Tech Platforms and Market Power: What's the Optimal Policy Response?

Thomas Lambert

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Abstract

This paper provides a comparative institutional analysis of the leading approaches to addressing the market power of large digital platforms: (1) the traditional US antitrust approach; (2) imposition of ex ante conduct rules such as those in the EU's Digital Markets Act and several bills recently advanced by the Judiciary Committee of the US House of Representatives; and (3) ongoing agency oversight, exemplified by the UK's newly established "Digital Markets Unit." After identifying the advantages and disadvantages of each approach, this paper examines how they might play out in the context of digital platforms. It first examines whether antitrust is too slow and indeterminate to tackle market power concerns arising from digital platforms. It next considers possible error costs resulting from the most prominent proposed conduct rules. It then shows how three features of the agency oversight model—its broad focus, political susceptibility, and perpetual control—render it particularly vulnerable to rent-seeking efforts and agency capture. The paper concludes that antitrust's downsides (relative indeterminacy and slowness) are likely to be less significant than those of ex ante conduct rules (large error costs resulting from high informational requirements) and ongoing agency oversight (rent-seeking and agency capture).

JEL codes: L41, L43, L51, L52, K21, K23

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Author Affiliation and Contact Information

Thomas Lambert
Wall Family Chair in Corporate Law and Governance
Professor of Law, University of Missouri Law School
lambertt@missouri.edu

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Introduction

For a number of digital platforms, a perfect storm is brewing. Commentators and policymakers across the ideological spectrum and the globe are increasingly calling for governmental efforts to rein in the largest platforms, most notably those operated by the "GAFA" firms: Google, Amazon, Facebook, and Apple. Politically progressive voices maintain that the dominant technology firms hurt consumers, laborers, suppliers, and small businesses; contribute to wealth inequality (by earning monopoly profits for their disproportionately rich shareholders); and have amassed excessive political power that undermines democracy.[1] Conservatives share some of those concerns, but emphasize most prominently that the firms have become gatekeepers of speech and information and are biased against traditional moral values.[2] In light of these varied concerns, the staff of a prominent congressional subcommittee,[3] government officials outside the United States,[4] and several prominent US research centers[5] have called for significant governmental restrictions on

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[1] *See*, *e.g.*, TIM WU, THE CURSE OF BIGNESS: ANTITRUST IN THE NEW GILDED AGE (2018); Lina M. Khan, *Amazon's Antitrust Paradox*, 126 YALE L. J. 710 (2017); Marshall Steinbaum & Maurice E. Stucke, *The Effective Competition Standard: A New Standard for Antitrust*, 86 U. CHI. L. REV. 595 (2019).

[2] *See*, *e.g.*, JOSH HAWLEY, THE TYRANNY OF BIG TECH (2021).

[3] *See* JERROLD NADLER & DAVID N. CICILLINE, INVESTIGATION OF COMPETITION IN DIGITAL MARKETS: MAJORITY STAFF REPORT AND RECOMMENDATIONS, SUBCOMMITTEE ON ANTITRUST, COMMERCIAL AND ADMINISTRATIVE LAW OF THE COMMITTEE ON THE JUDICIARY (2020) [hereinafter *House Judiciary Report*], https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf?utm_campaign=4493-519.

[4] *See*, *e.g.*, UNLOCKING DIGITAL COMPETITION: REPORT OF THE DIGITAL COMPETITION EXPERT PANEL (2019) (United Kingdom report on competition in digital platform markets), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/785547/unlocking_digital_competition_furman_review_web.pdf; JACQUES CRÉMER, YVES-ALEXANDRE DE MONTJOYE & HEIKE SCHWEITZER, COMPETITION POLICY FOR THE DIGITAL ERA: REPORT OF EUROPEAN COMMISSION DIRECTORATE-GENERAL FOR COMPETITION (2019), https://ec.europa.eu/competition/publications/reports/kd0419345enn.pdf; AUSTRALIAN COMPETITION AND CONSUMER COMMISSION, DIGITAL PLATFORMS INQUIRY FINAL REPORT (2019), https://www.accc.gov.au/system/files/Digital%20platforms%20inquiry%20-%20final%20report.pdf.

[5] *See*, *e.g.*, STIGLER CENTER FOR THE STUDY OF THE ECONOMY AND THE STATE, STIGLER COMMITTEE ON DIGITAL PLATFORMS FINAL REPORT (2019) [hereinafter *Stigler Center Report*], https://www.chicagobooth.edu/-/media/research/stigler/pdfs/digital-platforms---committee-report---stigler-center.pdf; BILL BAER ET AL., RESTORING

the dominant technology platforms. In June 2021, the Judiciary Committee of the US House of Representatives responded by advancing several bills that would radically restructure the digital landscape.[6]

Many, though not all, of the social harms allegedly occasioned by large digital platforms stem from their purported market power—i.e., their ability to extract surplus by imposing contract terms (prices or non-price terms governing matters like user privacy, data use, or terms of service) that they could not profitably impose if they faced the threat of losing business to more accommodating rivals.[7] Accordingly, most of the proposals for restricting the platforms aim somehow to reduce their market power or limit their exercise of such power. That raises the question of how best to constrain welfare-reducing exercises of market power by digital platforms.

COMPETITION IN THE UNITED STATES (2020) (report of Washington Center for Equitable Growth), https://equitablegrowth.org/research-paper/restoring-competition-in-the-united-states/.

[6] *See* Cecilia Kang & David McCabe, *Antitrust Overhaul Passes Its First Tests. Now, the Hard Parts.*, N.Y. TIMES (June 24, 2021) (discussing House bills), https://www.nytimes.com/2021/06/24/technology/antitrust-overhaul-congress.html. The advanced bills that would most alter the technology landscape are the ENDING PLATFORM MONOPOLIES ACT, H.R. 3825, 117th Cong. (2021), https://www.congress.gov/117/bills/hr3825/BILLS-117hr3825ih.pdf; the PLATFORM COMPETITION AND OPPORTUNITY ACT, H.R. 3826, 117th Cong. (2021), https://www.congress.gov/117/bills/hr3826/BILLS-117hr3826ih.pdf; the AMERICAN CHOICE AND INNOVATION ONLINE ACT, H.R. 3816, 117th Cong. (2021), https://www.congress.gov/117/bills/hr3816/BILLS-117hr3816ih.pdf; and the AUGMENTING COMPATIBILITY AND COMPETITION BY ENABLING SERVICE SWITCHING ACT (the "ACCESS Act"), H.R. 3849, 117th Cong. (2021), https://www.congress.gov/117/bills/hr3849/BILLS-117hr3849ih.pdf. A recently introduced Senate bill incorporates features of the American Choice and Innovation Online Act. See Cat Zakrzewski, *Senators Aim to Block Tech Giants From Prioritizing Their Own Products Over Rivals,* WASH. POST (Oct. 14, 2021), https://www.washingtonpost.com/technology/2021/10/14/klobuchar-grassley-antitrust-bill/; AMERICAN INNOVATION AND CHOICE ONLINE ACT, S. 2992, 117th Cong. (2021), https://www.congress.gov/117/ bills/s2992/BILLS-117s2992is.pdf.

[7] *See* PHILLIP E. AREEDA & HERBERT HOVENKAMP, FUNDAMENTALS OF ANTITRUST LAW § 5.01 (4th ed. 2017) (defining market power). A number of the concerns about the dominant technology platforms stem not from their market power, but from their sheer size. For example, the concern that technology firms endanger democracy because they are so large that they have excessive political sway is not a concern about market power—i.e., the ability of a firm lacking competitive constraints to extract greater surplus by reducing market output. This paper's focus is the alternative means of addressing market power concerns, not other concerns that might arise from bigness per se.

Historically, governments have used several different approaches to limit welfare losses from market power.[8] One approach is antitrust law: a set of flexible, judicially crafted behavioral standards aimed at preventing the creation or enhancement of market power by means other than competition on the merits.[9] Another strategy is direct regulation: a set of ex ante rules that forbids certain exercises of market power or foster market competition.[10] A third approach is to delegate power to an expert agency to enforce behavioral standards through continual oversight of some set of firms that could attain and exercise market power.[11] All three approaches present both advantages and disadvantages, and each is more appropriate in some circumstances than in others.

The purpose of this paper is to assess the relative merits of antitrust, direct regulation, and ongoing agency oversight as means of addressing market power concerns arising from large digital platforms. Eschewing the "Nirvana Fallacy" of inferring that a particular regulatory approach is desirable because some idealized version of it would improve upon the status quo, this paper embraces a "comparative institution" approach that attempts to assess the choice between real-world regulatory options, warts and all.[12]

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[8] *See generally* THOMAS A. LAMBERT, HOW TO REGULATE: A GUIDE FOR POLICYMAKERS 145-75 (2017) (describing alternative remedies employed to address market power).

[9] *Id.* at 145-53. Antitrust does not forbid the creation, maintenance, or enhancement of market power by procompetitive means such as innovation or gains in productive efficiency. Nor does it forbid a firm that has gained market power legitimately from exercising that power by charging supracompetitive prices. As the Supreme Court observed,

> The mere possession of monopoly power, and the concomitant charging of monopoly prices, is not only not unlawful; it is an important element of the free-market system. The opportunity to charge monopoly prices—at least for a short period—is what attracts "business acumen" in the first place; it induces risk taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct.

Verizon Commun'cns. Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407 (2004).

[10] Lambert, *supra* note 8, at 160-75.

[11] *Id.*

[12] Economist Harold Demsetz described the comparative institution approach by contrasting it to the oft-employed, but unhelpful nirvana approach:

The paper proceeds as follows: Part II returns to first principles and sets forth the approach policymakers should generally follow to select the optimal means of addressing defects in private ordering. That approach calls for policymakers to think like physicians, first cataloging the remedies available to address the defect under consideration and then comparing the efficacy and side effects of each. Part III then provides a general description of the remedies traditionally used to address market power concerns—antitrust, ex ante regulation, and continual agency oversight—and briefly identifies the typical pros and cons of each. Part IV digs deeper, examining how the efficacy limitations and general side effects of each of the remedies under consideration would manifest themselves in the context of digital platform regulation. Part V concludes by observing that the downsides of ex ante conduct rules and ongoing agency oversight likely outweigh those of traditional antitrust.

First Principles for Selecting Governmental Fixes for Private Ordering Defects

As sociologist Max Weber observed, the state (government) possesses a right that is denied all other social entities: the right to use force to achieve its objectives.[13] Members of liberal societies have generally agreed that government should exercise its unique coercion right sparingly. To

> The view that now pervades much public policy economics implicitly presents the relevant choice as between an ideal norm and an existing "imperfect" institutional arrangement. This nirvana approach differs considerably from a comparative institution approach in which the relevant choice is between alternative real arrangements. In practice, those who adopt the nirvana viewpoint seek to discover discrepancies between the ideal and the real and if discrepancies are found, they deduce that the real is inefficient. Users of the comparative institution approach attempt to assess which alternative real institutional arrangement seems best able to cope with the economic problem; practitioners of this approach may use an ideal norm to provide standards from which divergences are assessed for all practical alternatives of interest and select as efficient that alternative which seems most likely to minimize the divergence.

Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J. L. & ECON. 1, 1 (1969).

[13] Max Weber, *Politics as Vocation*, *in* FROM MAX WEBER: ESSAYS IN SOCIOLOGY 78 (H. H. Gerth & C. Wright Mills eds., 1958) (observing that government possesses "a monopoly on the legitimate use of physical force within a given territory").

preserve individual liberty, it should do so only to protect its citizens' rights to person or property and to address situations in which individuals' managing of their property to maximize their private benefits—private ordering—is likely to reduce overall social welfare. As Adam Smith famously explained, individuals' pursuit of private welfare (assuming they do not violate others' property rights) typically inures to the benefit of society as a whole.[14] But economists have identified a number of situations in which the pursuit of private gain can systematically reduce overall social welfare, even when formal property rights are respected.[15] These so-called market failures—e.g., externalities, public goods, information asymmetry, and market power—may warrant the exercise of government's unique coercion right.

A market failure, however, is never a *sufficient* condition for a governmental fix. Because the point of market failure-correcting government interventions is to enhance social welfare, such interventions are not justified if they would themselves create losses greater than those occasioned by the market failures they are aimed at correcting. Wise policy therefore requires consideration of the ways in which government interventions may reduce welfare. Just as private ordering may systematically fail to maximize social welfare in particular situations (i.e., when the

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[14] In an oft-quoted passage, Smith observed:

> As every individual, therefore, endeavours as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labours to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. By preferring the support of domestic to that of foreign industry, he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest he frequently promotes that of the society more effectually than when he really intends to promote it.

ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS IV.ii.9 (1776). *See also id.* at I.ii.2 ("It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest.").

[15] *See generally* Lambert, *supra* note 8 (describing market failures and examining alternative means of addressing them).

conditions for market failure exist), various government interventions are systematically prone to produce losses under certain circumstances.[16] Policymakers should always compare the expected costs of market failure-correcting government interventions to the expected benefits they would achieve in terms of market failure losses averted.

Moreover, it is not enough to assess a proposed intervention in isolation, asking whether the gains it would likely achieve exceed the losses it would likely entail in terms of compliance costs and the value of beneficial transactions thwarted. Because the true cost of pursuing one available regulatory intervention includes the *opportunity cost* of foregoing other available interventions,[17] wise policy making requires systematic comparison of the pros and cons of all available regulatory options (including the "no intervention" option). To facilitate such analysis, policymakers should proceed like physicians: after assessing the adverse "symptoms" potentially justifying some sort of government intervention and diagnosing the culprit "disease," they should catalog the range of available "remedies," consider the "side effects" of each, and select the fix that offers the highest net benefit.[18]

Market Power: Symptoms, Disease, Remedies, and Side Effects

The Symptoms and the Underlying Disease

Market power is the ability of a firm to enhance its profits by cutting back on its output, either

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[16] *See generally id.* (describing the typical failures of governmental interventions aimed at averting various market failures).

