The 2020 change of the CFIUS critical technology program—from utilizing NAISC industry codes to focusing on export control definitions—demonstrates that tying the definition of critical technology to an external marker will always be unwieldy and risks being simultaneously over- and underinclusive.¹⁵⁷ Recent proposals for reforming CFIUS further have advocated for “giving CFIUS the flexibility to decide for itself—as a powerful cabinet-level interagency committee with deep expertise in the full spectrum of national security issues—which technologies beyond the existing list of critical technologies are indeed essential to national security.”¹⁵⁸

The FTC will likely have more room for error in defining its critical technologies than the export control and foreign direct investment regimes. While the FTC critical technology program is simply a mandatory reporting requirement—the first step in a premerger review process—designating a technology as an “emerging technology” under the export control regime essentially freezes all cross-border deals in that area. The FTC will thus have more flexibility to draw broader technological categories without imposing as significant of a block to economic flows.¹⁵⁹

154. See *supra* notes 123–125 and accompanying text.

155. Hearing on U.S.-China Relations, *supra* note 118, at 14 (observing that such a filing “could be used by CFIUS to gain more visibility into deals that otherwise have no mandatory declaration requirement, but have a discernable nexus to a foreign adversary nation”).

156. See *supra* note 126.

157. See *supra* note 126.

158. Hearing on U.S.-China Relations, *supra* note 118, at 12 (“CFIUS could use that authority to create and employ categories of technology for jurisdictional purposes, in a way that is much more useful and relevant than relying on ultra-narrow export controls buried in the nooks and crannies of the Commerce Control List.”).

159. *Id.* at 9 (“The Commerce Department’s process for identifying and controlling emerging and foundational technologies has been highly deliberative, with a great deal of

C. *Current and Potential FTC and CFIUS Critical Tech Overlap*

The FTC and CFIUS would mostly retain their separate spheres of oversight even if they listed similar or overlapping technologies as “critical.” Domestic tech deals—involving U.S. companies acquiring U.S. companies—would likely face scrutiny only under the FTC critical tech program, as there are likely no concerns about foreign national control.¹⁶⁰ Similarly, extremely small deals involving foreign nations, including non-controlling investments, would likely face review only under the CFIUS critical tech program, as they do not pose a threat of domestic economic concentration.¹⁶¹ But the ByteDance/Musical.ly and TikTok/Microsoft acquisition discussions demonstrate how the two regulatory regimes may interact and conflict in their aims related to the largest tech companies and their control of data and AI.

In 2017, ByteDance acquired Musical.ly, a Chinese company with a California office and a major U.S. presence.¹⁶² Most notably, Musical.ly had a multitude of data on U.S. citizens, many of them children or teenagers.¹⁶³ ByteDance eventually merged Musical.ly with its existing short video products to create TikTok, one of the newest social media behemoths in the U.S. tech market.¹⁶⁴ ByteDance’s acquisition of Musical.ly was not blocked at the time by the FTC or by CFIUS. But in August 2020, the Trump Administration used its CFIUS authority to issue an executive order requiring ByteDance to divest from its “operation of the TikTok application in the United States . . . and . . . any data obtained or derived from TikTok application or Musical.ly application users in the United States.”¹⁶⁵ The order cited the danger that ByteDance “might take action that threatens to impair the national security of the United States.”¹⁶⁶

input having been solicited from and provided by industry and academia, including through the notice-and-comment process. It has also been incredibly slow.”). This would also help the FTC to hopefully be faster than BIS. The BIS process is a very slow and thorough process, soliciting feedback from academics and industry, but the covered technologies are updated too slowly to keep pace with developing national security risks.

160. See *supra* section II.B (describing CFIUS’s focus).

161. See *supra* note 124.

162. Greg Roumeliotis, Yingzhi Yang, Echo Wang & Alexandra Alper, Exclusive: U.S. Opens National Security Investigation Into TikTok—Sources, Reuters (Nov. 1, 2019), <https://www.reuters.com/article/us-tiktok-cfius-exclusive/exclusive-u-s-opens-national-security-investigation-into-tiktok-sources-idUSKBN1XB4IL> [<https://perma.cc/HHZ9-ZYEE>].

163. *Id.*

164. *Id.*

165. Order of Aug. 14, 2020 Regarding the Acquisition of Musical.ly by ByteDance Ltd., 85 Fed. Reg. 51297, 51297 (Aug. 14, 2020). The Biden Administration has not revoked this order but has also not moved forward with implementing it. Letter from Tom Cotton, Ben Sasse, Mike Braun, Marco Rubio, Todd Young & Roger Wicker, Sens., U.S. Senate, to Janet Yellen, Sec’y, Dep’t of Treasury (June 23, 2022), <https://www.cotton.senate.gov/news/press-releases/cotton-colleagues-demand-action-from-biden-administration-against-tiktok> [<https://perma.cc/BB3U-VNGM>].

