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POLICY BRIEF

Dynamic Competition in Digital Markets: A Critical Analysis of the House Judiciary Committee's Antitrust Report

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Amazon, Apple, Facebook, and Google, often referred to as the "big four" tech companies, are four of the five most valuable US companies traded on the public market and together control over $5 trillion in market capitalization, almost one-fifth of the S&P 500.[1] As these companies have grown in size and power, so has public scrutiny of them, including calls for them to be broken up.[2] The latest example is the recent antitrust report from the Subcommittee on Antitrust, Commercial, and Administrative Law of the House Committee on the Judiciary.[3] The report focuses specifically on competition in digital markets.

The report is the result of a lengthy investigation conducted by the subcommittee. It attempts to assess the state of competition in digital markets and the effects of competition within these markets. It focuses primarily on the power and conduct of the big four tech companies and provides a detailed analysis of its findings with regard to each of these companies. It also proposes several reforms that seek to strengthen antitrust law and enforcement in light of the problems affecting these growing markets.

This policy brief provides a critical analysis of the report and its recommendations based on the consumer welfare standard, which has governed antitrust policy since the late 1970s. It also proposes a theoretical framework for refutation of the report's allegations about anticompetitive conduct of the big four tech companies that we hope will be useful for future empirical work. Using this framework, we find that the report likely overstates the market power held by these tech companies and the extent to which their conduct is actually harmful to consumers. In addition, our framework leads us to hypothesize that the reforms advocated in the report may actually make consumers worse off by interfering with market dynamism and slowing innovation.

THE SUBCOMMITTEE'S REPORT ON COMPETITION IN DIGITAL MARKETS

In June 2019, the subcommittee initiated its investigation.[4] The goals of the investigation were to "(1) document competition problems in digital markets; (2) examine whether dominant firms are engaging in anticompetitive conduct; and (3) assess whether existing antitrust laws, competition policies, and current enforcement levels are adequate to address these issues."[5] The investigation resulted in a lengthy report summarizing the findings of the subcommittee as well as the subcommittee's ultimate recommendations.

The report contains three major sections corresponding with its stated goals. The first examines the role of competition and impact of market power in digital platform markets.[6] The second section specifies the areas investigated and provides a detailed analysis of the market power and anticompetitive conduct of four major platforms: Amazon, Apple, Facebook, and Google.[7] The final section concludes by laying out the subcommittee's recommendations for how to strengthen competition in digital markets going forward.[8]

The report begins by discussing the important role that competition plays in digital markets.[9] It goes on to argue that certain characteristics of digital markets make them susceptible to a type of winner-take-all system, where market power becomes highly concentrated in the hands of a few major players.[10] It also argues that some of this concentration is the result of "a high volume of acquisitions by the dominant digital platforms."[11] The report finds this particularly problematic because, "as Amazon, Apple, Facebook, and Google have captured control over key channels of distribution, they have come to function as gatekeepers."[12] Because of the important tools and functions over which they have control, engaging with these companies is viewed as "the cost of doing business" for individuals and firms in digital markets.[13] The gatekeeper function gives these dominant platforms significant power to exercise influence over the third-party businesses that depend on them. The report then discusses the specific attributes of digital markets (network effects, switching costs, data accumulation, and economies of scale) that make them ripe for market concentration.[14]

After arguing that digital markets are highly susceptible to the consolidation of market power in the hand of a few dominant platforms, the report discusses the potential negative effects of that market power.[15] It focuses on the harmful effects that market power can have in four core areas: innovation and entrepreneurship, privacy and data protection, the free and diverse press, and political and economic liberty.[16]

The report proposes three kinds of reforms and recommendations: restoration of competition in the digital economy, strengthening of antitrust laws, and strengthening of antitrust enforcement. Although the reforms and recommendations vary, they are built largely around bright-line rules, including strict prohibitions against certain forms of conduct. For example, to give competitors the greatest leeway to compete effectively, the report proposes rules to prevent discrimination, favoritism, and self-preferential treatment, and it proposes requirements of interoperability, data portability, and open access.[17] It also argues for strict presumptions against mergers—particularly of large corporations[18]—strengthening the bargaining power of the press,[19] prohibiting the abuse of superior bargaining power, and imposing due process requirements.[20] Also, besides strengthening antitrust law, the report recommends broadening the reach of antitrust law to encompass more than just a narrow conception of consumer welfare, to reinvigorate merger enforcement in markets that either are already concentrated or are susceptible to concentration, to enact prohibitions against specific conduct such as predatory pricing, tying, and self-preferencing, and to impose "duty to deal" requirements on certain dominant firms.[21] Finally, to strengthen antitrust enforcement, the report argues for greater congressional oversight, reinvigoration of agency enforcement through civil penalties and harsher remedies, and reduction of obstacles to private enforcement.[22]