[17] Suppose, for example, that Policy A would create benefits of $70 million while entailing compliance costs of $40 million and thwarting transactions worth $20 million. Assessed in isolation, this intervention would appear cost-justified, securing a $10 million net benefit. If, however, competing Policy B would create benefits of $50 million while entailing compliance costs of $20 million and thwarting transactions worth $5 million, Policy A would not be cost-justified: foregoing the $25 million in net benefits available from competing Policy B would be an additional cost (an opportunity cost) of pursuing Policy A, so the net benefits available from the latter policy would be -$15 million. By contrast, when the opportunity cost of not pursuing Policy A (lost benefit of $10 million) is added to Policy B's cost, Policy B remains cost-justified, providing a net benefit of $15 million.

[18] *See generally* Lambert, *supra* note 8, at 14-15.

quantitatively or qualitatively.[19] A monopolist, for example, may grow its profits by reducing the number of units it produces (causing the market price to rise) or by lowering the amount it spends on quality (so that its profit margin grows). Consumers suffer as they must pay more for the same thing or pay the same amount for lower quality. This redistributes surplus from consumers to the producer. It also occasions a "deadweight loss"—an overall reduction in social welfare—because the monopolist's forgone production would cost less than the value it would create.[20] Higher prices, reduced quality, and welfare-reducing misallocations of productive resources are thus the symptoms of market power.

The disease giving rise to those symptoms is an absence of competition.[21] In a competitive market, a single firm cannot cause market price to rise by reducing its output; it controls an insufficient share of overall market output to affect market price (i.e., it is a "price-taker" rather than a "price-maker"), and even if it could do so, other producers would expand output in response to a price increase, returning prices to competitive levels.[22] Moreover, any firm that skimps on quality in a competitive market will lose sales to its rivals. Cutbacks on quantity or quality may enhance the cutter's profits, though, when the market includes only one significant seller (monopoly) or when nominal rivals agree not to compete with each other (collusion).[23]

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[19] Areeda & Hovenkamp, *supra* note 7, at § 5.01 ("Market power is the ability to raise price profitably by restricting output."). Market power may also exist on the buyer side of the market, in which case it is referred to as monopsony, rather than monopoly, power. A buyer that does not face competition from other buyers may profitably withhold demand to drive down price and thereby enhance its profits. *See generally* ROGER D. BLAIR & JEFFREY E. HARRISON, MONOPSONY (1993). For ease of exposition, we focus here on monopoly (seller-side) power, but both forms of market power reduce social welfare.

[20] *See* Lambert, *supra* note 8, at 142-44.

[21] *Id.*

[22] *See generally* E. THOMAS SULLIVAN, HERBERT HOVENKAMP, HOWARD A. SHELANSKI & CHRISTOPHER R. LESLIE, ANTITRUST LAW, POLICY, AND PROCEDURE: CASES, MATERIALS, PROBLEMS 50-53 (8th ed. 2019) (describing perfectly competitive market).

[23] *Id.*

Numerous digital markets currently feature a dominant provider—e.g., Google for internet search, YouTube for hosting user-generated videos, Amazon for online retailing, Google's suite of advertising technology services for buying and selling digital advertisements, Facebook for social networking, Apple's and Google's proprietary app stores for their respective mobile operating systems (iOS and Android). Many voices maintain that the absence of competition in these markets has resulted in predictable market power harms: higher prices and reduced quality. Currently pending lawsuits, for example, allege that monopoly has produced supracompetitive prices for mobile app distribution[24] and digital advertising services.[25] With respect to reduced quality (a more common complaint in digital platform markets, given that the services provided are often free to users), alleged monopoly harms include: less consumer privacy in social networking, search, and web browsing;[26] more onerous speech restrictions on platforms that host user-generated content;[27] less favorable "offering placement" for firms operating on platforms (e.g., sellers

[24] *See* Complaint for Injunctive Relief, Epic Games, Inc. v. Apple Inc., No. 3:20-cv-05640-YGR (N.D. Cal. Aug. 13, 2020), https://cdn2.unrealengine.com/apple-complaint-734589783.pdf [hereinafter *Epic v. Apple Complaint*]; Complaint for Injunctive Relief, Epic Games, Inc. v. Google LLC, No. 5:20-cv-05671-NC (N.D. Cal. Aug. 13, 2020), https://www.documentcloud.org/documents/7035855-Epic-Games-v-Google-complaint-8-13-2020.html [hereinafter *Epic v. Google Complaint*]. In Epic v. Apple, the district court recently entered judgment in favor of defendant Apple on plaintiff Epic's claims under Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2, and California's Cartwright Act, Cal. Bus. & Prof. Code §§ 16720, 16726, but it granted judgment in favor of Epic on one claim brought under California's Unfair Competition Law, Cal. Bus. & Prof. Code § 17200. *See* Epic Games, Inc. v. Apple Inc., 2021 WL 4128925 (N.D. Cal. Sept. 10, 2021). Epic has appealed the judgments against it. *See* Epic Games, Inc. v. Apple Inc., Notice of Appeal, No. 4:20-CV-05640-YGR-TSH (Sept. 12, 2021), https://www.documentcloud.org/documents/21061142-epic-games-appeal.

[25] *See*, *e.g.*, Complaint, United States v. Google LLC, No. 1:20-cv-03010 (filed Oct. 20, 2020) ¶¶ 168, 171, https://www.justice.gov/opa/press-release/file/1328941/download [hereinafter *U.S. v. Google Complaint*]; First Amended Complaint for Injunctive and Other Equitable Relief, Federal Trade Comm'n v. Facebook, No. 1:20-cv-03590 (filed Aug. 19, 2021) ¶¶ 224-28, https://www.ftc.gov/system/files/documents/cases/ecf_75-1_ftc_v_facebook_public_redacted_fac.pdf [hereinafter *FTC v. Facebook Amended Complaint*]; Complaint, State of Texas v. Google LLC, https://www.texasattorneygeneral.gov/sites/default/files/images/admin/2020/Press/20201216%20COMPLAINT_REDACTED.pdf [hereinafter *Texas v. Google Complaint*]; Complaint, State of Colorado v. Google LLC, https://coag.gov/app/uploads/2020/12/Colorado-et-al.-v.-Google-PUBLIC-REDACTED-Complaint.pdf [hereinafter *Colorado v. Google Complaint*].

[26] *See*, *e.g.*, U.S. v. Google Complaint, *supra* note 25, at ¶ 167; FTC v. Facebook Amended Complaint, *supra* note 25, at ¶¶ 161-63. *See generally* Nathan Newman, *The Costs of Lost Privacy: Consumer Harm and Rising Economic Inequality in the Age of Google,* 40 WM. MITCHELL L. REV. 849, 851 (2014).

[27] Stigler Center Report, *supra* note 5*,* at 274.

on Amazon, publishers that allow their content to be indexed on Google Search);[28] reduced innovation by third-party creators, who will invest less in developing new offerings if they can be relegated to less prominent positions on essential platforms;[29] and lower quality platforms, as platform operators deliberately deny product-enhancing features such as interoperability and data portability in order to preclude competition and protect their market power.[30] With all these purported harms, the alleged culprit is the absence of competition facing the dominant firm.

Available Market Power Remedies and Their Efficacy Limitations and Side Effects

Three Remedies

Traditionally, governments have employed three means to address market power concerns. The most widely used approach is antitrust, a set of judicially crafted behavioral standards aimed at remedying the two situations in which market competition breaks down: collusion and monopoly.[31] In the US, the genesis of these judicial standards was the Sherman Act of 1890.[32] Section 1 of that statute addresses collusion, proclaiming that "[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade . . . is declared to be illegal."[33] Section 2 addresses monopoly, making it a felony to monopolize, attempt to monopolize, or combine or conspire to monopolize a market.[34]

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[28] *Id.* at 164; U.S. v. Google Complaint, *supra* note 25, at ¶ 170.

[29] Stigler Center Report, *supra* note 5, at 74-78; U.S. v. Google Complaint, *supra* note 25, at ¶ 170.

[30] *See* U.S. v. Google Complaint, *supra* note 25, at ¶ 170. *See generally,* Kenneth A. Bamberger & Orly Lobel, *Platform Market Power,* 32 BERKLEY TECH. L. J. 1051, 1069 (2017); Thomas M. Lenard, *If Data Portability is the Solution, What's the Problem?,* TECHNOLOGY POLICY INSTITUTE (Jan. 2020), https://techpolicyinstitute.org/wp-content/uploads/2020/01/Lenard_If-Data-Portability.pdf.

[31] *See generally* Lambert, *supra* note 8, at 160-75 (describing antitrust as judicially implemented, standards-based remedy for market power resulting from monopoly and collusion).

[32] 26 Stat. § 209, 15 U.S.C. §§ 1-7 (1937).

[33] 15 U.S.C. § 1 (1890).

[34] *Id.* at § 2 (1890).

Because these statutory prohibitions are quite bare-boned (and literally non-sensical, as a ban on "contracts . . . in restraint of trade" would outlaw most private contracts),[35] federal courts quickly put interpretive glosses on them. Today, Section 1 is taken to forbid agreements that "unreasonably" restrain trade,[36] and Section 2 precludes unreasonably exclusionary conduct that could create market power.[37] In all cases, the reasonableness of a challenged act turns on its probable effect on market output: if the act is likely to enhance market output for the benefit of consumers, it is reasonable; if output-reduction and consumer harm are likely, the act is unreasonable and thus illegal.[38]

As courts have gained experience with particular business practices, they have calibrated the showings required to establish antitrust liability. Some particularly pernicious practices are conclusively presumed unreasonable (i.e., are per se illegal);[39] others are effectively subject to a rebuttable presumption of unreasonableness (i.e., are subject to "quick look" review);[40] and most are presumed reasonable unless the plaintiff can establish certain facts suggesting that the

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[35] *See* Bd. of Trade of the City of Chiago v. United States, 246 U.S. 231, 238 (1918) (reasoning that the term "restraint of trade" in section 1 cannot possibly refer to any restraint on competition because "[e]very agreement concerning trade, every regulation of trade, restrains" and because "[t]o bind, to restrain, is of their very essence").

[36] *Id.* ("The true test of legality is whether the restraint imposed is such as merely regulates and perhaps thereby promotes competition or whether it is such as may suppress or even destroy competition.").

[37] *See* United States v. Grinnell Corp., 384 U.S. 563, 570-71 (1966); Thomas A. Lambert, *Defining Unreasonably Exclusionary Conduct: The "Exclusion of a Competitive Rival" Approach*, 92 N.C. L. REV. 1175 (2014).

[38] *See* HERBERT HOVENKAMP, THE ANTITRUST ENTERPRISE: PRINCIPLE AND EXECUTION 2-5 (2005) (describing an output-focused understanding of competition).

[39] Northern Pac. Ry. Co. v. United States, 356 U.S. 1, 5 (1958) (observing that "there are certain agreements or practices which because of their pernicious effect on competition and lack of any redeeming virtue are conclusively presumed to be unreasonable and therefore illegal without elaborate inquiry as to the precise harm they have caused or the business excuse for their use").

[40] *See* California Dental Ass'n v. FTC, 526 U.S. 756, 777 (1999) (observing that quick look analysis is appropriate when "an observer with even a rudimentary understanding of economics could conclude that the arrangements in question would have an anticompetitive effect on customers and markets"); *id.* at 775 n. 12 (observing that quick look analysis effectively requires "shifting to a defendant the burden to show empirical evidence of procompetitive effects").

practice is likely to reduce market output (i.e., are assessed under the full-blown rule of reason).[41] As economic learning expands and business practices evolve, courts alter the conduct-specific showings required to establish liability or a defense thereto.[42]

Because antitrust does not—with very few exceptions—attempt to specify up front (ex ante) exactly what a firm is allowed or forbidden to do,[43] opting instead to evaluate firm conduct after it has occurred (ex post) to assess its compliance with a general directive to avoid restraining market output, it is "standards-based."[44] The specific contours of its standards are fleshed out by politically insulated courts. Antitrust is also a "therapeutic" market power remedy, meaning that it seeks to cure the *disease* causing the adverse market effects—a lack of competition—and does not merely treat the *symptoms* of softened competition (e.g., increased prices and reduced quality), as a "palliative" remedy would do.

A second way to address market power concerns is through the imposition of conduct rules that specify up front precisely what conduct is forbidden or permitted. The rules may seek to force the outcome that would result if the market were competitive, as when natural monopoly

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[41] *See* State Oil Co. v. Kahn, 522 U.S. 3, 10 (1997) (observing that "most antitrust claims are analyzed under a 'rule of reason,' according to which the finder of fact must decide whether the questioned practice imposes an unreasonable restraint on competition, taking into account a variety of factors, including specific information about the relevant business, its condition before and after the restraint was imposed, and the restraint's history, nature, and effect"); Ohio v. American Express Co., 138 S. Ct. 2274, 2284 (2018) (observing that under the rule of reason "the plaintiff has the initial burden to prove that the challenged restraint has a substantial anticompetitive effect that harms consumers in the relevant market"). *See generally* Herbert J. Hovenkamp, *The Rule of Reason,* FAC. SCHOLARSHIP AT PENN L. 81 (2018); Edward D. Cavanagh, *Whatever Happened To Quick Look?*, 26 U. MIAMI BUS. L. REV. 39 (2017).

[42] *See*, *e.g.*, Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877 (2007) (abrogating per se rule in light of subsequent economic learning); *id.* at 898-99 (directing courts to craft structured, practice-specific rule of reason based on learning and experience).

[43] The exceptions are antitrust's rules of per se illegality for practices, such as naked horizontal price-fixing, which experience has shown are always or almost always anticompetitive. *See* American Express, 138 S.Ct. at 2283 ("A small group of restraints are unreasonable per se because they 'always or almost always tend to restrict competition and decrease output.'") (quoting Business Electronics Corp. v. Sharp Electronics Corp., 485 U.S. 717, 723 (1988)).

