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WORKING PAPER

A framework for forward-looking tech competition policy

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Introduction

As the internet has become more and more centralized, more opportunity for anticompetitive gatekeeping behavior has arisen. Yet competition and antitrust law have struggled to keep up, and all around the world, governments are reviewing their legal frameworks to consider what they can do.

This working paper will discuss the unique characteristics of digital platforms in the context of competition and offer a new framework to approach future-proof competition policy for the internet. Charting a course focused on a set of proposals distinct from both the status quo and pure structural reform, this paper proposes stronger single-firm conduct enforcement to capture a modern set of harmful gatekeeping behaviors by powerful firms; tougher merger review, particularly for vertical mergers, to weigh the full spectrum of potential competitive

harm; and faster agency processes that can be responsive within the rapid market cycles of tech. And across all competition policy making and enforcement, this paper proposes that standards and interoperability be at the center.

The internet's unique formula for innovation and productive disruption depends on market entry and growth, put at risk as centralized access to data and networks become more and more of an insurmountable advantage. But we can see a light at the end of the silo, if legislators and competition authorities embrace their duty to internet users and modernize their legal and policy frameworks to respond to today's challenges and to protect the core of what has made the internet such a powerful engine for socioeconomic benefit.

Competition online is broken, but not in the way many think.


The dominant narrative around competition in tech today is that it's broken. Early coverage in major media set the stage for advocacy groups like Citizens Against Monopoly to push for aggressive changes.¹ Recently, the call has been picked up, and in some cases taken even further, by high-profile political campaigns.² The internet has become more consolidated, creating ripe opportunities for government action.³ And users are feeling less control and empowerment over their online lives, building political pressure for change.

¹ E.g. "Tech Giants Seem Invincible. That Worries Lawmakers," The New York Times - Breaking News, World News & Multimedia, last modified January 4, 2017, <https://www.nytimes.com/2017/01/04/technology/techs-next-battle-the-frightful-five-vs-lawmakers.html> (regarding early coverage); see also <https://citizensagainstmonopoly.org/>.

² E.g. "Here's how we can break up Big Tech," Team Warren, March 8, 2019, <https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c>.

³ See "Spotlight: Too Big Tech?" Home - Internet Health Report, last modified April 8, 2018, <https://internethealthreport.org/2018/too-big-tech/>.

⁴ Technically, an API is a mechanism by which one application or service requests data or operations from another. See Michael Bock, "WTF is an API? How the Internet Works Behind the Scenes," Hacker Noon, <https://hackernoon.com/apis-how-the-internet-works-behind-the-scenes-690288634c32>.

An aerial photograph of a city grid, showing streets and buildings from a high angle. The image is tilted slightly. A large teal rectangular area with a halftone dot pattern is overlaid on the right side of the image. Inside this teal area, there is a quote in white text. The quote is: "Public calls for reform are framing the problem of internet competition the wrong way." The words "the wrong way." are highlighted with a black background.

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Policymakers around the world are actively exploring their options. The Federal Trade Commission, the European Commission, and competition agencies in Australia, France, and the United Kingdom have recently completed reviews or are in the process of finalizing reports, all examining how competition and antitrust work in the digital economy. A few key shared learnings have started to emerge, including an understanding of the importance of data and network effects in analyzing market power, and an appreciation of the complexity of digital platforms, both in economics and in their role in promoting innovation.

But, by and large, public calls for reform are framing the problem of internet competition the wrong way. They focus on the size of a few companies, or the amount of proprietary data they hold. Consequently, the proposed solutions are to break them up or start directly regulating their behavior. There's merit to some of these proposals, and in some contexts they could well lead to concrete improvements. Direct regulation and the rare breakup are the tools we have historically used to handle dominance in other industries, most notably banking and telecommunications.

The tech sector has some problems similar to these historical examples, to be sure. But the true nightmare scenario is a little different from classical analysis, where a single company holds a measurably dominant position in a static market. The problematic future of the internet we are headed towards today, and must do whatever we can to prevent, is a grand market and technology consolidation: users left with a dissatisfying, largely inconsequential choice among a few vertically integrated silos of technologies that don't play well with each other and box out new companies and ideas.

Imagine if Microsoft had never been investigated by antitrust authorities, and the only way you could access the internet was through Windows and Internet Explorer - and the only device you could use would be a Microsoft phone, and the only web sites Microsoft owned. Even having the "choice" of a parallel stack of all Apple or Google technologies wouldn't make things much better. That would mean the end of independent downstream innovation and a drastic change to the generative, disruptive internet we have had throughout its history.

If our goal is to shape the internet and technology to best serve users, promote innovation, and advance our collective socioeconomic growth, we must start by understanding the internet's unique structures and dynamics, and looking for ways to reinforce those that are at risk. In particular, we need to focus on the role played by data and by the exchange of data through Application Programming Interfaces (APIs),⁴ and the structural role of technical standards.

⁴ Technically, an API is a mechanism by which one application or service requests data or operations from another. See Michael Bock, "WTF is an API? How the Internet Works Behind the Scenes," Hacker Noon, <https://hackernoon.com/apis-how-the-internet-works-behind-the-scenes-690288634c32>.