166. *Id.*

In 2020, one of the suggested solutions to TikTok's CFIUS problem was an acquisition by Microsoft. In order to avoid the CFIUS hurdles posed by Chinese ownership, the app would be sold to an American GAFAM company. Such a sale would likely not lead to any national security-based objections, as Microsoft would be getting control of TikTok's proprietary AI, not transferring any knowledge or technology to China. Microsoft also stated at the time that it was "committed to 'addressing the president's concerns' by migrating Americans' user data to U.S. servers."¹⁶⁷ Nonetheless, such an acquisition would need to be reviewed domestically by antitrust enforcement agencies for its potential to concentrate the U.S. tech market further.

Many tech observers pointed out that Microsoft was touted as a potential TikTok acquirer in part because it was one of the only GAFAM companies not facing a major antitrust inquiry at the time.¹⁶⁸ An acquisition by Meta, for example, would likely have raised fears of further concentration in U.S. social media markets. Meanwhile, Google had already acquired YouTube, one of the few other short video platforms on the internet. By contrast, Microsoft's only social media platform—LinkedIn—likely commanded too low of a market share to raise serious antitrust concerns.¹⁶⁹ A market analysis estimated that TikTok users constitute 11% of U.S. adults and LinkedIn 20%—market shares that are dwarfed by Facebook's 65% and Instagram's 35%.¹⁷⁰

The apparent lack of direct competition between TikTok and Microsoft did not erase all potential antitrust concerns. Gigi Sohn, a distinguished fellow at the Georgetown Law Institute for Technology Law & Policy, noted that "[t]he question is not just whether Microsoft has other social networks it's combining, it's whether the combination of a social network and a cloud business and gaming business could be used anticompetitively."¹⁷¹ Some observers have suggested that Microsoft may be interested in using TikTok's videos to give it an edge in training and

167. Monica Nickelsburg, *How the Proposed Microsoft-TikTok Deal Reveals an Erratic U.S. Antitrust Agenda*, *GeekWire* (Aug. 3, 2020), <https://www.geekwire.com/2020/proposed-microsoft-tiktok-deal-reveals-erratic-u-s-antitrust-agenda/> [<https://perma.cc/NP8N-WDNA>] (quoting Microsoft to Continue Discussions on Potential TikTok Purchase in the United States, Microsoft Corp. Blogs (Aug. 2, 2020), <https://blogs.microsoft.com/blog/2020/08/02/microsoft-to-continue-discussions-on-potential-tiktok-purchase-in-the-united-states/> [<https://perma.cc/Z2CR-WZJZ>]).

168. *Id.*

169. Rachel Lerman & Tonya Riley, *The Technology 202: Microsoft's Possible Acquisition of TikTok Could Also Bring Increased Washington Scrutiny*, *Wash. Post* (Aug. 5, 2020), <https://www.washingtonpost.com/politics/2020/08/05/technology-202-microsoft-possible-acquisition-tiktok-could-also-bring-increased-washington-scrutiny/> (on file with the *Columbia Law Review*).

170. Lance Lambert, 'Deal of a Decade': How Buying TikTok Could Transform Microsoft, *Fortune* (Aug. 25, 2020), <https://fortune.com/2020/08/25/tiktok-deal-transform-microsoft/> [<https://perma.cc/G7EV-CU9H>].

171. Lerman & Riley, *supra* note 169.

developing AI.¹⁷² Alex Sherman, a CNBC reporter noted the tension between the government's actions on the domestic antitrust and CFIUS fronts: "Remember that big tech antitrust hearing? . . . Now Microsoft is working with the US government to buy TikTok, consolidating the hottest consumer tech company in the world into what's already a \$1.5 trillion company."¹⁷³ Sherman and Sohn's statements punctuate complications associated with the floated acquisition in spite of Microsoft's relative preferability to other GAFAM companies.

The TikTok–Microsoft deal, which ultimately fell through, raised the question of prioritization between protecting U.S. data sovereignty and national security and the antitrust implications of consolidating that same data under the control of a U.S. tech incumbent. Some members of the public and the Democratic party urged the FTC and DOJ to review any TikTok–Microsoft deal "on [the] merits" of its antitrust implications and to "not politicize[]" the situation.¹⁷⁴ The deal was ultimately not pursued, however, so it is unknown whether the antitrust agencies would have considered the CFIUS factors driving the acquisition. Future regulatory regimes must consider conflicts that arise when data or technology are taken out of the hands of a foreign entity and placed in the hands of a domestic tech incumbent. Agencies will likely be compelled to (1) collaborate and (2) analyze on a case-by-case basis some of the most delicate issues in modern tech regulation.