[44] Whereas a rule specifies before the actor acts exactly what behaviors are forbidden and permitted, a standard posits a somewhat amorphous behavioral directive and then assesses an act's compliance with it after the act has occurred. For example, a posted speed limit is a rule, while tort law's directive to use reasonable care (i.e., to avoid negligence) is a standard. *See* Lambert, *supra* note 8, at 101.

utilities are required to charge rates resembling those that would prevail under competitive conditions.[45] Such rules are a palliative remedy for market power in that they seek to alleviate market power symptoms (e.g., supracompetitive prices) without curing the underlying disease (the lack of competition). Other sorts of conduct rules may mandate behaviors designed to foster competition, as when telephone networks are required to provide potential rivals with access to their facilities.[46] Such rules are therapeutic in nature.

Because they are more rigid and prescriptive than antitrust's flexible standards, and thus less likely to be appropriate for a broad range of diverse firms, ex ante rules addressing market power concerns tend to be limited in scope. They are usually tailored for a particular industry or group of firms. Antitrust's standards are focused on ends rather than specific means, and are therefore less likely to "misfire" when applied broadly. Antitrust standards are thus assumed to govern a firm's behavior in the absence of direct regulation addressing competitive concerns. We sometimes say antitrust is the "residual regulator" of market power—the body of law that governs *unless* it is displaced by more tailored competition rules.[47]

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[45] *See generally id.* at 153-58. Natural monopolies exist when the economies of scale in an industry continue for so long that minimum efficient scale—the point at which scale economies are exhausted—occurs beyond the output level that would satisfy competitive market demand. In such a market, having multiple producers and dividing market demand among them would result in each firm's producing at a less efficient scale than if a single firm supplied the whole market. To minimize production costs, a single firm should supply the market, so the law should not encourage entry, as antitrust does. The single producer, though, will be a monopolist and, left to its own devices, would charge monopoly prices. Given this dilemma—the need for a single seller to maximize productive efficiency but a likelihood that such a seller would charge allocatively inefficient monopoly prices—policymakers have typically displaced antitrust in natural monopoly markets with a direct regulatory regime that protects the producer's monopoly status but mandates that it not charge monopoly prices. Its prices are usually capped at a level that allows it to recover its costs, including its costs of capital. Natural monopolies may also exist when the market-satisfying output level occurs beyond the point of minimum efficient scale but adding a second producer and splitting production among them would drive production costs above the level that would prevail with a single producer. *See id*.; W. KIP VISCUSI, JOSEPH E. HARRINGTON, JR. & JOHN M. VERNON, ECONOMICS OF REGULATION AND ANTITRUST 401-08 (4th ed. 2005).

[46] *See*, *e.g.*, 47 U.S.C. § 251(c) (imposing interconnection requirements on incumbent local exchange carriers).

[47] *See* Herbert Hovenkamp, *Antitrust and the Regulatory Enterprise*, 2004 COLUM. BUS. L. REV. 335, 341 (2004) ("One consequence of regulation is a reduced role for the antitrust laws. When the government makes rules about price or output, market forces no longer govern. To that extent antitrust is shoved aside. A corollary is that as an

A third approach to addressing market power concerns would retain antitrust's standards-based approach, but delegate the task of fleshing out and implementing the relevant standards not to generalist courts resolving discrete disputes, as antitrust does, but to an expert agency exercising continued oversight of the firms subject to the standards. The expert agency could issue, and update as needed, specific orders and rules to ensure compliance with the standard.

This approach resembles that taken by the Federal Communications Commission (FCC), which issues broadcast licenses on the condition that the licensees serve the "public interest, convenience, and necessity" and promulgates orders and rules to achieve that end.[48] A traditional justification for the FCC's broad authority to interfere with broadcasters' business decisions—including speech-restricting decisions about what programming to feature—was the power conferred by a broadcast license, given the scarcity of the airwaves.[49] Because a licensee would face little competition, the FCC was authorized to oversee licensees' decision-making—even decisions concerning speech—in the hopes of producing the sort of market outcomes (programming variety, diverse viewpoints, etc.) that would prevail in a competitive market.[50]

Across the globe, all three of these approaches—antitrust, ex ante regulation, and continual agency oversight—have been used or proposed as means of addressing market power concerns arising from dominant digital platforms. In the United States, each of the GAFA firms is currently defending antitrust lawsuits.[51] In Europe, the European Commission has proposed a

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industry undergoes deregulation, or removal from the regulatory process, antitrust re-enters as the residual regulator.").

[48] 47 U.S.C. § 309 (1934).

[49] *See* Audrey Perry, *Scarcity Rationale*, THE FIRST AMENDMENT ENCYCLOPEDIA, https://mtsu.edu/first-amendment/article/1016/scarcity-rationale.

[50] *See* JOHN W. BERRESFORD, THE SCARCITY RATIONALE FOR REGULATING TRADITIONAL BROADCASTING: AN IDEA WHOSE TIME HAS PASSED 1-2 (Mar. 17, 2005), https://www.fcc.gov/document/scarcity-rationale-regulating-traditional-broadcasting-idea.

[51] Google has been sued by the Justice Department for monopolizing internet search, *see* U.S. v. Google Complaint, *supra* note 25, and by two coalitions of states for monopolizing certain ad tech markets. *See* Texas v. Google

Digital Markets Act[52] that would impose a set of common ex ante rules on large digital platforms deemed to be economic "gatekeepers," a group that would include each GAFA firm (while conspicuously excluding the largest European-based technology platform, Spotify).[53] Several of the bills recently advanced by the House Judiciary Committee would collectively impose a similar regime in the United States.[54] In the United Kingdom, policymakers have recently launched a "Digital Markets Unit" that will provide continual agency oversight and tailored, platform-specific rules for large digital platforms.[55]

Efficacy Limitations and Side Effects

Like alternative medical treatments for a physical disease, the different approaches to addressing

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Complaint, *supra* note 25; Colorado v. Google Complaint, *supra* note 25. Amazon has been sued over contracts with publishers that preclude them from offering lower prices on competing retail platforms. *See* Class Action Complaint, *Cook v. Amazon.com, Inc.*, No. 1:21-cv-01369, https://images.law.com/contrib/content/uploads/documents/389/126628/cook-v.-amazon.com_.pdf. The company is also under investigation by EU antitrust officials for using data about third-party vendors' sales in crafting its own private label offerings and for preferencing its own offerings and those of third-party vendors that choose to use its logistics and fulfillment services. *See* Press Release, Antitrust: Commission sends Statement of Objections to Amazon for the use of non-public independent seller data and opens second investigation into its e-commerce business practices (Nov. 10, 2020), https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2077. Facebook is defending a lawsuit by the Federal Trade Commission for monopolizing the market for general social networking. *See* FTC v. Facebook Amended Complaint, *supra* note 25. Apple has been the subject of legal challenges by both Spotify in Europe, *see* Press Release, Antitrust: Commission opens investigations into Apple's App Store rules (June 16, 2020), https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1073, and Epic Games in the U.S., *see supra* note 24, over its allegedly exclusionary app store policies.

[52] *See* EUROPEAN COMMISSION, PROPOSAL FOR A REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL ON CONTESTABLE AND FAIR MARKETS IN THE DIGITAL SECTOR (2020) [hereinafter *Digital Markets Act*], https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020PC0842&from=en.

[53] *See* Dirk Auer, *The Flaws in Europe's Digital Markets Regulation*, EURACTIV (Dec. 17, 2020), https://www.euractiv.com/section/all/opinion/the-flaws-in-europes-digital-markets-regulation/ (observing that "revenue thresholds outlined in the DMA seem designed purposefully to exclude European platforms, notably Spotify").

[54] *See* ENDING PLATFORM MONOPOLIES ACT, *supra* note 6 (mandating structural separations/line of business restrictions for large digital platforms); ACCESS ACT, *supra* note 6 (mandating data portability and platform interoperability); AMERICAN CHOICE AND INNOVATION ONLINE ACT, *supra* note 6 (precluding covered platforms from discriminating among offerings, preferencing their own offerings, or restricting software uninstallation, data porting by business users, side-loading of apps, or certain communications between business users and their customers).

[55] Parmy Olson, *U.K. Launches New Competition Watchdog Targeting Big Tech*, WALL ST. J. (April 6, 2021), https://www.wsj.com/articles/u-k-launches-new-competition-watchdog-targeting-big-tech-11617750061?mod=pls_whats_news_us_business_f.

market failures vary in their efficacy and threaten different side effects.[56] The primary limitation of antitrust as a market power remedy is an efficacy concern: it can be indeterminate and slow.[57] Antitrust's indeterminacy results from the fact that it forbids "unreasonable" instances of certain business behaviors (trade-restraining agreements and exclusionary acts) and typically assesses reasonableness on a case-by-case basis according to a practice's effect on overall market output. Antitrust's slowness results from the fact that it is enforced according to court orders, which require time-consuming lawsuits.

It is important, however, not to overstate these limitations. As precedents develop, antitrust becomes both more determinate (as business planners, enforcers, and courts may look to past judgments to predict how courts will assess the reasonableness of a challenged practice) and faster (as the growing pattern of precedents deters conduct likely to generate an adverse judgment). In the early days of new business models and market structures, legal expectations are unclear, and adjudication is required to establish them. As precedents develop around novel markets and practices, antitrust's directives become clearer and generate more immediate effects.

Relative to antitrust, ex ante regulation is more determinate and may achieve its goals more quickly. For example, regulators may posit immediately effective, bright-line rules that preclude dominant firms from exercising their market power or that facilitate market entry. But ex ante regulation threatens a significant side effect that is less of a concern for flexible antitrust standards: error costs resulting from high informational requirements.

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[56] *See generally* Lambert, *supra* note 8 (cataloging alternative remedies for classic market failures—e.g., externalities, public goods, information asymmetry, market power—and assessing their efficacy limitations and side effects).

[57] *See infra* note 70 and accompanying text.

In setting forth prospective conduct rules, regulators engage in a form of centralized economic planning, dictating how productive resources are—and are not—to be allocated.[58] If the rules they impose unwittingly misallocate resources away from their highest and best ends, social welfare will be reduced. And as rules become less flexible, increasingly prescriptive (i.e., dictating more precise arrangements), and more generally applicable, the information required for assuring that they do not "misfire" in such a fashion grows. As F. A. Hayek observed, efficiently allocating resources via centralized economic planning requires "the utilization of knowledge which is not given to anyone in its totality."[59] An authority seeking to enhance social welfare by imposing a generally applicable prohibition must know, for example, which instances of future behavior its ban would preclude; the value the forbidden behaviors would have created, given citizens' subjective preferences (to which only they are privy); and the amount of welfare loss the prohibition is likely to avert, a matter that also turns on people's private preferences. Similar informational requirements apply when regulators seek to enhance welfare through imposition of a generally applicable mandate—a "thou shalt," as opposed to a "thou shalt not."

Like antitrust, the third approach to addressing market power concerns—ongoing agency oversight—involves flexible standards whose precise requirements are determined on a case-by-case basis in light of the totality of the circumstances. The approach thus entails fewer of the Hayekian "knowledge problem" concerns that bedevil ex ante conduct rules. But by delegating the authority to determine specific requirements to a politically constituted expert agency rather than to apolitical, generalist courts, the approach threatens losses from what we may term "public choice concerns."

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[58] *See* Lambert, *supra* note 8, at 31-32.

[59] F. A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519, 520 (1945).

The branch of economics known as public choice applies economic analysis to political decision-making.[60] Eschewing the romantic vision of politics in which political actors set aside their personal preferences to pursue some version of the public good, public choice assumes that people act in the political arena as they do in non-political realms: as rational self-interest maximizers.[61] Thus, citizens "vote their pocketbooks"; politicians pursue election and reelection; unelected bureaucrats seek to enhance their job prestige and salaries, the resources at their disposal, and their future earnings prospects; and members of interest groups seek to maximize their private returns.[62] Two key insights of public choice are that private actors will often seek to coopt government's unique coercion right in order to increase their private returns—a process called "rent-seeking"[63]—and that government entities with significant discretionary authority will frequently give in to those private actors' demands as the authorities become "captured" by private concerns.[64] The potential for welfare losses resulting from the squandering of resources on non-productive rent-seeking activity and the reduction of market competition as rent-seekers coopt government's power to hobble their rivals, constitute public choice concerns.[65] Experience has shown that both rent-seeking and agency capture are especially likely when politically

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[60] Gordon Tullock, *Public Choice*, *in* NEW PALGRAVE DICTIONARY OF ECONOMICS (John Eatwell et al. eds., 1987).

[61] James Buchanan, *Politics Without Romance: A Sketch of Positive Public Choice Theory and Its Normative Implications*, *in* THE THEORY OF PUBLIC CHOICE–II 11 (J. Buchanan & R. Tollison eds., 1984).

[62] *See generally* William F. Shughart II, *Public Choice*, *in* THE CONCISE ENCYCLOPEDIA OF ECONOMICS 427 (David R. Henderson ed., 2008).

[63] *See* Gordon Tullock, *The Welfare Costs of Tariffs, Monopolies and Theft*, 5 WESTERN ECON. J. 224 (1967); Anne O. Krueger, *The Political Economy of the Rent-Seeking Society*, 64 AM. ECON. REV. 291 (1974).

[64] *See* George Stigler, *The Theory of Economic Regulation*, 2(1) BELL J. ECON. & MGT. SCI. 3, 3 (1971) (observing that in regulated industries, "as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefits").

[65] *See* Thomas A. Lambert, *Rent-Seeking and Public Choice in Digital Markets*, in GLOBAL ANTITRUST INSTITUTE REPORT ON THE DIGITAL ECONOMY 503-04 (2020), https://gaidigitalreport.com/wp-content/uploads/2020/11/The-Global-Antitrust-Institute-Report-on-the-Digital-Economy_Final.pdf.

constituted, expert agencies have substantial discretionary authority over firms with which they have continual contact.[66]

In the end, then, each of the available remedies for market power entails pros and cons. Antitrust avoids many knowledge problem and public choice concerns,[67] but it is less determinate and operates more slowly, at least when business models are new. Ex ante conduct rules are determinate and take effect quickly, but they entail a substantial knowledge problem.[68] The agency oversight approach may be quicker and more determinate than antitrust and may raise fewer knowledge problem concerns than do ex ante rules,[69] but the approach raises significant public choice concerns.