There will be occasions when we must limit the size and dominance of particular firms in particular segments, including blocking proposed mergers. And there will be some practices that are so harmful that we want to regulate them to solve specific problems - as countries around the world are doing today in the context of privacy and data protection.

But to preserve the benefits of the internet ecosystem we have today, we must start by protecting the internet's unique style of decentralization, of technologies that constantly build on and with other technologies. The future of competition and antitrust law in tech must include at its heart the protection and promotion of those elements that enable that structure. And we must implement those policies through effective and fast enforcement processes to try to keep pace with ever-changing technology markets.


Interoperability is the internet's secret sauce, and integral to how it was built.

Getting to a better future and promoting the competitive and open health of the internet will require a fundamental change in antitrust thinking - but it may not require a fundamental change in the law. And the focus will remain fixed on making market forces work in the digital platform economy.

Section II

Digital
platforms
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and raise
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challenges.





Many experts have written fulsome analyses of the distinct characteristics of digital markets, and how that affects competition, including the extensive and thoughtful treatments in the Report of the Digital Competition Expert Panel in the UK,⁵ the experts' report submitted to the European Commission,⁶ and the draft report of the Market Structure and Antitrust Subcommittee in the U.S.⁷ Four elements of this complex picture are worth highlighting: the importance and value of data, the impact of network effects, the influence of standards processes and bodies, and the role of APIs and interoperability.⁸ Four deeply interrelated elements of this complex picture are worth highlighting: the importance and value of data, the impact of network effects, the influence of standards processes and bodies, and the role of APIs and interoperability.

⁵ Digital Competition Expert Panel, *Unlocking Digital Competition: Report of the Digital Competition Expert Panel*, (London: Open Government License, 2019), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf.

⁶ European Commission Directorate-General for Competition, *Competition Policy for The Digital Era*, (Luxembourg: Publications Office of the European Union, 2019), <http://ec.europa.eu/competition/publications/reports/kd0419345enn.pdf>.

⁷ George J. Stigler Center for the Study of the Economy and the State, *Market Structure and Antitrust Subcommittee Report*, (Chicago: The University of Chicago Press, 2019), <https://research.chicagobooth.edu/-/media/research/stigler/pdfs/market-structure---report-as-of-15-may-2019.pdf>.

⁸ The EC experts' report distinguishes among three different types of interoperability: "protocol interoperability" (technical interconnection), "data interoperability" (allowing users access to data in real time through another service), and "full protocol interoperability" (equivalent to federation, a full standardization of communications protocols and operations).

Certainly, data is a valuable asset for tech companies. An individual user's data history - through a service like email or messaging - is valuable enough to make switching services difficult, creating a lock-in effect. And larger datasets can vastly improve recommendations and results, target advertising, and power machine learning. Data can unlock new function and utility as well, as new learnings are derived over time and with experimentation.

Network effects arise whenever the value of a user-facing service rises proportionately more with the number of users of the system, as with communications services where each new user adds value to existing users by providing potentially more communications opportunities. This creates a lock-in effect as well, as users grow attached to their personal network of connections and contacts, and absent effective social graph sharing or export, must rebuild those connections in a new service.

Standards bodies - including the IETF, W3C, and NANOG - align multiple companies building competing or compatible technologies around a shared approach, coordinating to ensure the technology's design maximally serves the collective interest. The internet, which started as a "social contract" among a very small group of closely aligned

stakeholders, evolved to incorporate established standards organizations as its development decisions became more complex and elaborate. These organizations have been a driving force shaping the technologies of the Web, email, and many other core internet protocols and services.

But standards bodies don't guide every element of technology design and interaction. And on top of the base of interoperability.⁹ Digital platforms can scale up early in their existence by offering third-party accessible APIs, encouraging others to connect with their networks and benefit from their data (subject to limitations and restrictions, of course). By supporting broad interoperability, in the sense of encouraging other software and services to connect and exchange key data, the inherent value of a platform can be demonstrated early on through the value offered to others, increasing the platform's adoption and use and setting up a virtuous cycle of return and investment.

These four structural idiosyncrasies create new kinds of competition problems, subtly different from typical single-firm conduct exclusionary behavior: in particular, gatekeeping over data and APIs, and co-opting or undermining standards bodies.

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Four deeply interrelated elements of this complex picture are worth highlighting: the importance and value of data, the impact of network effects, the influence of standards processes and bodies, and the role of APIs and interoperability.

Digital platforms have become the new gatekeepers over innovation and competition. By building vast datasets and massive user bases, and then carefully leveraging their control over access to them through API design and policy, they can give huge boosts to some while dramatically raising the cost of market entry and competition for others.

Control of access to APIs is natural, and essential for many purposes, but dominant firms can also use that control for problematic ends. Platforms at scale no longer need to demonstrate their value by investing in a healthy downstream ecosystem, and in recent years, changes to major companies' APIs and API policies have resulted in many complaints.¹⁰

Gatekeeper behavior over a platform's own APIs is very distinct from either of the two most relevant antitrust paradigms. Controlling the data and functionality made available through an API, and setting the applicable usage policies, isn't the same as a categorical refusal to deal. At the same time, access to the data and user bases of digital platforms also differs in the context and consequences from the characteristics associated with the essential facilities doctrine.¹¹ Among other considerations, some limits on APIs - like access controls and reasonable bounds on usage volume - are necessary to secure private data and help protect against certain kinds of fraud and attack attempts. Yet, the unilateral ability to shape access empowers platform operators to impose significant limits on competitors.