D. *Addressing Counterarguments*

1. *FTC Oversight of Critical Tech Would Hinder Tech Industry Investment and Innovation.* — For many start-ups, acquisition by a bigger tech company is still the predominant path to a successful exit.¹⁷⁵ Many proposals to tackle nascent tech acquisitions thus face the criticism that any decrease in incumbent acquisitions would dry up funding and investment for start-ups. Additionally, fewer venture capitalists would invest in start-ups if they could not count on selling them to the big tech companies and getting a payday.¹⁷⁶

172. *Id.*

173. Alex Sherman (@sherman4949), Twitter (Aug. 2, 2020), <https://twitter.com/sherman4949/status/1290072715450134529?s=20> [<https://perma.cc/H4D3-K6Y3>].

174. Sam Sabin, Big Tech Has Faced Antitrust Scrutiny. A Microsoft-TikTok Deal May Avoid Some of That, Morning Consult (Aug. 6, 2020), <https://morningconsult.com/2020/08/06/tiktok-microsoft-antitrust-concerns/> [<https://perma.cc/QNG4-AZ4W>].

175. See D. Daniel Sokol, Vertical Mergers and Entrepreneurial Exit, 70 Fla. L. Rev. 1357, 1357, 1362 (2018) (noting that changes in merger policies "may dampen entrepreneurial investment and innovation"); see also Kelly Fayne & Kate Foreman, To Catch a Killer: Could Enhanced Premerger Screening for "Killer Acquisitions" Hurt Competition?, *Antitrust*, Spring 2020, at 8, 12 (cautioning that investment funding could diminish if acquisition is no longer a viable exit strategy for start-ups).

176. Sokol, *supra* note 175, at 1362 (noting that "entrepreneurial exit via vertical merger is now the most usual form of liquidity event/exit for founders and venture

First, the critical technologies program may impose less of a burden on start-up exit than other suggested proposals, such as adopting a presumption against incumbent acquisitions.¹⁷⁷ The critical technologies program does not recommend that the FTC presumptively block all of any type of deal—it is a mandatory filing requirement that allows for greater review and insight into certain industry markets. Second, start-ups are not inherently valuable by themselves. They are only valuable if they are innovative and produce benefits to consumers; “[a] startup market that is little more than a pipeline to enable incumbents to employ smart new engineers seems less socially useful.”¹⁷⁸ Changing the incentives for start-ups may be the key to inducing them to engage in more innovative behavior:

Innovative new entrants will not challenge dominant incumbents—or aid smaller rivals in doing so—if they can always reap larger profits by simply being acquired by market leaders . . . the more importance one places on entry as a mechanism by which markets self-correct, the more uneasy one should feel about a pattern in which dominant incumbents regularly acquire the most promising startups that come along.¹⁷⁹

Mark Lemley and Andrew McCreary also point out that government policy changes, from incentivizing initial public offerings (IPOs) to adjusting tax structures, can also help ameliorate the effects of decreased incumbent acquisitions on tech funding flows.¹⁸⁰

Additionally, some have argued that nascent acquisitions are key not just to incentivizing investment but are procompetitive in and of themselves by giving new innovations the opportunity to scale and reach the mass market quickly. FTC Commissioner Noah Phillips noted that nascent acquisitions “could significantly increase the probability that a product or technology develops, speed its arrival to market, or combine a good idea or a cool app or product with a mechanism for improving it, sustaining growth, and bringing it to a much wider audience. These are the benefits that dramatic reform proposals threaten.”¹⁸¹ John Yun, a

capitalists”; thus, the “[i]ncreased difficulty . . . makes investment . . . less likely, since the purpose of such investment is to reap the rewards of scaling a venture to exit”).

177. Most of the articles discussing negative startup effects challenge presumption-based proposals to the merger regime. See Yun Hearing Statement, *supra* note 81, at 7–8.

178. Lemley & McCreary, *supra* note 13, at 100.

179. Bryan & Hovenkamp, *supra* note 41, at 349.

180. Lemley & McCreary, *supra* note 13, at 72–90. Innovation effects can also be addressed through policy tools like supporting IPOs, improving secondary markets where founders and employees can sell pre-IPO stock without selling the company as a whole, and encouraging alternatives to venture capital investment. The government could also use policy “sticks” to deter incumbent acquisitions and make other options more economically attractive, like changing tax policy and requiring post-acquisition stock lockups.