Analysis of the Proposed Remedies in the Context of Digital Platforms

Having cataloged the remedies available for addressing market power and having identified the typical efficacy limitations and side effects of each, we turn to consider how the remedies would fare in addressing market power concerns arising from dominant digital platforms. We focus primarily on the chief limitation(s) of each proposed remedy.

Antitrust

As explained, the primary limitations of antitrust as a remedy for market power are that it is somewhat indeterminate and proceeds slowly, as it requires often-complicated lawsuits to establish and

[66] *See* Lambert, *supra* note 15, at 168-69.

[67] Even antitrust courts may face a knowledge problem in crafting remedies, particularly conduct remedies that prescribe or forbid particular behaviors and entail a measure of central planning. *See* Lambert, *supra* note 8, at 152 (describing error costs in antitrust adjudication). Antitrust actions may also be means of rent-seeking by private concerns. *See* Lambert, *supra* note 8, at 519-30 (arguing that lawsuits challenging app store policies of Apple and Google are rent-seeking endeavors).

[68] Ex ante conduct rules may also entail public choice concerns, given that the legislatures and regulatory bodies that impose them are subject to political manipulation by private interests.

[69] Agencies with continual oversight authority may still face a knowledge problem when promulgating widely applicable prospective rules.

enforce specific conduct rules. As Mike Walker, chief economist of the UK's Competition and Markets Authority (CMA), recently testified before the US Congress, "There are two main problems with relying on [antitrust law]" in markets involving digital platforms: "It is too slow," and "[i]t is primarily backward looking [so that] you run the risk of playing wackamole."[70] The essence of this latter criticism is that antitrust does not provide prospective guidance—that it is indeterminate. It is doubtful, however, that these concerns are as grave as Walker and other proponents of non-antitrust market power remedies suggest.

With respect to indeterminacy, a number of cases are currently pending that will soon increase the clarity of antitrust's directives in the digital platform space. At the time of this writing, Google is defending government lawsuits challenging its efforts to secure default status for its search engine on various "search access points"[71] and a number of purportedly exclusionary actions it has taken in markets for digital advertising services ("ad tech").[72] Facebook is facing claims challenging its acquisitions of firms that could have emerged as competitors (Instagram and WhatsApp) and its refusal to grant developers of applications ("apps") access to its platform unless they agreed neither to compete with it nor to work with its competitors.[73] Amazon is facing challenges to its use of "most favored nations" clauses that allegedly reduce price competition[74] and to its use of data on third-party sales to inform its own product decisions.[75] Apple is

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[70] *See* Testimony of Dr. Mike Walker, House Committee on the Judiciary, Subcommittee on Antitrust, Commercial and Administrative Law 1-2 (Mar. 18, 2021), https://docs.house.gov/meetings/JU/JU05/20210318/111350/HHRG-117-JU05-Wstate-WalkerM-20210318.pdf.

[71] *See* U.S. v. Google Complaint, *supra* note 25.

[72] *See* Texas v. Google Complaint, *supra* note 25; Complaint, Colorado v. Google LLC, (D.D.C. Dec. 17, 2020), https://coag.gov/app/uploads/2020/12/Colorado-et-al.-v.-Google-PUBLIC-REDACTED-Complaint.pdf.

[73] *See* FTC v. Facebook Amended Complaint, *supra* note 25.

[74] Jeffery Cook v. Amazon, No. 1:21-cv-01369, (S.D.N.Y Feb. 17, 2021), https://images.law.com/contrib/content/uploads/documents/389/126628/cook-v.-amazon.com_.pdf.

[75] European Commission, Antitrust: Commission sends Statement of Objections to Amazon for the use of non-public independent seller data and opens second investigation into its e-commerce business practices (Nov. 10, 2020), https://ec.europa.eu/commission/presscorner/detail/en/IP_20_2077.

defending challenges to its refusal to permit side-loading of third-party apps (i.e., installation outside its proprietary App Store);[76] its requirement that purchases made while using apps running on its mobile operating system, iOS, utilize its proprietary In-App Purchase payment system;[77] and its refusal to allow iOS apps to evade revenue-sharing by informing users of the option to make purchases outside the apps.[78] Google is defending similar challenges to actions that purportedly discourage side-loading—unlike Apple, Google technically permits the practice—and to its insistence that in-app purchases be made using its proprietary payment system.[79]

The resolution of these lawsuits, which are just some of the pending antitrust actions against digital platforms, will provide guidance on a number of open issues, including the propriety of digital defaults and the appropriate means of securing default status; the acquisition of nascent or potential competitors; the propriety of most favored nations clauses involving digital retailers; limits on the use of "closed" platform ecosystems; limits on the use of data derived from one digital offering to inform or enhance another; and a platform operator's permissible means of extracting surplus from platform users. Displacing antitrust on grounds of its indeterminacy seems improvident when antitrust precedents in the area of digital platforms are soon to accumulate.[80]

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[76] See Epic v. Apple Complaint, *supra* note 24.

[77] See *id.*; European Commission, Antitrust: Commission opens investigations into Apple's App Store rules (Jun. 16, 2020), https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1073.

[78] See Epic v. Apple Complaint, *supra* note 24; European Commission Action, *supra* note 77.

[79] See Epic v. Google Complaint, *supra* note 24; Complaint, State of Utah v. Google, LLC, No. 3:21-cv-05227 (N.D. Cal. July 7, 2021), https://1li23g1as25g1r8so11ozniw-wpengine.netdna-ssl.com/wp-content/uploads/2021/07/Utah-et-al-v.-Google-App-Store-complaint.pdf.

[80] This point echoes FTC Commissioner Christine Wilson's recent call for Congress to await resolution of the major pending antitrust lawsuits against digital platforms before making sweeping changes to the U.S. antitrust laws. See Alex Wilts, *Wilson: Resolve Big Tech Cases Before Reforming Antitrust Laws*, GLOBAL COMPETITION REV. (April 12, 2021), https://globalcompetitionreview.com/gcr-usa/digital-markets/wilson-resolve-big-tech-cases-reforming-antitrust-laws#:~:text=Federal%20Trade%20Commission%20member%20Christine,in%20sweeping%20overhauls%20and%20reforms%E2%80%9D.

But what about antitrust's purported slowness? The implicit assumption here is that the protracted nature of antitrust enforcement and adjudication has allowed social welfare losses from market power to proliferate in digital markets. The soundness of that assumption, however, is questionable.

To be sure, digital platforms have grown quite large over the past two decades. Bigness alone, however, does not generate adverse market power effects—i.e., higher prices, lower quality, and deadweight welfare loss from the failure to produce output that would have created greater value than its cost. In industries featuring significant economies of scale and network effects, larger firms will be able to offer a better deal for consumers and will thus succeed relative to their smaller rivals.[81] In such industries, using state power to "force smallness" will cause a reduction in overall market output—the ultimate symptom of market power and the harm antitrust is designed to avert. Moreover, in markets in which one firm is likely to dominate because of economies of scale and network effects, firms—even dominant ones—often compete "for the market" by continually enhancing output, both quantitatively and qualitatively.[82] The mere fact that digital platforms have grown large, then, does not by itself suggest that antitrust is not working.[83]

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[81] Economies of scale exist when producers' long-run average cost could drop by expanding productive capacity. In industries in which firms face high fixed costs, the output range in which economies of scale exist may be great. *See generally* Lambert, *supra* note 8, at 153-56. For production within that range, firms that have greater productive capacity can achieve lower per-unit costs and can thus charge lower prices sustainably. Network effects exist where a firm's offering is more attractive as it serves more customers, as with an internet messaging service or social media platform. *See* Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93, 94 (1994) (observing that network effects exist when "the value of membership to one user is positively affected when another user joins and enlarges the network"). Both economies of scale and network effects reward scale and thus encourage larger firms with greater market shares.

[82] *See generally* P.A. Geroski, *Competition in Markets and Competition for Markets*, 3 J. OF INDUS., COMPET'N & TRADE 151 (2003) (describing competition "for" the market).

[83] For a period in the mid-twentieth century, antitrust did look beyond market output effects to police bigness per se, and a number of contemporary commentators—so-called Neo-Brandeisians—favor a return to that "big is bad" approach. *See*, *e.g.*, Wu, *supra* note 1; Khan, *supra* note 1; Hawley, *supra* note 1. I have elsewhere explained why such a policy transition would be misguided. *See* Thomas A. Lambert, *The Limits of Antitrust in the 21st Century*, 68 U.

The key question is whether we are witnessing an epidemic of actual market power symptoms in markets involving digital platforms. It is far from clear that we are. Consumer prices in most digital platform markets do not appear to be rising. Indeed, many of the most prominent services provided by the dominant digital platforms (e.g., search services, social networking, email, digital photo storage) are free, or at least offered at zero monetary cost, to one set of users. Those consumers experience no adverse price effects.[84] Of course, the services a platform provides for free to one set of consumers are often financed by payments from someone else, most often advertisers. But there is little evidence that advertising prices are rising. Indeed, overall advertising spending as a percentage of GDP has fallen since the advent of the major digital platforms,[85] and prices for digital advertising have dropped steadily.[86]

When it comes to product and service quality, digital platform markets appear to be performing remarkably well. The GAFA firms are hardly fat monopolists enjoying the quiet life that results from a lack of competition. They are better characterized as relentless innovators that continually improve their offerings for the benefit of consumers.[87] Even on the matter of user

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KAN. L. REV. 1097, 1109-18 (2020). For extended treatment of that matter, *see* ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF (1978).

[84] The challenges to Apple's and Google's app store policies do allege that consumers are being forced to pay excessive prices (albeit indirectly). *See* Epic v. Apple Complaint, *supra* note 24; Epic v. Google Complaint, *supra* note 24. But those challenges hardly show that antitrust adjudication is intolerably slow. Epic Games filed its actions on August 13, 2020, the three-week Apple trial was completed by May 24, 2021, and the district court issued its judgment (currently on appeal) on September 10, 2021. *See supra* note 24.

[85] *See* Benedict Evans, *News by the ton: 75 years of U.S. advertising* (June 15, 2020), https://www.ben-evans.com/benedictevans/2020/6/14/75-years-of-us-advertising (observing that the "advertising share of GDP started sliding immediately after the Dotcom bubble, had a major step down in the financial crisis and has been suspiciously flat ever since. … The economy grew and advertising didn't get its historic share of that growth.").

[86] *See* U.S. Bureau of Labor Statistics, *Producer Price Index by Commodity: Advertising Space and Time Sales: Internet Advertising Sales, Excluding Internet Advertising Sold by Print Publishers* [WPU365], FRED, FEDERAL RESERVE BANK OF ST. LOUIS, https://fred.stlouisfed.org/series/WPU365 (last visited July 14, 2021) (showing that Producer Price Index for Internet advertising, excluding that sold by print publishers, declined around 35% between December 2009 and June 2021).

[87] The major digital platform firms are among the world's largest spenders on research and development (R&D). In 2018, Amazon was the top global spender on R&D ($22.4 billion); Google parent Alphabet was second ($16.2 billion); Microsoft was sixth ($12.3 billion); Apple, seventh ($11.6 billion); and Facebook, fourteenth ($7.8 billion). *See* M. Szmigiera, *Ranking of the 20 companies with the highest spending on research and development in 2018,*

privacy, the quality aspect most often alleged to be deficient as a result of platforms' market power, consumers increasingly have options that satisfy their preferences. In search, DuckDuckGo, Startpage, and Ecosia offer enhanced privacy.[88] On web browsers, consumers can select between products that allow third-party cookies by default and those that block them, and if they do not like the preset default on their preferred browser, they can typically change it.[89] While it is, of course, possible that product and service quality might be even better in digital markets if there were greater competition, the existing and ever-improving product and service quality in such markets does not indicate that antitrust's slowness has allowed market power to run amok.

Nor does it appear that reliance on antitrust has permitted harms in the form of reduced innovation and entrepreneurship in digital markets. In its recently released report on competition in digital markets, the Antitrust Subcommittee of the US House of Representatives' Judiciary Committee claimed otherwise. It asserted that since the advent of the major digital platforms, "[t]he number of new technology firms in the digital economy has declined"; "the entrepreneurship rate—the share of startups and young firms in the [high technology] industry as a whole—has also fallen significantly"; and "[u]nsurprisingly, there has also been a sharp reduction in early-

STATISTA (Mar. 17, 2021), https://www.statista.com/statistics/265645/ranking-of-the-20-companies-with-the-highest-spending-on-research-and-development/.

[88] *See Privacy Policy*, DUCKDUCKGO, https://duckduckgo.com/privacy (last visited Oct. 18, 2021); *Privacy Policy*, STARTPAGE, https://www.startpage.com/en/search/privacy-policy.html (last visited Oct. 18, 2021); *Privacy Policy*, ECOSIA, https://info.ecosia.org/privacy (last visited Oct. 18, 2021).

[89] *See* Michal Wlosik, *How Different Browsers Handle First-Party and Third-Party Cookies*, CLEARCODE (May 30, 2019, updated Dec. 17, 2020), https://clearcode.cc/blog/browsers-first-third-party-cookies/#C1. Ironically, legal efforts to enhance platform competition may pose a hurdle to further privacy innovation, as smaller ad tech companies are now accusing Google of impairing their ability to compete by providing privacy protections its users are demanding. *See* Ronan Shields, *Google Kills the Cookie, Leaving Digital Media Companies Craving a New Way Forward*, ADWEEK (Jan. 17, 2020), https://www.adweek.com/programmatic/google-kills-the-cookie-leaving-digital-media-companies-craving-a-new-way-forward/.

stage funding for technology startups."[90] Examined closely, however, those claims do not withstand scrutiny. In support of the first two, the House Judiciary Report cited a study based on data *ending in 2011*.[91] As Benedict Evans has observed, "standard industry data shows that startup investment rounds have actually risen at least 4x since then."[92] In support of the third claim, the House Judiciary Report cited statistics from an article noting that the number and aggregate size of the very smallest venture capital deals—those under $1 million—fell between 2014 and 2018 (after growing substantially from 2008 to 2014).[93] The House Report failed to note, however, the cited article's observation that small venture deals ($1 million to $5 million) had not dropped and that larger venture deals (>$5 million) had grown substantially during the same time period.[94] Nor did the House Report acknowledge that venture capital funding has continued to increase since 2018.[95] The Report authors appear to have cherry-picked a small and isolated dataset to support their claim that the advent of the digital platforms has led to a "sharp reduction" in funding for technology startups.