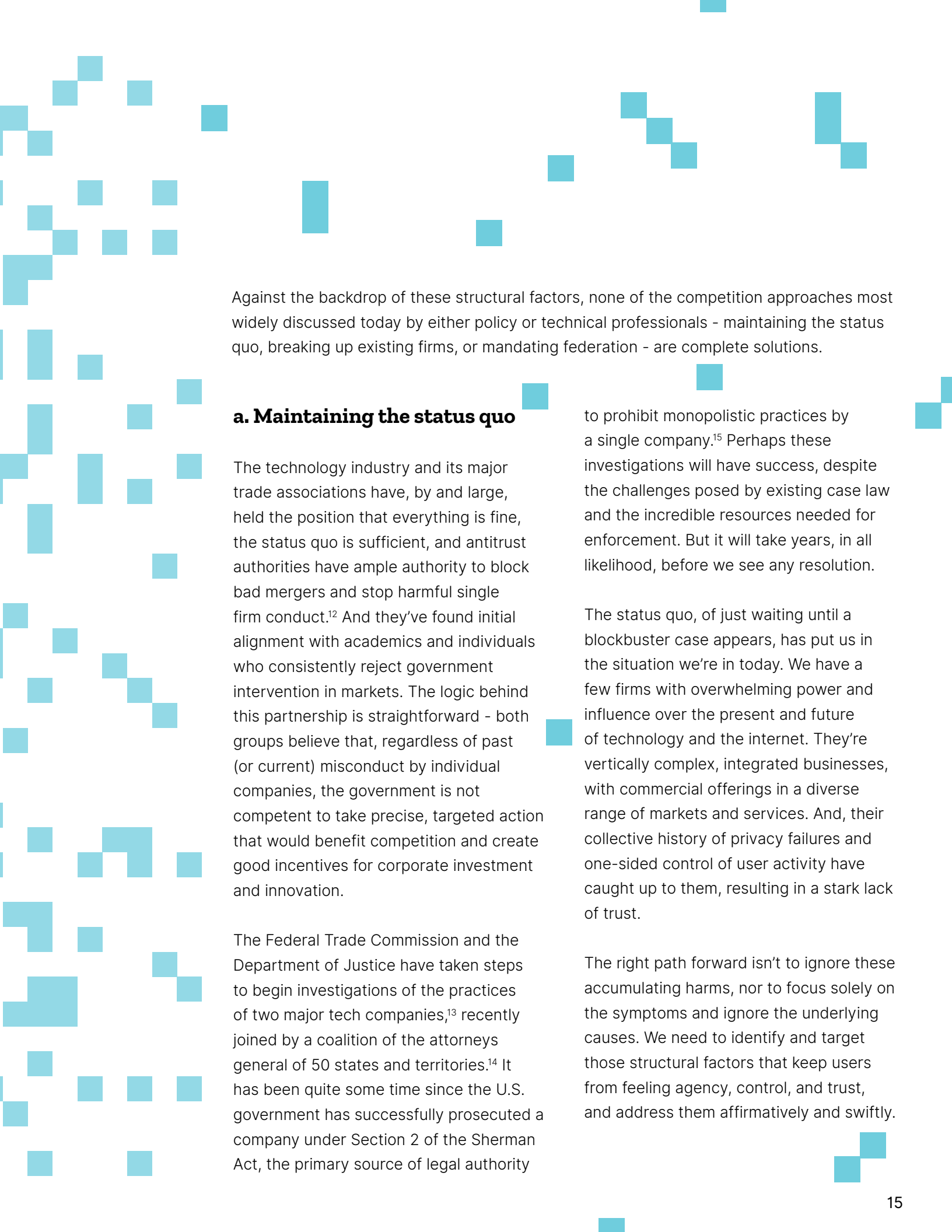
More subtly, dominance puts a company in a position to ignore, undermine, or overrule standards bodies and their output. When standards processes follow the technical decisions of dominant firms, rather than leading them, we lose something critical to the historical success of the internet. Deviations from technical standards, when they occur, will accrue to the benefit of the dominant firm, and could even be aligned intentionally to advance other businesses and business interests. Natural optimization within a vertically integrated company therefore encourages behavior that undermines standards and collective benefit.

⁹ For example, compare the W3C discussion of ActivityPub (<https://www.w3.org/TR/activitypub/>), which proposes a standard mechanism for social media interactions, with Twitter's published guidelines for its APIs and their mechanisms and use (<https://developer.twitter.com/>). With a standard (at least in theory!), the level of interoperability is calibrated collectively to serve all the companies involved; with a single company's APIs, the level of interoperability in practice (including the amount and type of data and functionality offered through the APIs, and any policies that restrict or limit use) is at the sole discretion of the platform.