PILLARS OF US ANTITRUST LAW AND PROBLEMS WITH THE REPORT

Before considering the report's specific allegations and recommendations, we evaluate the general approach to antitrust policy that it advocates. In addition to promoting consumer welfare, the report argues that antitrust policy should work toward protecting workers, entrepreneurs, independent businesses, open markets, a fair economy, and democratic ideals, as well as a variety of other normative goals.[23] However, there are reasons antitrust policy has come to focus exclusively on consumer welfare, and pursuing a range of broader goals has a number of distinct drawbacks. To begin, it is important to understand how and why the consumer welfare standard first emerged.

The Consumer Welfare Standard

In the first half of the 20th century, antitrust law worked toward a variety of different goals and focused primarily on regulating market structure, limiting firm size, and establishing rules that govern firm conduct. During this period, antitrust policy did not have a unified framework based on a single, coherent objective. Judge Douglas Ginsburg , who serves on the US District Court of Appeals for the District of Columbia Circuit, wrote in 2010, "Forty years ago, the U.S. Supreme Court simply did not know what it was doing in antitrust cases."[24]

However, in the 1970s, antitrust policy in the United States shifted to a different approach and began to focus exclusively on consumer welfare. This approach to antitrust policy emphasizes using theoretical and empirical evidence to help determine whether the kinds of practices for which firms have been accused of antitrust violations are more likely beneficial or detrimental to consumer welfare.[25]

Proponents of the consumer welfare standard argue that courts should weigh the expected cost of a false positive against the potential cost of a false negative. A false positive is when a firm is found guilty of anticompetitive practices, but the forbidden business practice does not reduce consumer welfare. A false negative is failing to prosecute a firm whose behavior decreases consumer welfare.

Some proponents have articulated how a false positive is often worse than a false negative because government intervention is likely to stifle private initiative, which is necessary for market self-correction. Instead of pursuing an uncertain case of anticompetitive conduct, prudence may counsel government restraint, lest the cure be worse than the presumed ailment.[26]

Many practices that courts and antitrust agencies deemed anticompetitive in decisions before the late 1970s were later found to have no discernible negative effect on consumer welfare; in some instances, they were found even to improve it. Vertical mergers, below-cost pricing, price discrimination, resale price maintenance, tying, and exclusive dealing, which in the past were discouraged by antitrust policy or per se illegal, often enhance competition and promote consumer welfare. Vertical mergers reduce transactions costs for those involved in upstream and downstream production, and the lower costs yield room for both higher profits and lower consumer prices. Tying allows firms to ensure quality and produce innovative new products that have value beyond the sum of their parts. To the extent that courts have penalized or enjoined firms from engaging in these behaviors, they may have, without intention, undermined less obvious mechanisms by which firms compete that contribute to enhanced consumer welfare.

The report advocates a return to antitrust policy that pursues a wider range of objectives than maximizing consumer welfare. These objectives include promoting fairness, reducing concentration, increasing labor market mobility, and limiting monopoly as measured by firm size and market share.[27] This approach, as contrasted with the consumer welfare standard, targets companies mainly because of their size and power, not because of their effect on consumers.

It is unclear whether the expansive view of antitrust policy advocated by the report could effectively deal with some of the concerns the report raises about the effects of tech companies on America's social, cultural, civil, and governing norms. Many people blame these effects on the tech companies' concentrated technological capacity. Although it is important that these concerns be addressed, antitrust policy, with its focus on market competition, may not be the best way to do so.

Problems with the Report's Call for a Broader Antitrust Standard

Although the welfare standard provides antitrust law with a coherent interpretation, reverting to the pursuit of several vague normative goals risks making antitrust enforcement convoluted and problematic. Antitrust proceedings are costly, often lasting for years, requiring firms to produce millions of documents, and compounding attorney's fees. Remedies imposed for violating the law impair a defendant's ability to adapt to changing market conditions. By creating a "vague and malleable regulatory regime" with few if any limiting principles to constrain the power of the US Department of Justice and the Federal Trade Commission (FTC), the door would be opened for antitrust to be used to benefit special interests rather than consumers.[28] Before the late 1970s, when courts placed few constraints on how antitrust laws could be applied, antitrust agencies pursued “vaguely articulated socio-political goals,” particularly protecting small firms from competition by larger rivals.[29] Regulators and enforcers often demonized wide categories of behavior without analyzing their actual impact on the competitive process. Pursuing broader goals has the potential to chill a wide range of business practices that actually benefit consumers.