181. Noah Joshua Phillips, Comm’r, FTC, Remarks at the Antitrust in the Technology Sector: Policy Perspectives and Insights From the Enforcers Virtual Seminar, Reasonably Capable? Applying Section 2 to Acquisitions of Nascent Competitors 13 (Apr. 29, 2021),

former economist at the FTC, has argued that some nascent or killer acquisitions are actually procompetitive:

At the time of the purchase, Instagram had zero revenues and a handful of employees. Since [Meta's] acquisition, Instagram has grown from 30 million users to well over one billion. During the same period, [Meta] grew from approximately 900 million users to over two billion users Of course, one could argue that, but for the acquisition, Instagram would have been just as successful, if not more so, and would have remained an independent competitor. While this type of "nirvana" counterfactual is frequently asserted, without more it is an insufficient basis upon which retrospectively to condemn an acquisition—let alone justify a systematic overhaul of U.S. antitrust laws. To treat the success and associated exponential output expansion of an acquired product as evidence of an anticompetitive acquisition severely twists the meaning of "anticompetitive."¹⁸²

Lemley and McCreary note that while it is true that scale helps to improve some technologies, leading to potentially synergistic effects from incumbent acquisitions, interoperability and public datasets can provide alternatives to scale. For example, while a GAFAM company may provide an AI company with more data to improve its algorithm, creating public datasets with GAFAM data could do the same while preserving start-up independence.¹⁸³ Any synergistic super-charging effects also only benefit consumers in so far as "[the incumbent] actually deploys that product," but incumbents have less incentive to do so, as "[replacing] their existing product with a new one [is] mostly stealing customers from themselves."¹⁸⁴ Philippon notes that ultimately, incumbents and start-ups may offer different forms of innovative advantages: "The key advantages of incumbents are their customer base and their financial resources. The key advantage of start-ups is that they are not held back by existing systems and are willing to make risky choices."¹⁸⁵ The current regime may cause the tech economy to lose out disproportionately on the valuable disruptive effects of start-up innovation.¹⁸⁶

https://www.ftc.gov/system/files/documents/public_statements/1589524/reasonably_cappable_-_acquisitions_of_nascent_competitors_4-29-2021_final_for_posting.pdf [<https://perma.cc/PL6W-WCSM>] (footnote omitted).

182. Yun, *supra* note 81, at 5–6.

183. Lemley & McCreary, *supra* note 13, at 66–69 ("Some artificial intelligence ('AI') inventions may require a sufficiently large database Those inventions might work better in the hands of a company like Google that already has access to most of the text and images in the world than . . . a company without such a comprehensive training dataset.").

184. *Id.*

185. Philippon, *supra* note 102, at 273–75.

186. Bryan & Hovenkamp, *supra* note 41, at 350 ("Current policy . . . gives no weight to the broader incentive problems that may arise if leading incumbents can rely on persistent acquisitions to modulate the future course of competition."); *supra* section II.A.2.

2. *The FTC Cannot Figure Out What Technologies Will Be Critical to Preventing Future Tech Concentration.* — Finally, one of the biggest roadblocks to any critical technology program is the difficulty in defining which technologies are “critical.” CFIUS has struggled over the years to find a system of classification that is rigorous, flexible, and up-to-date; it may be even more difficult to figure out which industries are critical to the next wave of tech concentration than to figure out what is essential to national security.¹⁸⁷ Despite FIRRMA’s best attempts and the Treasury’s 2020 regulatory update, “[t]oday, most venture capital deals in the technology space likely remain beyond the reach of CFIUS, typically because the technology does not meet the definition of ‘critical technology.’”¹⁸⁸

Several differences between the FTC and CFIUS might ease these challenges. First, as an advantage of its subject area, the FTC can take a more market-based approach than CFIUS. While the government itself must analyze whether a transaction relates to national security, many other actors operate and evaluate the tech markets that the FTC would examine. The FTC can look to industry itself to tell the agency what technologies are critical—Meta’s press releases, for example, are indicative of a clear market focus on AR/VR.¹⁸⁹ Even if the critical nature of AR/VR was not clear in 2014 at the time of the Oculus acquisition, this focus on AR/VR is currently a topic of much discussion in the tech industry.¹⁹⁰ There may be a window between when a firm’s intent to dominate a future market is clear and when they solidify dominance in that market—that is the opportune time for FTC engagement. The tech industry may also fail to predict which critical tech endeavors will succeed—Meta’s attempt to launch the Libra cryptocurrency project is one such example. Although that individual project has since failed, any casual observer of financial news can see that blockchain and cryptocurrency may still be worth defining as critical technologies.¹⁹¹ CFIUS itself is being improved and the FTC can learn from these updates without copying CFIUS’s every mistake. While CFIUS