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Section III



Against the backdrop of these structural factors, none of the competition approaches most widely discussed today by either policy or technical professionals - maintaining the status quo, breaking up existing firms, or mandating federation - are complete solutions.

a. Maintaining the status quo

The technology industry and its major trade associations have, by and large, held the position that everything is fine, the status quo is sufficient, and antitrust authorities have ample authority to block bad mergers and stop harmful single firm conduct.¹² And they've found initial alignment with academics and individuals who consistently reject government intervention in markets. The logic behind this partnership is straightforward - both groups believe that, regardless of past (or current) misconduct by individual companies, the government is not competent to take precise, targeted action that would benefit competition and create good incentives for corporate investment and innovation.

The Federal Trade Commission and the Department of Justice have taken steps to begin investigations of the practices of two major tech companies,¹³ recently joined by a coalition of the attorneys general of 50 states and territories.¹⁴ It has been quite some time since the U.S. government has successfully prosecuted a company under Section 2 of the Sherman Act, the primary source of legal authority

to prohibit monopolistic practices by a single company.¹⁵ Perhaps these investigations will have success, despite the challenges posed by existing case law and the incredible resources needed for enforcement. But it will take years, in all likelihood, before we see any resolution.

The status quo, of just waiting until a blockbuster case appears, has put us in the situation we're in today. We have a few firms with overwhelming power and influence over the present and future of technology and the internet. They're vertically complex, integrated businesses, with commercial offerings in a diverse range of markets and services. And, their collective history of privacy failures and one-sided control of user activity have caught up to them, resulting in a stark lack of trust.

The right path forward isn't to ignore these accumulating harms, nor to focus solely on the symptoms and ignore the underlying causes. We need to identify and target those structural factors that keep users from feeling agency, control, and trust, and address them affirmatively and swiftly.

b. Structural separation

The most visible and intensive evidence of the techlash can be seen in the breadth of concern over whether big tech has gotten too big,¹⁶ including calls for the big tech companies to be broken up.¹⁷ The appeal of this approach is both natural (in the sense that every good story needs a villain and the goal is to defeat them) and supported by history (in that breaking up a dominant firm has occasionally been necessary and effective in other sectors). But structural separation is not well tailored to address the unique gatekeeper challenges of the internet.

Breaking up a big tech company doesn't address the full scale of competition challenges, particularly in the context of a vertical separation of one product from a different one. If, post-separation, some downstream products gained a unique and unfair advantage over others by virtue of proprietary or contractually exclusive integration with a dominant platform, the competitive benefits of the separation would be undermined. And in the context of horizontal separations, while it would change some of the market calculus involved in developing proprietary linkages with other services, digital markets are still prone to "tipping" in favor of a single platform.¹⁸

Allowing horizontal and vertical services to integrate functionally, sharing information across different services, conveys user benefits: improved network effects, and the possibility of new kinds of useful, desirable services and features. Of course, corporate consolidation isn't necessary to achieve these benefits, and in fact makes the prospect of exclusionary behavior more likely. A classical example is the antitrust investigation into Microsoft, which concerned in large part the technical connections between Windows and Internet Explorer, as well as between Windows and Windows Server.

Structural separation is not an easy remedy to accomplish. As it seems unlikely any company would voluntarily submit to corporate restructure, enforcement would require successful litigation. There may well be circumstances where such action is a necessary part of the long-term solution. But agencies must not let the political and legal costs involved in such an operation preclude them from undertaking the targeted actions needed to prevent gatekeeper behavior.

c. Mandating federation

While it's not as popular in competition conversations today, another possibility for promoting competition in the digital economy would be mandating federation within substantially similar

technologies. Federation within a class of technologies fixes core communication protocols and practices to maintain full interoperability across competing services offered by different companies, at some cost to the evolution of those protocols and practices by individual companies. Designed for telephone systems and other access networks, the approach had significant traction with early internet technologies even without regulation - notably email, but also Internet Relay Chat (IRC) and some messaging protocols - but has been less popular in the “social” era.

Realizing federation in practice imposes compliance costs and can delay innovation and development. To have greater control over all potential interactions and experiences, or simply to move faster, many businesses have chosen the silo route for their services rather than opting for collaboration, or have shut down their inclusion of federated protocols in favor of their own proprietary ones once they reached critical mass.

With some types of technologies and protocols, the collective benefits associated with federation will likely outweigh the concomitant costs and delays, justifying consideration of mandated action. We don't want to miss out on the next email-like technology because we're afraid of the cost of seeking federation. But any possible mandates should meet a very high bar of necessity, and would seem appropriate only in contexts where we can accept a slower evolution in the technology and its methods of communication.

A better first response to creating a level playing field comes through competition law. Through competition, the obligation to play nicely with others need not be imposed universally, creating more freedom for underdogs to innovate with freedom.