By completely prohibiting broad categories of behavior, bright-line rules greatly inhibit the dynamic private initiative that has brought about innovation and improvements to consumer welfare.

Pursuing goals other than consumer welfare necessitates the acceptance of some reduction in consumer welfare in pursuit of those other goals, for if there was not a tradeoff there would be no need to pursue other goals to begin with.

Problems with the Report’s View of Market Power

Antitrust regulatory agencies and courts have traditionally used market power as one consideration in deciding whether firms are violating antitrust laws. They seek to determine how much competition a firm faces in the market(s) in which it sells its products and services. Before pursuing an antitrust investigation, the FTC or Department of Justice asks whether a firm has a large enough share of the market to truly exercise monopoly power. This requires identifying and defining the relevant market.

Courts give considerable weight to firm size and market share as criteria when deciding whether to approve mergers and when determining guilt in antitrust cases. However, lower consumer prices are directly related to economies of scale (lower costs per unit of output that result from firm growth). When antitrust violations are genuinely based on a consumer welfare standard, neither large firm size nor high market share are sufficient for finding firms guilty of violating antitrust law.

Economic theory does not provide guidance to policy analysts trying to define or delineate the market a particular firm is serving, at least for the purpose of determining how much competition it faces.[30] The market for any good or service overlaps with the markets for all other goods and services, because a decision to purchase more of one good or service implies a decision to purchase less of one or more alternatives, and the alternatives forgone need not be similar in any way to what was purchased. Whether a firm is considered to have monopoly power depends on how narrowly or broadly the market is defined. The point of trying to define the relevant market is to determine the extent to which market competition meaningfully constrains the behavior of a firm. How much pressure does a firm face to keep its prices low, provide high quality products, and innovate? A firm has the ability to monopolize a market if it faces little pressure from competitors.

The more narrowly a market is defined, the fewer the number of competing firms and the more likely a court is to find that a firm does not face meaningful competition. The report tends to overstate the monopoly power of big tech firms by defining their markets very narrowly.

The report argues that "Google now enjoys durable monopoly power in the market for general online search" and that it has monopoly power in the search advertising market.[31] Google operates in a two-sided market so that its cost of providing search results is funded by advertising revenue. Google may have a very large share of the market for search advertising, but competition with other firms that advertise in other ways and through other media constrains Google's behavior. Google competes with Facebook and Amazon in the market for online advertising and has only a 36.3 percent share of that market.[32]

The report asserts that Amazon has a 50 percent or larger share of the e-commerce market and a 65 to 70 percent share of all US online marketplace sales.[33] But Amazon competes with brick-and-mortar stores in terms of the price and quality of its offerings, so the market shares listed in the report likely overstate its monopoly power.

Identifying the relevant market involves considering both the demand side and the supply side of the market.[34] The relevant market includes firms that are actual or potential competitors and depends on the extent to which marginal consumers would switch to buying from those firms in response to a price increase or quality decrease. Measures of existing market share will tend to overestimate a firm's monopoly power because the relevant market includes the productive capacity of firms that do not currently offer a close substitute good or service for sale but have the potential to do so in the event of a price increase or decline in quality.

Problems with the Report's View of Anticompetitive Conduct

In addition to considering market share, courts consider whether a firm has engaged in anticompetitive behavior. The report provides numerous examples of the alleged anticompetitive behavior of big tech companies. However, firms pursue strategies that may appear to be anticompetitive on their face but may actually be a critical part of the competitive process that benefits consumers in the long term. Next we sketch a framework for evaluating some of the allegations and recommendations of the report concerning the anticompetitive conduct of the big tech companies.

Prohibiting tying arrangements and exclusive dealing, as advocated by the report, reduces incentives to innovate.[35] Google and other tech companies invest enormous amounts in innovations in anticipation of being able to enjoy the profits from those investments. For example, Google has invested in innovations to improve the Android mobile operating system in spite of the fact that it cannot profit directly from Android, which is open-source software. By requiring original equipment manufacturers (OEMs) that install the Google Play Store app on an Android phone to preinstall all of Google's proprietary apps, including its search engine and browser apps, Google is able to earn profits to compensate for its contributions to Android. Google profits from Android to the extent that Android devices connect to Google's services. Without the potential to earn these profits, Google would have far less incentive to invest in developing the operating system.