None of this is to suggest that there are no competitive problems in markets involving digital platforms. The question at hand is simply whether antitrust is "too slow" for such markets, as CMA economist Walker and other advocates of direct regulation have suggested. If market

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[90] House Judiciary Report, *supra* note 3, at 46-47.

[91] *Id.*, citing IAN HATHWAY, EWING MARION KAUFFMAN FOUND., TECH STARTS: HIGH-TECHNOLOGY BUSINESS FORMATION AND JOB CREATION IN THE UNITED STATES 5 (2013), https://www.kauffman.org/-/media/kauffman_org/research-reports-andcovers/2013/08/bdstechnologystartsreport.pdf.

[92] Benedict Evans, *The regulator's puzzle* (Dec. 3, 2020), https://www.ben-evans.com/benedict-evans/2020/12/03/the-regulators-puzzle.

[93] House Judiciary Report, *supra* note 3, at 47, citing Gené Teare, *Decade in Review: Trends in Seed- and Early-Stage Funding*, TECHCRUNCH (Mar. 13, 2019), https://technologycrunch.com/2019/03/16/decade-in-review-trends-in-seed-and-early-stagefunding.

[94] *See* Teare, *supra* note 93

[95] Joanna Glasner, *North American Venture Investment Rose In 2020, Culminating With Big Exits And A Strong Q4*, CRUNCHBASE NEWS (Jan. 15, 2021), https://news.crunchbase.com/news/north-america-venture-investing-2020-report/.

power symptoms indeed grew prevalent in such markets before antitrust could do its job, antitrust's slowness could warrant a different, perhaps more error-prone, approach. But despite the sheer size of today's digital platforms, we have yet to suffer severe market power symptoms in digital platform markets, where antitrust adjudication is proceeding apace. It seems, then, that neither a lack of determinacy nor excessive slowness justifies jettisoning antitrust as the remedy for market power in markets involving digital platforms, at least not at the current moment.

Ex Ante Conduct Rules

The chief limitation of ex ante conduct rules is that they often generate costly errors because the planners promulgating generally applicable, resource-allocating directives outside a particular, examinable factual context lack the information needed to determine in advance which precise behaviors will reduce market output and which will enhance it.[96] When it comes to conduct rules that apply uniformly to disparate digital platforms, this Hayekian knowledge problem is likely to be severe.[97]

Of course, efforts to predict how the knowledge problem will bedevil particular conduct rules are themselves subject to knowledge problem concerns. It is not difficult, however, to identify risks of errors that particular conduct rules may generate. We therefore briefly consider how several of the leading proposed conduct rules for digital platforms could end up reducing social welfare by wrongly forbidding output-enhancing conduct or wrongly requiring behaviors that reduce market output.

Structural Separations

[96] *See generally* Hayek, *supra* note 59, at 519-20.

[97] *See* Herbert Hovenkamp, *Antitrust and Platform Monopoly*, 130 YALE L. J. 1901 (2021) (observing that "broad regulation is ill-suited for digital platforms because they are so disparate").

In her campaign for the US presidency, Senator Elizabeth Warren (D-MA) famously proposed to ban companies operating major digital platforms from competing on their own platforms.[98] The staff of the House Judiciary Committee later recommended that Congress consider "structural separation and line of business restrictions," explaining that "[s]tructural separations prohibit a dominant intermediary from operating in markets that place the intermediary in competition with the firms dependent on its infrastructure. Line of business restrictions, meanwhile, generally limit the markets in which a dominant firm can engage."[99] In June 2021, members of the House Judiciary Committee responded by advancing a bill that would mandate structural separations and line of business restrictions for the largest digital platforms.[100]

Under the proposed Ending Platform Monopolies Act, Amazon could not sell its private label Amazon Basics products on Amazon.com, Google could not feature its own content on Google Search, and Apple could not provide apps that compete with those for sale in its App Store.[101] The thinking is that by insulating third-party sellers on a platform from competition

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[98] *See* Elizabeth Warren, *Here's how we can break up Big Tech*, MEDIUM (March 8, 2019), https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c (proposing that platform operators with more than $25 billion in annual revenues be precluded from making offerings on their own platforms). Senator Warren later included in a draft bill a provision declaring that "serving as both a platform and a merchant that competes with third-party merchants" is "a presumptive abuse of market power." *See* Anti-Monopoly and Competition Restoration Act § 6, https://www.hausfeld.com/uploads/documents/2019_12_02_warren_draft_antitrust_bill.pdf.

[99] House Judiciary Report, *supra note* 3, at 379.

[100] Ending Platform Monopolies Act, *supra* note 6, §§ 2(a), 2(b).

[101] The bill provides that:

> [I]t shall be unlawful for a covered platform operator to own, control, or have a beneficial interest in a line of business other than the covered platform that—
>
> (1) utilizes the covered platform for the sale or provision of products or services;
>
> (2) offers a product or service that the covered platform requires a business user to purchase or utilize as a condition for access to the covered platform, or as a condition for preferred status or placement of a business user's product or services on the covered platform; or
>
> (3) gives rise to a conflict of interest.

Id. at § 2(a). The bill then provides that a "conflict of interest" will arise when:

> [A] covered platform operator owns or controls a line of business, other than the covered platform; and

with the platform provider, which may have a competitive advantage derived from its access to information about platform transactions, the restrictions will encourage third-party sellers to invest more in innovation, production, and marketing.[102]

Of course, banning firms that operate platforms from competing with firms that use their platforms reduces immediate competition in the markets from which platform operators are excluded. Line of business restrictions may also prevent the largest digital platforms—the very businesses that are perhaps best positioned to succeed—from entering each other's entrenched markets; Apple, for example, could not create a search engine to compete with Google on the iPhone, as it has reportedly contemplated.[103] Proponents of structural separations apparently assume that short-run reductions in competition will be outweighed by an increase in future competition as third-party sellers, freed from concern about being undersold or disadvantaged by the platform itself, innovate and grow.

But that is a speculative gamble. Regulators have no way of knowing that the bird in the hand of increased competition from platform operators' market participation is of less social value than the bird in the bush of having stronger and more innovative third-party sellers in the

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> the covered platform's ownership or control of that line of business creates the incentive and ability for the covered platform to—
>
> advantage the covered platform operator's own products, services, or lines of business on the covered platform over those of a competing business or a business that constitutes nascent or potential competition to the covered platform operator; or
>
> exclude from, or disadvantage, the products, services, or lines of business on the covered platform of a competing business or a business that constitutes nascent or potential competition to the covered platform operator.

Id. at § 2(b). The term "covered platform" includes any online platform that (1) has at least 50 million monthly active U.S. users or 100,000 monthly active U.S. business users, (2) is owned or controlled by a company with net annual sale or a market capitalization of at least $600 billion (adjusted for inflation), and (3) "is a critical trading partner for the sale or provision of any product or service offered on or directly related to the online platform." *Id*. at § 5(5).

[102] House Judiciary Report, *supra note* 3, at 378-79.

[103] *See* Tim Bradshaw & Patrick McGee, *Apple develops alternative to Google search*, FINANCIAL TIMES (Oct. 28, 2020), https://www.ft.com/content/fd311801-e863-41fe-82cf-3d98c4c47e26.

future. Indeed, given platform operators' interest in assuring high-quality offerings on their platforms, it seems unlikely that they would take steps today that would reduce future innovation by, or substantially weaken, platform participants. That would suggest that the marginal benefits of a structural separations rule could be meager, while the marginal cost of precluding platform operators from competing today appears to be great. To continue with the bird analogy, mandating structural separations may be like releasing a resplendent quetzal to chase after a common sparrow.

In any event, whether banning platform operators from competing on their platforms would occasion a net loss or gain would vary from platform to platform and market to market.[104] Many Amazon Basics offerings, for example, are commodity products sold in markets featuring strong brands with high profit margins (e.g., Amazon Basics batteries are commodities that compete with high-margin brands, such as Energizer and Duracell). Amazon's participation as a seller in such markets is highly unlikely to discourage valuable innovation—there is little to be had on basic commodity products—but it creates valuable price competition by offering consumers a lower-priced option from a trusted supplier. The sort of structural separations rule promoted by Sen. Warren and imposed by the Ending Platform Monopolies Act would misfire badly in this particular context.

Self-Preferencing Bans

The information offerings presented to consumers on search engines, social networks, app stores, or e-commerce sites must always be displayed in some order, and consumers typically pay most attention to the most conspicuous offerings. "Self-preferencing bans" preclude digital platforms

[104] *See generally* Hovenkamp, *supra* note 97, at 1956 (observing that "broad regulation is ill-suited for digital platforms because they are so disparate" and highlighting key differences among dominant platforms).

from affording a more favorable ranking or offering placement to the platform's own products or services than to similar products and services offered by third parties participating on the platform. Such bans are a key component of both the Digital Markets Act currently under consideration in the European Union[105] and the proposed American Choice and Innovation Online Act recently advanced by the Judiciary Committee of the US House of Representatives.[106]

Proponents of self-preferencing bans contend that they are needed to preserve platform participants' incentives to innovate and enhance the quality of their offerings: Why do so if your offering may be unfairly buried?[107] But self-preferencing bans do not preclude platforms from elevating their own offerings when they *deserve* more favorable placement; doing so would harm consumers by obscuring the most attractive options and by reducing the platform's incentive to offer consumers a better deal. Prohibitions on self-preferencing therefore require the regulator to develop some sort of "deservingness" criteria.

That is a tall order. Any such criteria would have to assess multiple factors, and the identity and relative weight of those factors would vary from offering to offering and platform to platform. The popularity of an offering (the number of user clicks, etc.) could not be the sole criterion for determining deservingness and thus display prominence, for past display prominence

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[105] *See* Digital Markets Act, *supra* note 52, art. 6.1.d (requiring any qualifying gatekeeper firm to "refrain from treating more favourably in ranking services and products offered by the gatekeeper itself or by any third party belonging to the same undertaking compared to similar services or products of third party and apply fair and nondiscriminatory conditions to such ranking").

[106] *See* American Choice and Innovation Online Act, *supra* note 6, at § 2(a) (precluding operator of a covered platform from "(1) advantag[ing] the covered platform's own products, services, or lines of business over that of another business user; (2) exclud[ing] or disadvantag[ing] the products, services, or lines of business of another business user relative to the covered platform's own products, services, or lines of business; or (3) discriminat[ing] among similarly situated business users"); *id.* at § 2(b)(7) (making it unlawful "in connection with any user interfaces, including search or ranking functionality offered by the covered platform, [to] treat the covered platform operator's own products, services, or lines of business more favorably than those of another business user"). The American Innovation and Choice Online Act, recently introduced in the US Senate, would similarly ban platform self preferencing. *See* American Innovation and Choice Online Act, supra note 6, at §§ 2(a)(1), 2(b)(6).

[107] *See* House Judiciary Report, *supra* note 3, at 382 ("Without the opportunity to compete fairly, businesses and entrepreneurs are dissuaded from investing and, over the long term, innovation suffers").

may itself have influenced an offering's popularity. For one thing, it is more convenient for users to avail themselves of prominently displayed offerings. In addition, many offerings, such as those for dating apps, exhibit network effects where their value to users depends on how many other users have adopted them, which in turn depends on display prominence. Thus, determining true deservingness, which must be done to identify instances of illicit (undeserved) self-preferencing, requires regulators to specify ex ante what would make one offering superior to another in the absence of any benefits from favorable placement. Regulators are not well-placed to make these sorts of judgments, and if they get the deservingness formula wrong, or if their formula becomes outdated, offerings will be displayed in a way that degrades the user experience.

Platform operators already have an incentive to afford prominent placement to the most deserving offerings, as users are more likely to return to the platform if they can easily find the offerings that best meet their needs. It is perhaps possible that a platform might reason that its benefits from promoting its own inferior offering exceed its benefits from providing the best arrangement of offerings to its users. It seems unlikely, however, that a platform operator would often run the risk of losing platform users in order to secure marginally more sales or uses of its own inferior offering. Accordingly, a self-preferencing ban would likely provide little benefit to consumers. And because such a ban would require regulators to create a myriad of complicated deservingness formulae that they are ill-equipped to craft and maintain over time, such a ban is likely in the end to require offering placements that do not optimize users' platform experiences.[108]

[108] Self-preferencing bans may also undermine business models that have proven quite attractive to consumers. Platform operators sometimes provide access to their platforms for free but then earn revenues from additional services they provide on the platforms, as when Google gives free access to its Android mobile operating system but earns search advertising revenue from the use of Google Search on the Android platform. *See infra* notes 119-124 and accompanying text. Absent the ability to preference its revenue-generating offerings on its platform, a platform operator would be less likely to offer its platform for free. *See infra* notes 122-124 and accompanying text.

Requirements that Users Be Permitted to Remove Pre-Installed Software, Side-Load Apps, and Use Alternative Payment Systems

Several ex ante conduct rules appearing in both the EU's Digital Markets Act and the recently advanced American Choice and Online Innovation Act, though seemingly minor, would undermine business models currently in use in digital platform markets. The planners' apparent assumption is that the benefits of upending those models would exceed any resulting costs. But that is far from clear.

One of the proposed rules would ban platforms from preventing users from uninstalling any pre-installed software or app if they wish to do so.[109] The planners' theory is that users are unlikely to install software competing with a pre-installed offering if doing so would reduce available memory on a device. For example, if the Google Search app or Google's Chrome browser cannot be removed from an Android phone or tablet, freeing up available memory, a user is less likely to install DuckDuckGo's search app or Mozilla's Firefox browser. And, of course, the more difficult it is for rivals to secure installation of their offerings, the less likely they are to invest in them.