¹⁰ See “Instagram Suddenly Chokes off Developers As Facebook Chases Privacy,” *TechCrunch*, last modified April 2, 2018, <https://techcrunch.com/2018/04/02/instagram-api-limit/> (regarding coverage of the changes to Instagram APIs in 2018 that broke many downstream apps); see also “Facebook Shuts Down Custom Feed-sharing Prompts and 12 Other APIs,” *TechCrunch*, last modified April 24, 2018, <https://techcrunch.com/2018/04/24/facebook-api-changes/> (regarding changes to Facebook APIs that undermined functionality relied on by independent web-based aggregators and other services); see “Twitter’s 10 Year Struggle with Developer Relations,” *Nordic APIs*, last modified March 28, 2016, <https://nordicapis.com/twitter-10-year-struggle-with-developer-relations/>, and “Meerkat Founder On Getting The Kill Call From Twitter – TechCrunch,” *TechCrunch*, last modified May 6, 2015, <https://techcrunch.com/2015/05/06/meerkat-founder-on-getting-the-kill-call-from-twitter/> (regarding Twitter’s API restrictions that led to substantial downstream developer issues).

¹¹ See European Commission Directorate-General for Competition, “*EC experts report*,” 98-100.

¹² See, e.g., “Why the Consumer Welfare Standard Remains the Best Guide for Promoting Competition,” ITIF | Information Technology and Innovation Foundation, last modified January 27, 2019, <https://itif.org/publications/2019/01/27/why-consumer-welfare-standard-remains-best-guide-promoting-competition>.

¹³ Tony Romm, “The Justice Department is preparing a potential antitrust investigation of Google,” *The Washington Post*, May 31, 2019, <https://www.washingtonpost.com/technology/2019/06/01/justice-department-is-preparing-potential-antitrust-investigation-google/>; Tony Romm, “Amazon could face heightened antitrust scrutiny under new agreement between US regulators,” *The Washington Post*, June 1, 2019, <https://www.washingtonpost.com/technology/2019/06/02/amazon-could-face-heightened-antitrust-scrutiny-under-new-agreement-between-us-regulators/>

¹⁴ Steven Overly and Margaret Harding McGill, “A very bad day for Google’ as 50 states, territories join antitrust probe,” *Politico*, September 9, 2019, <https://www.politico.com/story/2019/09/09/google-antitrust-probe-1713159>.

¹⁵ *Fed. Trade Comm’n v. Qualcomm Inc.*, 17-CV-00220-LHK, 2017 WL 2774406 (N.D. Cal. 2017) (finding Qualcomm in violation of Section 5 of the Federal Trade Commission Act, a separate source of antitrust authority, and Section 2 of the Sherman Act).

Section IV

The future of tech competition must be built on interoperability.

The best approach to protecting the internet's competitive and vibrant future is the one that most preserves its technical history.¹⁹ If standards-based technologies and protocols have the fullest reach possible into the ecosystem, and where effective APIs provide further interoperability for data and services under pro-competitive terms, then we will have preserved the core technical structure of the internet. Combining that with better identification of abusive, anticompetitive gatekeeper behavior by platforms, and thorough, forward-looking merger review that can close the innovation gap in current practices, would produce a future-proof balance of incentives for a healthy ecosystem.

How can we get there? Although good arguments can also be made that the Department of Justice or the Federal

Communications Commission would be able to adapt to take on this oversight, the optimal existing agency within the U.S. government is the Federal Trade Commission. The FTC brings economics and competition expertise to bear alongside some technical subject matter expertise, although the latter has historically been used primarily in the FTC's consumer protection role to evaluate privacy and security practices. There are, however, legitimate questions as to whether the agency has the authority or the resources to be effective in a stronger enforcement role over competition online. In the different context of data security, Chairman Simons has expressed a need for the agency to have rulemaking and civil penalty authority²⁰ and substantially more technical resources.²¹

The UK's digital competition expert panel proposes the creation of a new unit focused specifically on digital markets, empowered through statute to set up a code of competitive conduct, encouraging data portability and open standards, and advancing data openness to reduce barriers to entry.²² Public Knowledge's Harold Feld has gone further, calling for an agency specifically designed to regulate digital platforms,²³ a position also suggested by a recent report from a working group at the University of Chicago Booth School of Business.²⁴

Reflecting a more restrained vision, the Federal Trade Commission (FTC) recently created an internal Tech Task Force within the Bureau of Competition to focus specifically on monitoring competition in tech.²⁵ Arming that group with additional resources and clearer authority, in line with resource requests from Chairman Simons, would go a long way towards realizing the vision set out in the UK report, though legislation would be needed to get there.

Aside from resource constraints, it's possible that some, perhaps even many, of the policy changes proposed in this paper could be realized without legislation, relying on the FTC's Section 5 authority and its potential for going beyond the limits placed on other statutory sources of authority by decades of precedent, though significant litigation would undoubtedly ensue. This would be a departure from current practice, which does not typically rely on a broader reading of Section 5 than other sources of antitrust authority.

Whether through exercising current authority and resources to the fullest or through specific, clear legislative guidance from Congress, the roadmap for the FTC to promote effective competition in tech is to strengthen single-firm conduct enforcement and undertake more stringent merger review, in both cases targeting the specific problems of gatekeeper exclusionary power over competition from third parties and the subtle driving of evolving technology across a broader domain by undermining of standards, bearing in mind throughout the importance of promoting interoperability on reasonable terms.