After buying the Android operating system, which was still being developed in 2005, Google pursued an innovative business model. Instead of charging a per-device licensing fee, as Microsoft did, Google made Android available for free on an open-source basis and even agreed to share search revenue derived from Android with the OEMs that installed it.[36] In 2005, Google was competing with Microsoft for the smartphone market and saw this new business model as a way to motivate OEMs to install Android so it had access to more end users. This business model led to significant reductions in the price of smartphones, which soon became available and affordable all over the world. Google profited from this strategy by reaching more consumers with its search advertising.

The European Commission, however, has ruled that Google violated EU antitrust law by tying Google's search and browser apps to the Google Play Store, by illegally paying OEMs to exclusively install Google's search app on all of their Android devices, and by illegally barring OEMs that installed Google apps from selling any device that ran an Android fork.[37] Part of the European Commission's remedy has been to require that Google give OEMs access to the Google Play Store without requiring them to favor Google's search service and Chrome browser app. The result is that Android phone users in Europe are now presented with a choice between search engines, rather than having Google as the default. But few consumers seem to have increased their use of alternative search engines in response to this ruling. The market share of Google's search app in Europe is still more than 90 percent.[38]

Imposing "duty to deal" requirements on dominant firms, as the European Commission has imposed on Google, might benefit some consumers in the short term, but it would likely hinder long-term market dynamism. Google invests in developing new products like the Android operating system, and it invests in improving its search algorithms. Once those investments have been made, it may be possible to improve consumer welfare by requiring Google to deal with competitors and not to maintain tying arrangements that make it more difficult for those firms to access its facilities.

But this increase in short-term competition would not necessarily benefit consumers on balance. A duty to deal would tend to reduce the ability of firms to gain returns from their investments over the long term. This inability could reduce incentives for firms to invest in new facilities and new business practices that might offer enormous benefits to consumers, just as Google's Android investments did in the past. Competition is often a long-term endeavor, and the harms to consumers from reduced investment throughout the economy might offset the gains to consumers and increased competition associated with requiring firms to open their existing facilities to their competitors.

More generally, practices that the report says should be per se illegal, such as tying arrangements, are best dealt with on a case-by-case basis. Judge Robert Bork, who once said that tying should never be an antitrust violation, subsequently argued that Microsoft's tying of Internet Explorer to Windows was anticompetitive and constituted a violation of antitrust law.[39] He changed his mind because of new information about how tying could be used and because of inferences about its harmful effect on consumer welfare when used the way it was used by Microsoft. Market decision-making is a complex endeavor, and it is often difficult to paint with a broad brush and identify vast swaths of conduct that are genuinely anticompetitive in almost every scenario.

Another example of alleged anticompetitive behavior is tech companies using their dominance in one market to gain dominance in other lines of business. Doing this supposedly reduces dynamism and innovation in these other markets.[40] Leveraging their dominance to enter and compete in other markets can undermine competition on the merits in those markets. This has "the effect of spreading concentration from one market into others, threatening greater and greater portions of the digital economy."[41]

To remedy the alleged conflicts of interest caused by integration across numerous markets, the report recommends structural separation and line-of-business restrictions.[42] The purpose of structural separation is to prohibit an intermediary firm from operating in a market in which it would be competing with a firm dependent upon the intermediary's infrastructure.

But structural separation, though perhaps an appropriate way to address some complaints against the actions of digital platforms, is not a good strategy for promoting competition. It does not eliminate the incentives of a platform to discriminate between firms that rely on it, even if it does not compete with any of those firms.[43] If a vertically integrated platform imitates or competes with its business partners, it does not necessarily harm consumers. In many cases, imitation by a platform makes consumers better off as it provides them with better, often more innovative products and services.