An additional set of proposed rules would restrict how digital platforms may manage and earn revenue from their app ecosystems. Under both the Digital Markets Act and the American Choice and Online Innovation Act, digital platforms must permit apps produced by third parties to be downloaded outside the platform's own app store ("side-loading"),[110] allow any third-party

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[109] *See* Digital Markets Act, *supra* note 52, art. 6.1.b (requiring that a gatekeeper "allow end users to un-install any pre-installed software applications on its core platform service…."); American Choice and Innovation Online Act, *supra* note 6, § 2(b)(5) (making it illegal for operators of covered platforms to "restrict or impede covered platform users from un-installing software applications that have been preinstalled on the covered platform or changing default settings that direct or steer covered platform users to products or services offered by the covered platform operator").

[110] Digital Markets Act, *supra* note 52, art. 6.1.c (requiring gatekeeper to "allow the installation and effective use of third party software applications or software application stores using, or interoperating with, operating systems of that gatekeeper and allow these software applications or software application stores to be accessed by means other than the core platform services of that gatekeeper"); American Choice and Innovation Online Act, *supra* note 6,

app developer to direct users outside its app to complete a transaction initiated within the app,[111] and permit users to utilize a third-party payment system to close any in-app purchases.[112] The Digital Markets Act further requires that platform operators allow free use on an app of any digital goods purchased outside the app or without using the platform's in-app purchasing system.[113] So, for example, Apple could not preclude iPhone users from downloading apps like Epic Games' Fortnite app outside Apple's proprietary App Store.[114] Nor could it require users of the Fortnite iPhone app to employ Apple's In-App Purchase system to make purchases (e.g., of "skins") while using the app.[115] It also could not preclude streaming music provider Spotify from

§ 2(b)(9) (making it illegal for operators of covered platforms to "restrict or impede a business user, or a business user's customers or users, from interoperating or connecting to any product or service"). The Open App Markets Act recently introduced by U.S. Senators Richard Blumenthal (D-CT), Marsha Blackburn (R-TN), and Amy Klobuchar (D-MN) would similarly mandate that platform operators allow sideloading. *See* Lauren Feiner, *Bipartisan bill targets Apple and Google's ability to profit from app stores*, CNBC (Aug. 11, 2021), https://www.cnbc.com/2021/08/11/bipartisan-bill-targets-apple-and-googles-ability-to-profit-from-app-stores.html; Open App Markets Act § 3(d), https://www.blumenthal.senate.gov/imo/media/doc/8.11.21%20-%20Open%20App%20Markets%20Act%20-%20Bill%20Text.pdf.

[111] Digital Markets Act, *supra* note 52, art. 5.c (requiring gatekeepers to "allow business users to promote offers to end users acquired via the core platform service"); American Choice and Innovation Online Act, *supra* note 6, § 2(b)(6) (making it illegal for operators of covered platforms to "restrict or impede business users from communicating information or providing hyperlinks on the covered platform to covered platform users to facilitate business transactions"). Section 3(b) of the Open App Markets Act, *supra* note 110, would impose a similar mandate.

[112] Digital Markets Act, *supra* note 52, art 5.c (requiring gatekeepers to "allow business users to … conclude contracts with … end users regardless of whether for that purpose they use the core platform services of the gatekeeper or not"). *See also id.* at art. 5.b (requiring gatekeepers to "allow business users to offer the same products or services to end users through third party online intermediation services at prices or conditions that are different from those offered through the online intermediation services of the gatekeeper"). American Choice and Innovation Online Act, *supra* note 6, § 2(b)(9) (making it illegal for operators of covered platforms to "restrict or impede a business user, or a business user's customers or users, from interoperating or connecting to any product or service"). Section 3(c) of the Open App Markets Act, *supra* note 110, would impose a similar mandate.

[113] Digital Markets Act, *supra* note 52, art. 5.c (requiring gatekeepers to "allow end users to access and use, through the core platform services of the gatekeeper, content, subscriptions, features or other items by using the software application of a business user, where these items have been acquired by the end users from the relevant business user without using the core platform services of the gatekeeper").

[114] Fortnite is a popular video game. Its producer, Epic Games, has challenged Apple's policy of restricting sideloading. *See* Epic v. Apple Complaint *supra* note 24.

[115] Fortnite players may purchase digital outfits called "skins" for their digital avatars while playing the game. Fortnite maker, Epic, has challenged Apple's requirement that purchases made while using the iOS Fortnite app be made using Apple's In-App Purchase system, enabling Apple to collect a share of the revenue. *See Id.*

directing users of its iPhone app to its own website to purchase an upgraded Spotify Premium subscription.[116]

The goal of these rules is to prevent dominant digital platforms from exercising their market power to collect a supracompetitive share of revenues from sales of digital amenities used on the platforms. Apple, for example, currently collects a revenue share—usually 30 percent but sometimes less—on sales of paid iOS apps sold through its App Store (it receives nothing for distributing free apps) and on in-app purchases of digital goods bought within iOS apps.[117] Google collects similar revenue shares on sales of paid Android apps purchased through Google's Play Store and on in-app purchases using its Google Play billing service.[118]

What the ban on uninstallable presets and the various restrictions on app policies have in common is that each is likely to disrupt a business model that has proven quite beneficial to consumers. The rule forbidding unremovable software would strike a blow to platforms financed by the use of preinstalled software. Creators of digital platforms have different means of monetizing their creative endeavors.[119] They may sell access to the platform by bundling it with hardware that they sell. That is the approach Apple takes with its iOS operating system that is sold only with Apple hardware products (iPhones and iPads).[120] Alternatively, platform developers may

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[116] In the European Union, streaming music service provider Spotify, a Swedish company, has challenged Apple's refusal to permit it to direct users of its iOS app outside the app to purchase upgrades to its premium service in order to avoid the commission Apple charges on in-app purchases. *See* Stuart Dredge, *Spotify files complaint with European Commission against Apple*, MUSICALLY (Mar. 13, 2019), https://musically.com/2019/03/13/spotify-complaint-european-commission-apple/.

[117] *See Principles and Practices*, APPLE, https://www.apple.com/az/ios/app-store/principles-practices/ (last visited Oct. 19, 2021). App developers set their own prices for apps sold through the App Store, subject to a few limitations by Apple. *See* Apple Inc. v. Pepper, 139 S. Ct. 1514, 1529 (2019).

[118] *See Play Console Help, Service Fees*, GOOGLE, https://support.google.com/googleplay/android-developer/answer/112622?hl=en (last visited Oct. 19, 2021).

[119] *See* Randy Picker, *The European Commission Picks a Fight with Google Android over Business Models*, PROMARKET (July 23, 2018) (discussing different revenue models of mobile operating systems producers), https://promarket.org/2018/07/23/european-commission-picks-fight-google-android-business-models/.

[120] *See id.*

license their platform software for a fee. Microsoft takes that tack with its Windows operating system, and it briefly did so with a mobile operating system it licensed to original equipment manufacturers (OEMs) like Nokia.[121] A third monetization approach is to license the platform technology for free, but include features in the technology that will generate revenue for the platform developer. That is the strategy Google has taken with its Android operating system, which it licenses for free to OEMs while creating incentives for them to include Google's search engine and Chrome browser as unremovable features.[122] Google recoups its Android investments by earning search advertising revenues from Android users' web searches on Google Search and by monetizing (through targeted display advertising sales) user data gleaned from Android users' web browsing on Chrome.

Of course, platform operators that finance their creative efforts using this third approach—free platforms incorporating revenue-generating components—need to ensure consumer utilization of the revenue-generating parts of their bundle. If those components may be uninstalled to free up space for competing offerings (e.g., other search engines, browsers, etc.), operators' revenue per licensed platform will fall, requiring that they either make up that shortfall with license fees or cut back on investments in the platform.[123] This could deny consumers an alternative that many appear to prefer: a high-quality, continually updated platform licensed at zero monetary cost.[124]

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[121] *See id.*

[122] *See id.*

[123] The same is true if platform operators cannot preference (e.g., offered favored placement to) their pre-installed revenue-generating offerings. *See supra* note 108.

[124] Android's high share of users in the U.S. (currently 40.5%) and its dominance over Apple's iOS globally (72% versus 27%) despite the similarity of the two platforms, suggest that its business model provides great consumer value. *Mobile Operating System Market Share United States of America,* STATCOUNTER, https://gs.statcounter.com/os-market-share/mobile/united-states-of-america/#monthly-202104-202104-bar (last visited May 20, 2021); *Mobile Operating System Market Share Worldwide,* STATCOUNTER,

The rules requiring platform operators to permit app side-loading and to allow the circumvention of in-app purchasing systems threaten to disrupt an app distribution model that ensures the quality and security of third-party apps, fosters the development of new apps, encourages continued innovation by platform operators, and reduces deadweight loss in the market for platforms.

Apps developed by third parties may do damage to the platform on which they are operated or may otherwise degrade the user experience on the platform. Accordingly, both providers and users of platforms have an interest in ensuring that such apps are properly vetted. On the mobile operating systems (primarily iOS and Android), such vetting occurs through app stores (Apple's App Store and Google Play).[125] Evaluating and distributing digital goods, though, is costly. Apple and Google cover those costs by collecting a revenue share on sales of paid apps distributed through their app stores and by taking a cut of in-app purchases. To ensure prompt collection of their revenue shares, Apple and Google require use of their proprietary in-app purchasing systems. This approach thus allows the platforms to cover the cost of ensuring a trustworthy app ecosystem.

The platforms' revenue-sharing approach also has the benefit of subsidizing upstart apps and thereby encouraging app development.[126] Because app developers are charged a percentage of revenues from app sales and in-app purchases, developers of popular apps bear most of the

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https://gs.statcounter.com/os-market-share/mobile/worldwide/#monthly-202104-202104-bar (last visited May 20, 2021).

[125] *See* Kif Leswing, *Inside Apple's team that greenlights iPhone apps for the App Store*, CNBC (June 21, 2019), https://www.cnbc.com/2019/06/21/how-apples-app-review-process-for-the-app-store-works.html; Benedict Evans, *App stores, trust, and anti-trust* (Aug. 18, 2020), https://www.ben-evans.com/benedictevans/2020/8/18/app-stores; Ben Thompson, *Apple, Epic, and the App Store*, STRATECHERY (Aug. 17, 2020), https://stratechery.com/2020/apple-epic-and-the-app-store/.

[126] *See* Dirk Auer, *The Epic Flaws of Epic's Antitrust Gambit*, TRUTH ON THE MARKET (Aug. 27, 2020), https://truthonthemarket.com/2020/08/27/the-epic-flaws-of-epics-antitrust-gambit/.

cost of sustaining the third-party app ecosystem.[127] Developers of free apps pay nothing, and developers of unpopular (or yet to be popular) paid apps pay little. This means that app developers pay less early in the life of their apps, when times are likely lean, in exchange for paying more if and when their apps have proven successful and they are better able to bear the cost of maintaining the third-party app ecosystem. This system, which is analogous to Ramsey pricing for utilities,[128] inures to the benefit of consumers as it subsidizes new apps and thereby encourages app development. Though disfavored by producers of popular apps like Fortnite and Spotify, the system likely enhances overall market output.

The current system may further encourage app development by reducing developers' business risks. Platform producers often incorporate additional functionality into new versions of their product, perhaps as a paid add-on.[129] Accordingly, every app developer faces a risk that its app's functions will be incorporated into a subsequent version of the platform or offered at a lower price by the platform provider, reducing demand for the app. If mobile operating system producers can share in the revenue from a popular third-party app, they have less incentive to incorporate the app's functionality into their operating systems or sell a competing app at a discount. Thus, as Dirk Auer has explained, "Apple and Google's 30% commissions can be seen as a soft commitment not to expropriate developers, thus leaving them with a sizable share of the revenue generated on each platform."[130] The role such a commitment plays in encouraging third-

[127] They likely pass much of this cost on to consumers.

[128] Ramsey pricing involves setting rates for different products or services (typically price-regulated utilities) in inverse proportion to elasticity of demand—i.e., charging higher mark-ups over marginal cost on products where customers are less likely to cut back on purchases in response to a price increase. This allows the firm to cover its fixed costs of production in a manner that maximizes market output. *See* Lambert, *supra* note 15, at 165-66.

[129] Producers of operating systems do this when they bundle new proprietary apps into their operating systems or make those apps available in their app stores.

[130] Auer, *supra* note 126.

party app development may explain why the 30 percent commission is fairly typical for app stores,[131] including those operated by gaming platforms.[132]

Finally, enabling firms to earn continuous profits off the digital platforms they create and maintain, as prevailing app store policies do, enhances output—both qualitatively and quantitatively—in the market for platforms themselves. The prospect of continued profits from platform use encourages actual and potential platform operators to invest in improving existing platforms and in creating new ones, and those investments attract more potential customers for app developers.[133] The continuous revenue stream also permits platform operators to lower prices elsewhere. Apple, for example, may charge less for an iPhone because it can earn revenues when the iPhone user buys apps and makes in-app purchases. Lowering prices for platform access (e.g., in the case of iOS, cutting iPhone prices) reduces deadweight loss by enabling consumers with a lower, but still above-cost, reservation price to enter the market.[134]

It seems unlikely that the benefits of rewriting long-standing app store policies could justify the substantial costs entailed. If platforms are required to permit side-loading and to allow

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[131] *See Apple's App Store and Other Digital Marketplaces: A Comparison of Commission Rates*, 5 ANALYSIS GROUP (July 22, 2020), https://www.analysisgroup.com/globalassets/insights/publishing/apples_app_store_and_other_digital_marketplaces_a_comparison_of_commission_rates.pdf.

[132] *See* Tom Marks, *Report: Steam's 30% Cut Is Actually the Industry Standard*, IGN (Oct. 7, 2019), https://www.ign.com/articles/2019/10/07/report-steams-30-cut-is-actually-the-industry-standard (cataloguing the revenue share collected by major gaming platforms). Although the Epic Games Store anomalously collects a lower revenue percentage, *see id.*, it also operates at a substantial loss. *See* Joao Silva, *The Epic Games Store lost $454 million in the past two years*, TECHSPOT (April 13, 2021), https://www.techspot.com/news/89276-epic-games-store-lost-454-million-past-two.html.