¹⁶ See generally "Spotlight: Too Big Tech?," Home – Internet Health Report, last modified April 8, 2018, <https://internethealthreport.org/2018/too-big-tech/>.

¹⁷ Matthew Yglesias, "The Push to Break Up Big Tech, Explained," Vox, last modified May 3, 2019, <https://www.vox.com/recode/2019/5/3/18520703/big-tech-break-up-explained> (for context and analysis).

¹⁸ See George J. Stigler Center for the Study of the Economy and the State, "Market Structure Report," 11-13.

¹⁹ In this sense, one could contrast the primary alternative approaches as reinforcing the internet's legal history (either status quo, if the internet is seen under law as something purely separate from communications; or a regulatory federation, if the internet is seen as comparable to traditional telecommunications) or its business history (breaking up dominant companies to turn the internet economy back into a scattering of startups and medium scale enterprises).

²⁰ John Eggerton, "FTC's Simons: We Are Cop on Privacy Beat," Broadcasting & Cable, last modified April 11, 2019, <https://www.broadcastingcable.com/news/ftcs-simons-we-are-cop-on-privacy-beat>; Federal Trade Commission, Prepared Remarks of Chairman Joseph Simons Hearing on "Oversight of the Federal Trade Commission" Before the Committee on Commerce, Science, and Transportation Subcommittee on Consumer Protection, Product Safety, Insurance, and Data Security United States Senate, (Washington, D.C., 2018), https://www.ftc.gov/system/files/documents/public_statements/1423967/js_oral_remarks_hearing_on_oversight_of_the_federal_trade_commission.pdf.

²¹ Harper Neidig, "FTC Says It Only Has 40 Employees Overseeing Privacy and Data Security," The Hill, last modified April 3, 2019, <https://thehill.com/policy/technology/437133-ftc-says-it-only-has-40-employees-overseeing-privacy-and-data-security>.

²² Digital Competition Expert Panel, Unlocking Digital Competition, 5-6. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf.

²³ See generally "The Case for the Digital Platform Act," <http://www.digitalplatformact.com/>.

²⁴ George J. Stigler Center for the Study of the Economy and the State, "Market Structure Report," 9.

²⁵ "FTC's Bureau of Competition Launches Task Force to Monitor Technology Markets," Federal Trade Commission, last modified February 26, 2019, <https://www.ftc.gov/news-events/press-releases/2019/02/ftcs-bureau-competition-launches-task-force-monitor-technology>.

a. Single-firm conduct

Strengthened single-firm conduct review, with the unique dynamics of digital platforms, should strike a balance between the largely hands-off essential facilities doctrine and the more specific guidance of communications law. Where a company in a position to exert gatekeeper power engineers its services and technologies in ways that inhibit market entry and fair competition by other companies, the FTC should have the resources and the authority to take action to accelerate the effective functioning of the market.

In particular, the FTC should be vigilant in looking for four specific kinds of behavior that can have exclusionary effects:

1. Engineering exclusion and incompatibility

One of the key elements behind the success of the digital platform economy is the ability of new technologies to build on top of previous ones. And a vertically integrated company that offers two products, one of which is used through the other, will engineer compatibility to realize the benefits of integration. But that must not be an excuse for engaging in harmful self-preferencing resulting in the intentional exclusion of competitors.

2. Undermining standards bodies:

Standards bodies offer benefit across an industry by, among other things, making it easier for third party vendors to integrate with multiple offerings, and delivering consistency and clear experience expectations to users. At a certain level of influence, an individual company has the power to co-opt, manipulate, or render meaningless a standards body if the participation of that company is necessary for the collective set of companies to achieve critical mass.

3. Restricting APIs and API policies:

Digital platforms can offer data and functionality through APIs in scope and with terms that enable downstream innovation and interoperability. While updating APIs is a normal part of technology development and growth, significant changes to APIs that impact downstream activity, whether to the data offered through them or to the protocols or policies by which the APIs are accessed, can pose significant harm to competition.²⁶

4. Refusing to offer sufficient APIs:

Under some circumstances, a platform that updates or expands its technology offerings may be reasonably expected to offer APIs with sufficient data and functionality to empower downstream businesses, for example where an older, more open technology is being replaced with a substitute. In such case, failing to offer sufficient APIs might result in substantial competitive harm.

²⁶ Chris Riley, "Re: Competition and Consumer Protection in the 21st Century Hearings, Project Number P181201," Mozilla Corporation, last modified August 20, 2018, at 3, <https://blog.mozilla.org/netpolicy/files/2018/08/Mozilla-FTC-filing-8-20-2018.pdf>.

²⁷ *Id.* at 3-4.

None of these practices are inherently or always harmful on balance to competition. Rather than setting out explicit prohibited behavior, the FTC must evaluate individual companies and practices on a case-by-case basis. However, putting an excessive investigative cost on the agency before an initial determination can be made - dependent on a toolkit of metrics ill-equipped to the data and network environments of technology²⁷ - is a recipe for failure. The FTC would be far more effective if it could move quickly where harm seems likely, and reduce the upfront costs of analysis and data production, such as by establishing a rebuttable presumption of harm for companies determined to have gatekeeper power who engage in certain practices that are known to cause significant competitive harm.