The pitfalls of using structural separation to address competition concerns are illustrated by the 1984 Modified Final Judgment that resulted from antitrust litigation against AT&T. This decision separated local telephone exchanges that had been part of AT&T into the Regional Bell Operating Companies. The Modified Final Judgment facilitated new competition that resulted in lower prices for some services. But the line-of-business restrictions it imposed also raised costs and slowed innovation in the telecommunications industry, creating "massive impediments to efficient operation of the network."[44]

The report also argues that Facebook and other tech platforms' data advantage creates a barrier to entry that reinforces their market power.[45] But the ability to collect large amounts of user data is more a result than a cause of these companies' obtaining market dominance. Engineering resources and technological innovations play a more important role than data.[46] It was not user data, but innovation and clever engineering that enabled Google to earn its current competitive position. Its PageRank algorithm was one of the key factors that helped Google succeed after entering a market in which there were several established search engines.[47] The primary way that user data benefits a company is by enabling it to improve its offerings to consumers.

Data collection is critical to service customization, which is central to competition in this segment. However, the report's proposal that Congress require dominant firms to make their data portable would reduce the incentive of those firms and potential competitors to invest in innovative ways to collect user data.

Problems arise when platforms use data in ways that partner firms would not have voluntarily agreed to. Google and Amazon have been accused of misappropriating data from third parties that use their services. The report notes that by "misappropriating third-party content and giving preferential treatment to its own vertical sites, Google abused its gatekeeper power over online search to coerce vertical websites to surrender valuable data and to leverage its search dominance into adjacent markets."[48] It has thus used its superior bargaining power to pressure third-parties to permit Google to use their content or risk being removed from Google's search results entirely.[49]

This kind of conduct may justify enforcement action against these companies, but the question is whether such behavior is best addressed by antitrust law or by some other kind of regulation. Misappropriating data could be considered an unfair and deceptive practice, and the FTC has a separate division, the Bureau of Consumer Protection, that is responsible for protecting consumers from firms that engage in such practices. The Bureau of Consumer Protection also deals with issues of privacy and data security. Policymakers have a variety of other, more appropriate and less intrusive regulatory tools than antitrust for dealing with these issues.

Problems with the Report's Recommended Policy toward Mergers

In merger cases, whether a firm is considered guilty of violating antitrust law depends on comparing the ways the merger reduces competition and harms consumers with the ways it may benefit consumers. In the case of horizontal mergers, the government compares the adverse impact of fewer competitors on price and quality competition and innovation with ways that the merged firm may be more efficient and benefit consumers by passing along lower costs, improving quality, or conducting research and development more effectively.[50] Current antitrust policy treats horizontal mergers differently from vertical mergers. The Department of Justice and the FTC are less likely to challenge a vertical merger than a horizontal merger because vertical mergers have several potential procompetitive effects.[51] By combining two or more stages of production or by producing complementary products, a single firm may be able to streamline production, inventory management, or distribution. The merged firm will have access to an upstream input at cost with no markup, which can be passed on to consumers through lower prices. The resulting coordination may also give a firm advantages in developing innovative products.

As noted earlier, the report advocates prohibiting dominant firms from acquiring potential rivals or nascent competitors, including "codifying a presumption against acquisition of startups, particularly those that" might become "direct competitors."[52] In some cases, the most important source of competition for a big tech firm may be new firms entering the market. Digital platform firms may have increasing returns to scale, so average costs steadily decline with firm size. If a firm is subject to strong increasing returns to scale and there is little product differentiation between firms, one firm will tend to dominate the market and competition will come from potential entrants rather than from other incumbent firms. Dominant firms may be able to foreclose this competition by preemptively acquiring startups that have the potential to compete with them.[53]

Although new entrants may be the only viable source of competition for firms with network externalities and economies of scale, the benefits of using antitrust policy to block acquisition of startup firms should be carefully compared with the costs of doing so in specific markets. The benefits are limited because dominant firms have a very difficult time identifying potential competitors to target for preemptive acquisitions, and the costs of blocking acquisitions may be high. Tightening merger policy often reduces startup firms' innovation incentives and makes it more difficult to transfer technology from startups to dominant firms, which is frequently accomplished by means of acquisition because "markets for technology transfer in the form of licensing work poorly."[54]

In some cases, the expectation of a merger with a dominant firm could discourage or reduce investments in product improvements by startup firms.[55] The possibility that acquisitions of potential competitors could reduce competition and discourage innovation has motivated the FTC to engage in retrospective analysis of past unnotified acquisitions by big tech firms to decide whether to more closely scrutinize such activity.[56] Concern about the effects of preemptive acquisitions in big tech industries has given the FTC a reason to consider the possibility that stricter merger policy might enhance consumer welfare.