187. See *supra* section II.B (discussing CFIUS’s efforts to define criteria essential to national security).

188. Hearing on U.S.-China Relations, *supra* note 118, at 10.

189. Lemley & McCreary, *supra* note 13, at 20 (“Incumbents are in perhaps the best position among investors to identify firms that could threaten them before those firms mature . . .”); see also Meta, Facebook to Acquire Oculus, *supra* note 6 (“[V]irtual reality technology is a strong candidate to emerge as the next social and communications platform.”).

190. See, e.g., Stein, *supra* note 29 (describing current and upcoming AR/VR technology from Meta, Sony, Apple, and other companies).

191. See Chaparro, *supra* note 29 (describing a surge in M&A cryptocurrency transactions in 2021 and non-cryptocurrency businesses’ “strategic moves to position themselves, both offensively and defensively, as crypto and blockchain-based applications”); see also Nathaniel Popper & Mike Isaac, Facebook-Backed Libra Cryptocurrency Project Is Scaled Back, *N.Y. Times* (Apr. 16, 2020), <https://www.nytimes.com/2020/04/16/technology/facebook-libra-cryptocurrency.html> (on file with the *Columbia Law Review*).

after FIRRMA—or “CFIUS 2.0”—is still imperfect, the reformulated agency represents a seismic shift in the scope and capability of regulatory review of foreign investments. No regulator knows exactly which technologies are critical, but Congress clearly believed it useful for CFIUS to monitor developments in semiconductors and personal data as areas of interest.¹⁹²

Finally, merger review is fundamentally a predictive exercise. The critical tech program would require the FTC to look into the future, examine new technologies, and try to predict how markets will develop in order to prophylactically prevent concentration. But that is the point of premerger notification review in the first place—to help achieve the Clayton Act’s goal of prohibiting mergers that “may” increase concentration, including by blocking them in their incipiency.¹⁹³ Current regulatory and congressional debate reflects a near-consensus that antitrust law has been running behind the tech markets for over a decade; adjusting in the other direction necessarily requires looking into the future, as many other actors already are.¹⁹⁴ The U.S. tech industry is making moves into AR/VR, knowing that society is moving beyond social media internet sites.¹⁹⁵ On the other side of the world, China believes it can recognize which Fourth Industrial Revolution technologies it should focus on.¹⁹⁶ As addressed in section III.B.4, the FTC should be nimble and listen to industry, but it should not shy away from tackling new antitrust issues posed by technologies still in their incipiency. Only by doing so can antitrust enforcement become better poised to stop concentration before it arises, rather than imposing costly solutions after the fact.¹⁹⁷

CONCLUSION

The FTC should be empowered to review any and all mergers and acquisitions encompassing certain categories of critical technologies, including those below the current HSR transaction value threshold. To wait for transactions to rise to regulator eye-level at \$101 million is to

192. See Gibson Dunn, *supra* note 126 (“BIS is particularly focused on semiconductor manufacturing equipment and associated software tools. This is consistent with other recent BIS actions aimed primarily at limiting China’s access to the cutting-edge tools and technology required to produce these critical computing components.”).

193. See *supra* section I.A; *supra* note 32.

194. See *supra* note 25.

195. See *supra* notes 67–72 and accompanying text.

196. See *supra* notes 117–121.

197. Memorandum from Lina Khan, Chair, FTC, to Comm’n Staff and Comm’rs on Vision and Priorities for the FTC 2 (Sept. 22, 2021), https://www.ftc.gov/system/files/documents/public_statements/1596664/agency_priorities_memo_from_chair_lina_m_khan_9-22-21.pdf [<https://perma.cc/8B2A-6Q24>] (“[Being forward-looking] means being especially attentive to next-generation technologies, innovations, and nascent industries across sectors. Timely intervention . . . can help us tackle problems at their inception, both limiting harms and saving resources over the long term.”).

continually act too late. While a critical technology program will require the FTC to conduct a forward-looking analysis, CFIUS has demonstrated that such a regulatory assessment of technological potential is both possible and worth endeavoring. Just as FIRRMA transformed CFIUS's capabilities and mission, political timing may now be ripe for an overhaul of the FTC's merger process in response to a new wave of challenges in the tech industry.