Articulating in law and policy the four behaviors above should create the potential for greater clarity for companies as well. If a company offers robust third-party APIs on reasonable terms and conditions, working closely and supportively with downstream innovators and businesses as APIs evolve, this would send a strong signal to the FTC of pro-competitive intent and action. Similarly, if a company builds its products in compliance with standards and doesn't go to market with fundamental protocols and features outside standards bodies,

then regardless of its market positioning, that too reduces the company's exposure to potential investigation. Together, the two would go far to demonstrating that the company is not engaging in intentionally exclusionary behavior; though of course, the company would also need to avoid the intentional engineering of incompatibility or other forms of anticompetitive exclusionary behavior.

Although APIs and standards are likely to represent core elements of the internet's infrastructure for quite some time, fixing any set of expected practices by tech companies in time sets any law or policy up for failure, given the rapid pace of change. Competition law inherently provides flexibility, but that flexibility does not come with certainty for users or competing businesses, nor clarity for large entities. Rulemaking authority and transparent procedures built on a public record would help address these challenges, and create opportunities for extensive economic and technical analysis of potential changes.

b. Merger review

Strengthening merger review, particularly in the context of vertical mergers, is one of the most common themes of modern proposals for antitrust reform. Some criticisms focus on the potential for emergent horizontal competition, recognizing that while a messaging service like WhatsApp may not today be a competitor to a social networking service like Facebook, the elements to make the jump are present. Other criticisms focus on foreclosure of potential innovation, and the general difficulty of evaluating innovation harms in merger combinations. The FTC and the DOJ need to revisit the antitrust toolkit for measuring the impact of data and networks, and the potential competitive harm of a proposed combination. And for some mergers, the agency should consider effective remedies to prevent the emergence of silos that would harm competition, and instead reinforce platforms that can deliver benefits across the ecosystem.

Given the potential for foreclosure of downstream innovation and competition, the bar for approval of vertical mergers of internet companies should be high. The FTC should take care to evaluate and consider the potential competitive harm that would occur if the merger were to be completed and the businesses technically

integrated in a closed fashion, consistent with historical practice at the FTC and DOJ. But the agency should use its technical expertise to go one step further: because the potential benefits of siloing will increase post-merger, consider the harm if the resulting company were to take active steps to limit or shut down current third-party facing APIs offered by the merging companies.

Measuring the competitive harm of a silo is difficult without better tools to measure the practical market power of data and networks. The FTC should prioritize working to improve its digital analytical capabilities, including its ability to evaluate the effective market power that could be wielded through the data and networks of the companies in combination.

The FTC can build a more consistent and predictable toolkit of behavioral remedies to negotiate with companies by focusing on interoperability and data portability. In a market with meaningful choices of service providers, users' ability to take their data out of one service and bring it to another creates market pressure, salient for consideration in horizontal mergers in particular. With a vertical merger, some concerns that would arise from a vertically integrated silo of technologies can be addressed with a commitment to implement technical integration of current products and

services through effective third-party facing APIs offered on reasonable and nondiscriminatory terms.