CONCLUSION

Antitrust policy is in need of reform, but the report's medicine may turn out to be worse than the disease. Replacing the consumer welfare standard with the more open-ended goals and aggressive approach recommended by the report would increase the amount of political interference in markets and the likelihood of accidentally punishing private initiative that may otherwise enhance consumer welfare. Some of the recommended interventions would also require courts or government agencies to micromanage big tech firms or even turn them into public utilities.

America needs a robust antitrust policy that is capable of withstanding the imperfect knowledge and opportunistic behaviors of all parties involved.[57] Error cost analysis recognizes the limited ability of experts to identify firm behavior that harms consumers and often accepts the outcomes that result from decentralized markets. "Market institutions and decentralized processes provide for the best trial-and-error environment" for designing robust public policy.[58] Robust antitrust policy should find firms guilty only if the government or a private plaintiff presents sufficient evidence that their behavior has harmed consumer welfare. Although the consumer welfare standard is not perfect, it is far more robust than the reforms advocated for in the subcommittee's antitrust report.

ABOUT THE AUTHORS

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NOTES

1. The fifth is Microsoft, which is also a large technology company. Kyle Daly, "Big Tech's Power, in 4 Numbers," *Axios*, July 27, 2020.
2. Elizabeth Warren, "Here's How We Can Break Up Big Tech," *Medium*, March 8, 2019.
3. US House of Representatives, Subcommittee on Antitrust, Commercial, and Administrative Law of the Committee on the Judiciary, *Investigation of Competition in Digital Markets: Majority Staff Report and Recommendation*, 2020.
4. Subcommittee on Antitrust, Commercial, and Administrative Law, *Investigation of Competition in Digital Markets*, 6.
5. Subcommittee on Antitrust, Commercial, and Administrative Law, 9.
6. Subcommittee on Antitrust, Commercial, and Administrative Law, 36–77.
7. Subcommittee on Antitrust, Commercial, and Administrative Law, 77–376.
8. Subcommittee on Antitrust, Commercial, and Administrative Law, 376–406.
9. Subcommittee on Antitrust, Commercial, and Administrative Law, 36–37.
10. These characteristics include "network effects, switching costs, the self-reinforcing advantages of data, and increasing returns to scale." Subcommittee on Antitrust, Commercial, and Administrative Law, 37–39.
11. Subcommittee on Antitrust, Commercial, and Administrative Law, 38.
12. Subcommittee on Antitrust, Commercial, and Administrative Law, 39.
13. Subcommittee on Antitrust, Commercial, and Administrative Law, 39.
14. Subcommittee on Antitrust, Commercial, and Administrative Law, 40–46.
15. Subcommittee on Antitrust, Commercial, and Administrative Law, 46.
16. Subcommittee on Antitrust, Commercial, and Administrative Law, 46–77.
17. Subcommittee on Antitrust, Commercial, and Administrative Law, 6, 382–86.
18. Subcommittee on Antitrust, Commercial, and Administrative Law, 387–88.

19. Subcommittee on Antitrust, Commercial, and Administrative Law, 388–89.

20. Subcommittee on Antitrust, Commercial, and Administrative Law, 389–90.

21. Subcommittee on Antitrust, Commercial, and Administrative Law, 391–98.

22. Subcommittee on Antitrust, Commercial, and Administrative Law, 399–405.

23. Subcommittee on Antitrust, Commercial, and Administrative Law, 392.

24. Douglas H. Ginsburg, "Originalism and Economic Analysis: Two Case Studies of Consistency and Coherence in Supreme Court Decision Making," *Harvard Journal of Law and Public Policy* 33, no. 1 (2010): 217.

25. Robert H. Bork, *The Antitrust Paradox: A Policy at War with Itself* (New York: Basic Books, 1978).

26. Mark Pennington emphasizes how market participants spot and respond to "gaps" in the economic environment when a "multitude of individuals and organizations" have the freedom to enter and exit into transactions. Mark Pennington, "Robust Political Economy Revisited: Response to Critics," *Critical Review* 28, no. 3-4 (2016): 517–43.

27. Joshua D. Wright and Aurelien Portuese, "Antitrust Populism: Towards a Taxonomy," *Stanford Journal of Law, Business, and Finance* 21, no. 1 (2020): 131–81.

28. Joshua D. Wright et al., "Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust," *Arizona State Law Journal* 51, no. 1 (2019): 293–369.