[133] *See* Auer, *supra* note 126 ("The 'closed' business model also gives Apple and Google (as well as other platforms) significant incentives to develop new distribution mediums (smart TVs spring to mind) and improve existing ones. In turn, this greatly expands the audience that software developers can reach.").

[134] This is akin to the "variable proportion tie-in" situation in which a firm with market power on one good (say, a printer) lowers its price from the profit-maximizing level but ties in a complement (say, ink) priced at an above-cost level. High volume users will pay more, but they will effectively subsidize lower volume users who might not enter the market at all if they had to pay the higher, single-product profit-maximizing price of the tying product. A variable proportion tie-in of this sort typically enhances overall market output. *See* HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE § 10.6e (6th ed. 2020).

circumvention of the in-app purchasing systems that collect the agreed-upon revenue share, they will likely find other ways to recoup the costs of vetting and distributing apps and to extract surplus from app developers and users. They could, for example, charge app developers for access to critical application protocol interfaces (APIs) necessary for app functionality.[135] In the end, preventing platforms from collecting app revenue under their existing policies in no way reduces their market power—they could extract the same amount of surplus using different means—but it would impair a system that encourages more and better apps and greater output in the market for platforms.[136]

Data Portability, Data Sharing, and Interoperability Mandates

Several proposed ex ante conduct rules for digital platforms aim to spur inter-platform competition. Data portability, data sharing, and interoperability mandates fall within this category. The EU's Digital Markets Act features all three mandates.[137] The Augmenting Compatibility and Competition by Enabling Service Switching Act ("ACCESS Act"), recently advanced by the

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[135] *See* Auer, *supra* note 126. Apple currently offers its essential app development tools to third-party app developers for free. *See Choosing a Membership*, APPLE, (Apple support information on app development tools), https://developer.apple.com/support/compare-memberships/ (last visited Oct. 19, 2021). Epic Games has acknowledged that Apple has the ability to cut off its access to those essential tools. *See* Jacob Kasternakes, *Epic says Apple threatens 'catastrophic' response in two weeks if Fortnite doesn't comply with rules*, THE VERGE (Aug. 17, 2020), https://www.theverge.com/2020/8/17/21372480/apple-epic-threat-developer-tools-agreement-unreal-engine-fortnite. Apple could similarly withhold those tools from third-party developers that failed to pay some upfront fee. The current revenue-sharing approach provides an alternative means of monetizing Apple's control over its mobile operating system.

[136] It is worth noting that under existing app store policies, the number of third-party mobile apps available to consumers has exploded. When Apple and Google launched their app stores in 2008, Apple's store featured 500 apps, and Google's around 50. *See* Luke Dormehl, *Today in Apple history: App Store opens its virtual doors*, CULT OF MAC (July 10, 2021), https://www.cultofmac.com/491792/app-store-virtual-doors/; *Android Market: Now available for users*, ANDROID DEVELOPERS BLOG (Oct. 22, 2008), https://android-developers.googleblog.com/2008/10/android-market-now-available-for-users.html. As of the time of this writing, 2.2 million iOS apps are available to consumers in Apple's App Store, with Google's Play Store featuring 3.48 million Android apps. *See Number of apps available in leading app stores as of 1st quarter 2021*, STATISTA, https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/.

[137] Digital Markets Act, *supra* note 52, arts. 6.1.h (data portability mandate); 6.1.j (data sharing mandate); 6.1.f (technological interoperability mandate); 6.1.i (data interoperability mandate).

House Judiciary Committee, mandates data portability and interoperability.[138]

Data portability rules require that a platform's users be allowed to transfer data about themselves that the platform holds to other platforms.[139] Depending on the particular rule, the data that must be portable could include "inputted" data that the user provides (e.g., photos, user posts, playlists); "observed" data that reflects the user's use of the platform (e.g., search or viewing history); or "inferred" data that the platform surmises based on the user's platform activities (e.g., information on the user's interests or relationships).[140] Proponents of data portability rules contend that they spur inter-platform competition by lowering switching costs and reducing user lock-in.[141]

Whereas data portability requirements mandate that users be able to transfer data about *themselves* in some defined format, data sharing mandates require that *other firms* be allowed to access *third-party* data that platforms have collected. One search engine, for example, may have to provide other search engines with query, click, and view data generated by its users.[142] Requiring platforms to provide actual or potential rivals with access to third-party data on fair, reasonable, and non-discriminatory terms has been hailed as a means of overcoming the "data barrier to

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[138] ACCESS Act, *supra* note 6, at § 3 (data portability mandate), § 4 (interoperability mandate).

[139] *See* Digital Markets Act, *supra* note 52, art. 6.1.h (mandating that a gatekeeper shall "provide effective portability of data generated through the activity of a business user or end user and shall, in particular, provide tools for end users to facilitate the exercise of data portability, in line with Regulation EU 2016/679, including by the provision of continuous and real-time access"); ACCESS Act, *supra* note 6, § 3(a) ("A covered platform shall maintain a set of transparent, third-party accessible interfaces (including application programming interfaces) to enable the secure transfer of data to a user, or with the affirmative consent of a user, to a business user at the direction of a user, in a structured, commonly used, and machine-readable format….").

[140] *See* Unlocking Digital Competition, *supra* note 4, at 65-66, ¶¶ 2.54, 2.55.

[141] *Id.* at 64-71, ¶¶ 2.48-2.67.

[142] *See, e.g.*, Digital Markets Act, *supra* note 52, at art. 6.1.j (mandating that a gatekeeper shall "provide to any third party providers of online search engines, upon their request, with access on fair, reasonable and non-discriminatory terms to ranking, query, click and view data in relation to free and paid search generated by end users on online search engines of the gatekeeper, subject to anonymisation for the query, click and view data that constitutes personal data").

entry" that may exist in markets in which vast quantities of user data may be required to compete effectively.[143]

Interoperability mandates require that platforms be designed in a way that makes it easy for the platforms to interact with competing or complementary businesses.[144] Technological interoperability mandates seek to ensure that other businesses can plug into a platform's functionality.[145] Such mandates might be designed, for example, to ensure that messages sent from a user on one messaging platform can be read by someone using another. Technological interoperability may help overcome direct network effects—the situation in which a particular offering, such as a social network or messaging service, becomes more attractive as more people use it.[146] If users of one social network or messaging service can easily interact with users of another, there is less need to be on the dominant platform, and smaller platforms may be able to enter the market, gain a foothold, and compete.

Another form of interoperability requirement, which we may call a data interoperability mandate, obligates a platform to make the data it holds about a business user and its on-platform interactions continuously available to the business user in a format it can access on demand.[147]

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[143] *Id.* at 27, ¶ 56 ("Access by gatekeepers to such ranking, query, click and view data constitutes an important barrier to entry and expansion, which undermines the contestability of online search engine services. Gatekeepers should therefore be obliged to provide access, on fair, reasonable and non-discriminatory terms, to these ranking, query, click and view data in relation to free and paid search generated by consumers on online search engine services to other providers of such services, so that these third-party providers can optimise their services and contest the relevant core platform services.").

[144] *See*, *e.g.*, ACCESS Act, *supra* note 6, § 4(a) ("A covered platform shall maintain a set of transparent, third-party accessible interfaces (including application programming interfaces) to facilitate and maintain interoperability with a competing business or a potential competing business…").

[145] *See, e.g.*, *id.*; Digital Markets Act, *supra* note 52, at art. 6.1.f (mandating that a gatekeeper shall "allow business users and providers of ancillary services access to and interoperability with the same operating system, hardware or software features that are available or used in the provision by the gatekeeper of any ancillary services").

[146] *See* Stigler Center Report, *supra* note 5, at 16.

[147] *See*, *e.g.*, Digital Markets Act, *supra* note 52, at art. 6.1.i (mandating that a gatekeeper shall "provide business users, or third parties authorised by a business user, free of charge, with effective, high-quality, continuous and real-time access and use of aggregated or non-aggregated data, that is provided for or generated in the context of the use

This sort of mandate differs from both a data portability mandate, in that it does not require that the user be able to transfer the data to another firm, and a data sharing mandate, in that it does not require the provision of third-party data. It is a type of interoperability mandate because it requires that the platform be designed in a manner that provides users with continuous, real-time access, which requires an interface that users may plug into and access data about themselves as they desire. Such a mandate ensures that business users who are helping provide data to the platform can themselves use that data, perhaps to engage in competition with the platform. It may also spur competition among platforms vying for business users—e-commerce platforms, digital advertising services, etc.—by ensuring that such users can easily monitor how the platform is performing for them.

In mandating data portability, data sharing, and technological and data interoperability, regulatory planners assume that the competitive benefits their conduct rules will achieve will exceed the costs they will impose. Again, however, that is not clear. Consider data portability. The fact that users tend to "multi-home" in digital platform markets, participating simultaneously on multiple competing platforms, suggests that a lack of data portability is not a great impediment to utilizing new platforms.[148] In recent years, numerous digital platforms hosting user-provided data have started and grown quite large without new users' porting their data from other platforms to the upstart. TikTok, for example, was launched in 2016 and already has around 700 million

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of the relevant core platform services by those business users and the end users engaging with the products or services provided by those business users").

[148] As of 2021, the average 18 to 34 year-old American using social media had an average of 8.4 accounts. *See* OMNICORE SOCIAL MEDIA BENCHMARKING REPORT 2021, Ch. 1, https://www.omnicoreagency.com/social-media-statistics/. Business users also engage in significant multi-homing. *See* STUDY ON "SUPPORT TO THE OBSERVATORY FOR THE ONLINE PLATFORM ECONOMY" 20-23 (2021), https://platformobservatory.eu/app/uploads/2021/01/AP-7-Multi-homing-Jan-2021-EC-final-for-pbl.pdf.

monthly active users (including 100 million in the United States)[149] and was the most-downloaded app in 2020.[150]

Moreover, the benefits of a data portability *mandate* are lessened by the fact that major digital platforms are in the process of voluntarily facilitating data transfers. The Data Transfer Project (DTP), a collaboration between Google, Facebook, Microsoft, Twitter, and Apple, is creating API standards to enable users to transfer their data between participating services.[151] Participants in this voluntary project, which will be open-source so that other platforms can participate, are well-positioned to develop means of inter-platform data sharing while taking care to preserve users' privacy. The marginal benefits of a government-designed data sharing mandate, then, may not be that great.

At the same time, the costs of such a mandate may be significant. First, there are the direct administrative costs of making data portable. Proponents of data portability analogize to the local telephone number portability requirements of the Telecommunications Act of 1996,[152] but actual data portability proposals tend to be far more complicated and costlier to implement.[153] Luigi Zingales and Guy Rolnick, for example, have proposed a "social graph mobility" mandate that would enable users to transfer the information about all the relationships they have established

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[149] Mansoor Iqbal, *TikTok Revenue and Usage Statistics*, BUSINESSOFAPPS (updated May 6, 2021), https://www.businessofapps.com/data/tik-tok-statistics/#4.

[150] *TikTok named as the most downloaded app of 2020*, BBC NEWS (Aug. 10, 2021), https://www.bbc.com/news/business-58155103.

[151] *See* DATA TRANSFER PROJECT OVERVIEW AND FUNDAMENTALS (July 20, 2018), https://datatransferproject.dev/dtp-overview.pdf.

[152] 47 U.S.C. § 251 (2020).

[153] And even the telephone number portability mandate was costly to implement, though its benefits were undoubtedly great. *See* Gus Hurwitz, *Potable Social Media Aren't Like Portable Phone Numbers*, TECH POLICY PRESS (Mar. 8, 2021), https://techpolicy.press/portable-social-media-arent-like-portable-phone-numbers/ (observing that "making even simple phone numbers portable across carriers proved to be quite difficult. It took several years and the establishment of a new private regulatory entity, the Number Portability Administration Center, to allow portability just of local phone numbers").

on one platform to another.[154] As Geoffrey Manne and Sam Bowman have observed, this is a far cry from telephone number portability: "Requiring social graph portability would be much more like requiring that a phone company provide competing phone companies with all the metadata related to an individual's use of a phone network so that the new company could tailor a custom phone book for the new user."[155]

As the costs of data portability mandates rise, as they will when the scope of data that must be portable expands, the mandates may perversely tend to entrench incumbent platforms by making market entry more difficult for upstarts who must themselves comply with the portability mandates.[156] Entry may also be deterred by the fact that an upstart cannot rely on "data stickiness" to keep users around long enough to develop an affinity for its platform.[157] And existing platforms may engage in less innovation because data portability requires that they hold data in a common format, reducing their ability to make changes.[158]

Requiring data portability also threatens user privacy. When data is held in a common, transferable format, it may be easier for malicious actors to access. In addition, even a user-authorized transfer of some data may impair the privacy rights of other users. For example, if user A agrees to connect with user B on platform X, user A may not want that connection known to users or administrators of platform Y.[159] User B's transfer of B's social graph from platform X to

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[154] Luigi Zingales & Guy Rolnick, *A Way to Own Your Social-Media Data*, N.Y. TIMES (June 20, 2017), https://www.nytimes.com/2017/06/30/opinion/social-data-google-facebook-europe.html.

[155] Geoffrey A. Manne & Sam Bowman, *Data Portability and Interoperability: The promise and perils of data portability mandates as competition tool*, 17 ICLE ISSUE BRIEF (Sept. 10, 2020), https://laweconcenter.org/wp-content/uploads/2020/09/Data-Portability-Paper-v4-2020-09-03.pdf.

[156] *Id.* at 11-12.

[157] See Luis Cabral, *Dynamic pricing in customer markets with switching costs*, 20 REV. ECON. DYNAMICS 43, 55 (2016) ("In a competitive environment, switching costs have two effects. First, switching costs increase the market power of a seller with attached customers. Second, switching costs increase competition for new customers.").

[158] Manne & Bowman, *supra* note 155, at 18.

[159] *Id.* at 6.

platform Y would infringe A's privacy. And if B can easily transfer B's social graph from X to Y, A may never agree to connect with B in the first instance. Just as a person might not want to invite members of their different friend groups to the same dinner party, a person may value the ability to segregate relationships on digital platforms. Data portability mandates impede a user's ability to do so and could keep a user off platforms altogether, squandering value that could otherwise be obtained.