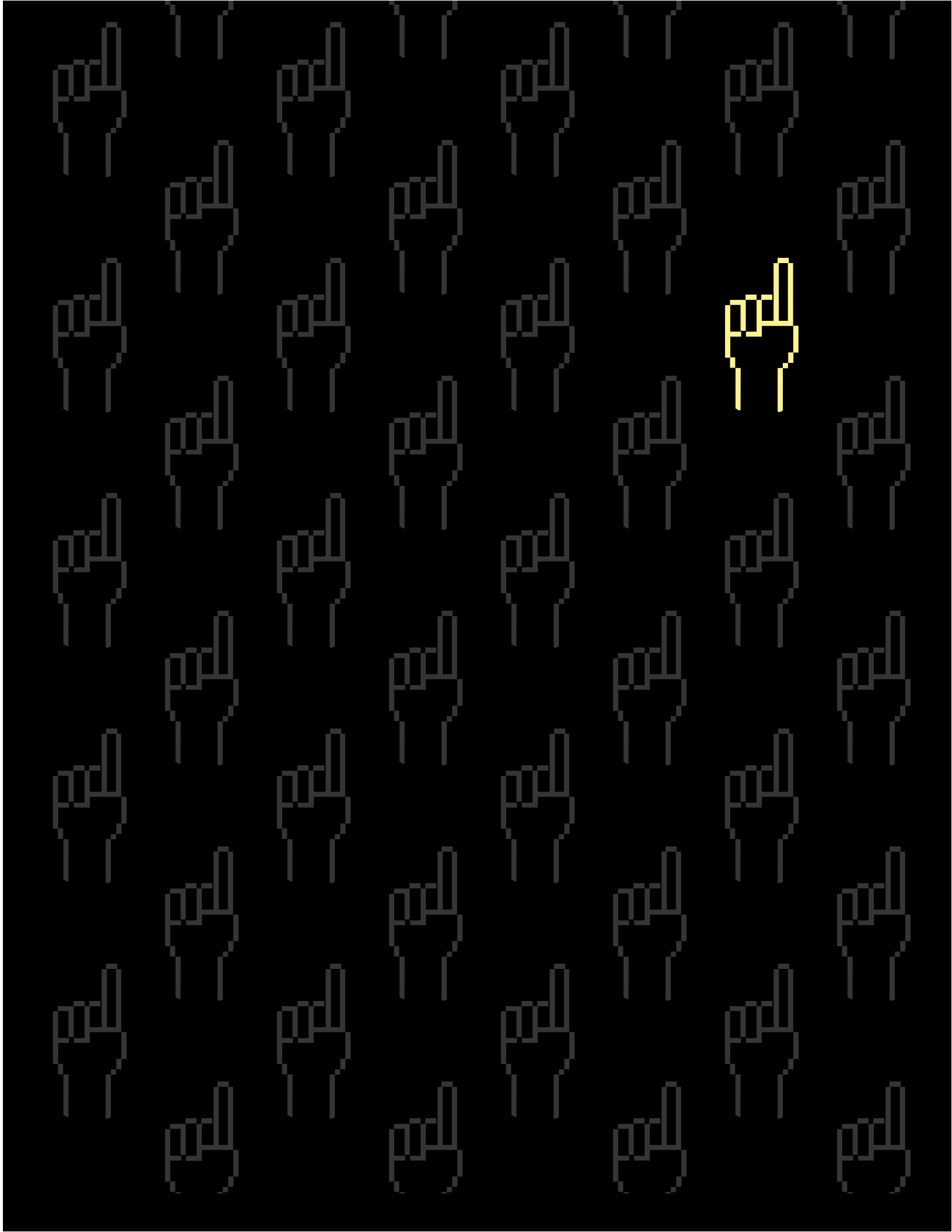
Under current standards for review, only mergers above a certain significant threshold must be notified and subject to potential intervention. This creates the possibility of a dominant company acquiring a potential future competitor early on, and avoiding review. Greater public disclosure of small acquisitions by dominant companies, coupled with some sort of waiting period, would give more opportunity for antitrust authorities to review the full range of potentially anticompetitive transactions.

In some circumstances, a full analysis of competition harm may support reversing a past merger, breaking up an existing company, or undertaking some other form of structural separation and intervention. This would require a substantial amount of prosecutorial cost and time, would need to be supported by detailed and evidence-based investigations, and should be considered an outlier in the regulator's toolkit. Nevertheless, in circumstances where it is necessary to address ongoing harms to competition, the FTC should have the clear authority to pursue such aggressive remedies.

c. Timing and process considerations

The FTC's current processes for enforcement do not have the option of broad rulemaking or direct civil penalty authority. Instead the agency - like the Department of Justice - must bring suit in the court system and prove its case of a violation of the general antitrust statutes as interpreted by decades of precedent, or (more commonly) negotiate a settlement with the target of the investigation. If taken to court, such litigation takes years to prosecute no matter how strong the agency's case. Such a timetable doesn't line up with the lifecycle of tech innovation and growth, where competitors will wither and die in the market while waiting for the outcome.

The solution is to improve the agency's ability to evaluate a case and produce an outcome on a radically shorter timetable - measured in months rather than years. Focusing on agency enforcement also ensures greater technical capacity and resources to look under the hood at platform practices, and make correct determinations as to whether an API change serves, on balance, beneficial or anticompetitive ends.



Conclusion

Section V

Competition has long been a technology neutral area of law and policy. Yet the finer points of digital platforms require a unique and specific expertise and evaluation - prompting antitrust authorities around the world to undergo sector-specific review processes to determine whether and how to update their competition policies and laws in the context of tech and the internet.

But, just as antitrust law doesn't inherently depend on an *ex ante* specification of sectors and markets, so too should competition not get lost in complex definitional issues around ever-shifting technologies and markets. Legislative and administrative action can identify specific analytical considerations, such as the role of data and network effects, and target specific behaviors for investigation, such as circumventing standards processes and locking down existing APIs. Some progress can be made towards the vision laid out in this paper without, or in advance of, new legislation.²⁸ However, legislation to set out modern principles for competition, to improve on

measurements and standards for determining harm, and to provide clear agency authority and adequate resources, would improve greatly on the effectiveness of enforcement and would provide substantially better clarity for businesses.

Policymakers today are facing substantial political and public pressure to respond to the growing problems of centralization in the tech sector. Targeted intervention to promote and protect interoperability can deliver significant benefits with high efficacy and efficiency.

²⁸ See Weiser, Philip J., "Regulating Interoperability: Lessons from AT&T, Microsoft, and Beyond," *Antitrust Law Journal* 76, no. 271 (2009), <https://scholar.law.colorado.edu/cgi/viewcontent.cgi?article=1453&context=articles> (for a deeper historical examination of antitrust law in the context of interoperability); see Sharma, Chinmayi, "Concentrated Digital Markets, Restrictive APIs, and the Fight for Internet Interoperability," SSRN (June 7, 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3400980 (for a modern take on the same question, with a particular emphasis on FTC authority under Section 5).

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