29. Wright et al., "Requiem for a Paradox," 301.

30. Wright and Portuese, "Antitrust Populism."

31. Wright and Portuese, 177.

32. "Distribution of Net Digital Ad Revenue in the United States from 2016 to 2020, by Company," Statista, March 2018, https://www.statista.com/statistics/242549/digital-ad-market-share-of-major-ad-selling-companies-in-the-us-by-revenue/.

33. Subcommittee on Antitrust, Commercial, and Administrative Law, *Investigation of Competition in Digital Markets*, 254–61.

34. Geoffrey A. Manne and E. Marcellus Williamson, "Hot Docs vs. Cold Economics: The Use and Misuse of Business Documents in Antitrust Enforcement and Adjudication," *Arizona Law Review* 47, no. 3 (2005): 609–54.

35. Dirk Auer, "Appropriability and the European Commission's Android Investigation," *Columbia Journal of European Law* 23, no. 3 (2017): 647–82.

36. Ben Thompson, "The European Commission Versus Android," *Stratechery*, July 19, 2018.

37. Thompson, "The European Commission Versus Android."

38. Natasha Lomas, "Google's EU Android Choice Screen Isn't Working Say Search Rivals, Calling for a Joint Process to Devise a Fair Remedy," *TechCrunch*, October 27, 2020.

39. Judge Bork , who served on the US District Court of Appeals for the District of Columbia Circuit, was a leading antitrust scholar and advocate of the consumer welfare standard. Proponents and opponents of that standard often cite his work. His views on tying are summarized in Dennis W. Carlton and Michael Waldman, "Robert Bork's Contributions to Antitrust Perspectives on Tying Behavior," *Journal of Law and Economics* 57, no. S3 (2014): S121–S144.

40. Subcommittee on Antitrust, Commercial, and Administrative Law, *Investigation of Competition in Digital Markets*, 378–81.

41. Subcommittee on Antitrust, Commercial, and Administrative Law, 379.

42. Subcommittee on Antitrust, Commercial, and Administrative Law, 378–82.

43. Richard J. Gilbert, "Separation: A Cure for Abuse of Platform Dominance," *Information Economics and Policy* (published ahead of print, June 16, 2020), https://doi.org/10.1016/j.infoecopol.2020.100876.

44. Gilbert, "Separation."

45. Subcommittee on Antitrust, Commercial, and Administrative Law, *Investigation of Competition in Digital Markets*, 147–49.

46. Although accumulating lots of data quickly may be more important for success entering a market today, new firms can find creative ways to accumulate data, even if they need to purchase data from a large, existing firm that may be dominant in a different market than the one they are entering.

47. Andres V. Lerner, "The Role of 'Big Data' in Online Platform Competition" (working paper, 2014).

48. Subcommittee on Antitrust, Commercial, and Administrative Law, *Investigation of Competition in Digital Markets*, 192.

49. Subcommittee on Antitrust, Commercial, and Administrative Law, 183–87.

50. US Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, April 8, 1997.

51. US Department of Justice and Federal Trade Commission, *Vertical Merger Guidelines*, June 30, 2020.

52. Subcommittee on Antitrust, Commercial, and Administrative Law, *Investigation of Competition in Digital Markets*, 394.

53. Michael Katz, "Big Tech Mergers: Innovation, Competition for the Market, and the Acquisition of Emerging Competitors," *Information Economics and Policy* (published ahead of print, September 1, 2020), https://doi.org/10.1016/j.infoecopol.2020.100883.

54. The possibility of acquisition can increase innovation incentives substantially if the entrant develops technology that is complementary to the assets of the incumbent firm. Luis Cabral, "Merger Policy in Digital Industries," *Information Economics and Policy* (published ahead of print, July 3, 2020), https://doi.org/10.1016/j.infoecopol.2020.100866.

55. Michael Katz describes scenarios in which prohibiting mergers between a dominant firm and a potential competitor could make consumers better off by encouraging more innovation. Katz, "Big Tech Mergers."

56. Federal Trade Commission, "FTC to Examine Past Acquisitions by Large Tech Companies," press release, February 11, 2020, https://www.ftc.gov/news-events/press-releases/2020/02/ftc-examine-past-acquisitions-large-technology-companies.

57. Aurelien Portuese, "Beyond Antitrust Populism: Towards Robust Antitrust," *Economic Affairs* 40, no. 2 (2020): 237–58.

58. Portuese, "Beyond Antitrust Populism: Towards Robust Antitrust," 249.