As with data portability mandates, the benefits of data sharing requirements may not justify the costs they would entail. When it comes to generating success for a digital platform, the ability to process data—to mine it, draw insights from it, and use it to craft attractive offerings for consumers—appears to be far more important than merely possessing the data.[160] Firms that have developed superior abilities to use data in a productive fashion have succeeded despite the lack of significant amounts of data at the outset; the promise of their offerings has attracted users, which has provided the data they need. WhatsApp in messaging, King Digital in social gaming, and Tinder in online dating all thrived, despite an initial lack of data in markets in which data access is important to success, because they developed superior data processing tools and used the data at their disposal to create more attractive offerings.[161] And, of course, Google and Facebook, with virtually no startup data, dislodged seemingly entrenched players in search and social networking because they figured out better ways of contextualizing the data at their disposal.[162] If

[160] *Id.* at 11 (observing that "the real value of a large agglomeration of data comes not in the data per se, but in the *analysis* of the data") (emphasis in original); Ana Lambrecht & Catherine E. Tucker, *Can Big Data Protect a Firm from Competition*, 5 CPI ANTITRUST CHRONICLE (Jan. 2017), https://www.competitionpolicyinternational.com/wp-content/uploads/2017/01/CPI-Lambrecht-Tucker.pdf (observing that "it is only when combined with managerial, engineering and analytic skill in determining the experiment or algorithm to apply to such data that it proves valuable to firms").

[161] Manne & Bowman, *supra* note 155, at 13.

[162] *Id.*

data processing abilities are the real key to success, as experience would suggest, then mandating large dumps of unprocessed data is unlikely to spur competition significantly.

The cost of mandating data sharing, however, may be substantial. If regulators require platforms to provide access to the data they have amassed, they will have to set a price (possibly zero) for the data. Determining the appropriate price is a tricky business. Given differences in the costs of collecting different bits of data and the value those different bits confer, and the fact that both collection costs and value conferred are likely to differ from platform to platform, an elaborate pricing schedule would seem to be required.[163] Regulators, however, are poorly positioned to set prices, and any mistakes they make may undermine the data sharing mandate. If they set prices too high, upstarts will not acquire data and the mandate will be pointless. If they set prices too low, incumbents will have less incentive to gather data in the first place, something they typically do by creating attractive offerings for consumers whose behavior they can then observe.[164] If data sharing requirements end up conferring little benefit on upstarts while reducing the incentive of incumbents to create consumer amenities that generate data for their sponsors, they may reduce market output and consumer welfare.

Interoperability mandates may reduce market output and harm consumers because they impede commercial flexibility and innovation and may make it difficult for platforms to provide the level of data security that many consumers appear to desire.[165] Both technological and data

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[163] *See* Lambert, *supra* note 83, at 1128.

[164] Grocery stores' loyalty card programs, for example, provide discounts to consumers in exchange for swiping a card when making purchases. A primary objective of the programs, which benefit consumers, is to collect data for marketing purposes. If a grocery store that had developed a loyalty card program were forced to share the data collected with a competitor who had not developed such a program, the store sponsoring the loyalty program would have less incentive to "pay" for data by giving discounts to encourage participation in the program. If a competitor's price for the data were too low, the loyalty card sponsor might decide that the program was no longer conferring competitive benefits sufficient to justify its cost and might scrap the program altogether. *See* Manne & Bowman, at 17 (offering example involving grocers Kroger and Aldi).

[165] *Id.* at 18-20.

interoperability require adherence to some kind of standard. This restricts a platform's ability to innovate in any way that does not involve the continued use of that standard format or that might otherwise impair the functionality of third-party apps connected to the platform.[166] Data interoperability—making data continuously available to some group of users in real time and on demand—increases the difficulty of ensuring data security. The security of a data collection depends on the number, size, and accessibility of points at which bad actors might infiltrate the collection. Mandating points of data access for platform users, as data interoperability requirements do, increases a platform's "attack surface," rendering it less secure.[167]

None of this is to say that the marginal costs of data portability, data sharing, or interoperability mandates definitively outweighs the benefits the mandates would secure. Neither we nor the planners crafting these mandates know the balance of costs and benefits in any particular context. What we can state with confidence is that the balance is sure to differ from context to context and platform to platform. And that is precisely the problem with requiring data portability, data sharing, and interoperability via ex ante rules.[168] Such rules are certain to misfire more than a standards-based approach that customizes directives for particular contexts.

Agency Oversight

In light of antitrust's slowness and the tendency of ex ante conduct rules to produce high error costs because of the knowledge problem, the agency oversight model appears to combine the

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[166] *Id.* at 18. The ACCESS Act, for example, prohibits covered platforms from "mak[ing] a change that may affect its interoperability interface" absent prior approval from the Federal Trade Commission or exigent circumstances. ACCESS Act, *supra* note 6, §§ 4(e)(1), 4(e)(2). The Act further mandates that "[a] covered platform shall provide reasonable advance notice to a competing business or a potential competing business … of any change to an interoperability interface maintained by the covered platform that will affect the interoperability of a competing business or a potential competing business." *Id.* at § 4(e)(3).

[167] Manne & Bowman, *supra* note 155, at 19.

[168] *See* Hovenkamp, *supra* note 97, at 1956 (observing that "broad regulation is ill-suited for digital platforms because they are so disparate").

relative advantages of each approach: antitrust's ability to contextualize directives through the use of flexible standards and direct regulation's ability to act quickly without awaiting the resolution of a lawsuit. This is the approach taken by the UK's newly launched Digital Markets Unit (DMU), a division of the nation's antitrust agency, the CMA.[169]

According to the CMA's proposal to create the DMU, the unit will have authority to ensure that the most powerful digital firms, those it deems to possess "strategic market status," act so as to achieve three objectives: fair trading, open choices, and trust and transparency.[170] To meet those objectives, the DMU would be authorized to craft a tailor-made code of conduct for each platform it determines to possess strategic market status. This is analogous to an antitrust court's crafting of firm-specific conduct remedies to ensure compliance with antitrust's standards (e.g., no unreasonable restraints of trade, no unreasonably exclusionary conduct).[171] The approach is quite different from the EU's approach of positing generally applicable rules for all major platforms. As Cristina Caffarra and Fiona Scott Morton have explained, under the UK approach,

> there is no fixed, pre-established list of rules. The DMU will evaluate whether a particular platform has this important level of market power and at the same time develop the set of rules needed to protect consumers and prevent exclusion of rivals or exploitation of trading partners. As the CMA puts it, the goal is "(a)n enforceable code of conduct which sets out clearly how the firm is expected to behave in relation to the activity motivating its Strategic Market Status designation."[172]

Caffarra and Scott Morton contend that this tailored approach "seems very apt" as "it will generate rules targeted to the problematic conduct, that directly take into account the business model

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[169] *See* Olson, *supra* note 55. The existing DMU has not yet been legislatively approved and is therefore operating with limited powers at present. *Id.*

[170] Competition and Markets Authority, *A new pro-competition regime for digital markets: advice of the Digital Markets Taskforce* ¶ 4.38 (Dec. 2020), https://assets.publishing.service.gov.uk/media/5fce7567e90e07562f98286c/Digital_Taskforce_-_Advice.pdf.

[171] *See supra* notes 35-38 and accompanying text.

[172] Cristina Caffarra & Fiona Scott Morton, *The European Commission Digital Markets Act: A Translation*, VOX EU (Jan. 5, 2021) (emphasis omitted), https://voxeu.org/article/european-commission-digital-markets-act-translation.

and that can be adjusted and updated as technology and business models evolve one by one."[173]

The agency oversight approach, however, is not simply "faster antitrust with expert adjudicators." While standards-based and flexible, the approach differs from antitrust along three significant dimensions: focus, political susceptibility, and duration of control. Taken together, antitrust courts' more narrowly focused objectives, greater insulation from political influences, and limited jurisdiction over their subjects render them far less susceptible to adverse public choice concerns than agencies like the UK's DMU.

In crafting remedies for anticompetitive harm, antitrust courts have a tremendous reservoir of authority.[174] But antitrust's focus—and the objective of any court-ordered remedy—is narrow: the restoration of market output to competitive levels for the benefit of consumers.[175] This precludes successful claims by, and remedies in favor of, parties seeking some private benefit apart from the enhancement of market output. A digital markets regulator is unlikely to be as laser-focused on output effects as an antitrust court and will therefore be a more attractive target to rent-seeking firms. The DMU's "open choices" objective, for example, invites a laggard competitor that might otherwise be driven out of business to seek some rule hindering its more efficient rivals, on the ground that preserving its own offering will create a broader range of options for consumers.

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[173] *Id.*

[174] Herbert Hovenkamp, *Antitrust and Platform Monopoly*, 130 YALE L. J. 1901, 1955 (2021) (observing that "[a]ntitrust's provisions for public equitable relief are extremely broad, with no explicit restrictions on the nature of relief").

[175] By "consumers" we mean parties on the other side of the transaction from an antitrust defendant, which, in cases involving exercises of monopsony power, could include laborers and suppliers forced to accept lower wages or input prices. *See* Herbert Hovenkamp, *Whatever* Did *Happen to the Antitrust Movement?*, 94 NOTRE DAME L. REV. 583, 628-36 (2018) (explaining how consumer welfare standard addresses buyer market power and labor market monopsony).

A second important difference between antitrust courts and agencies relates to the decision makers' incentives. The federal judges determining liability and imposing remedies in antitrust cases have little reason to please the parties before them. Possessing life tenure and fearing no retribution save possible reversal, they are insulated from outside pressure and motivated to make decisions calculated to enhance market output and thereby benefit consumers. The bureaucrats staffing agencies, by contrast, do not enjoy this level of political insulation. Many will have been appointed by or have ties to a political leader, whom they will wish to please. They may also contemplate future employment at one of their regulatees or at a regulatee's rival. Even absent contemplation of a job change, they may have a stake in one regulatory outcome over another, as the budget or prestige of their agency may be affected by the regulatory choices they make. Their personal interests are therefore less aligned with the public's interest in maximizing overall market output.

A third difference between antitrust and agency oversight is that antitrust courts' involvement with parties is limited in duration, while overseeing agencies remain perpetually involved with the firms they regulate. Ongoing oversight requires continuous contact with the regulatee, whose perspective the regulator needs in order to make sound decisions. Eventually, however, the regulator may begin seeing things from the perspective of the regulatee.[176] This is especially likely if the individuals with interests adverse to the regulatee's position are widely dispersed and difficult to organize.[177] The benefits to a regulatee from a decision may be outweighed by the aggregate costs it would impose, but if the costs are so widely spread that no individual or group

[176] This is sometimes referred to as "cultural capture," a form of "non-materialist" capture that does not turn on the provision of material benefits from regulatee to regulator. *See* James Kwak, *Cultural Capture and the Financial Crisis*, in PREVENTING CAPTURE: SPECIAL INTEREST INFLUENCE AND HOW TO LIMIT IT 71 (Daniel Carpenter & David Moss, eds., 2014), https://www.tobinproject.org/sites/tobinproject.org/files/assets/Kwak%20-%20Cultural%20Capture%20and%20the%20Financial%20Crisis.pdf.

[177] *See* Lambert, *supra* note 65, at 504-05 (describing dynamic of concentrated benefits and diffuse costs).

has an incentive to incur the cost of arguing against the decision, the only argument the regulator will hear is that of the regulatee-beneficiary.[178] In light of the relationships that develop from perpetual supervision and the common "concentrated benefits-diffused costs" dynamic, agencies possessing continuing oversight over their regulatees are frequently captured by those firms, to the detriment of the public at large.[179]

It seems, then, that the ongoing agency oversight model for addressing market power from digital platforms may not be the panacea its proponents have suggested. Combining broad discretion that invites interest group manipulation, exposure to political pressures that may sway regulators from pursuing the public interest, and the sort of continuous regulatee contact that often leads to capture, the approach raises serious public choice concerns. The UK's experience with its new DMU will be informative. But US policymakers would do well to wait on the results of the UK's experiment, and the resolution of the numerous pending antitrust actions, before abandoning antitrust in favor of a digital platforms regulator.

Conclusion

Under certain circumstances, markets may systematically fail to allocate resources in a way that generates as much value as possible for members of society. The same is true for government interventions to correct instances of market failure.

In light of that unhappy situation, policymakers confronting a market failure should catalog the remedies available for addressing it (including the option of doing nothing), consider the efficacy limitations and side effects of each, and select the option most likely to minimize the sum of welfare losses from market and governmental failure. As they engage in that analysis, they

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[178] *See* MATTHEW D. MITCHELL & PETER J. BEOTTKE, APPLIED MAINLINE ECONOMICS 75-76 (2017); MANCUR OLSON, JR., THE LOGIC OF COLLECTIVE ACTION: PUBLIC GOODS AND THE THEORY OF GROUPS (1965).

[179] *See* Lambert, *supra* note 8, at 168-69.

should keep in mind two difficulties that attach, in varying degrees, to all efforts to use state power to alleviate market failures: the Hayekian knowledge problem and public choice concerns.

This paper has engaged in the preceding analysis to answer the question of how governments should address market power concerns arising from dominant digital platforms. The three approaches typically employed to remedy market power—antitrust, ex ante conduct rules, and ongoing agency supervision—are all imperfect. Antitrust is somewhat indeterminate and proceeds rather slowly. Ex ante conduct rules are faster and more determinate, but they are more likely to generate high error costs because planners lack the information they need to determine, in advance and for a wide variety of actors, what behaviors will enhance or reduce social welfare. At first glance, ongoing agency oversight appears to combine the good and avoid the bad from the first two options: it may move faster than antitrust and offer greater clarity to regulatees, and its ability to tailor directives on a case-by-case basis avoids many of the knowledge problem concerns afflicting ex ante conduct rules. Continual agency oversight, however, involves a combination of features—broad discretion, politically susceptible decision makers, and perpetual contact—that generates significant public choice concerns.

Policymakers in the US are currently facing pressure from both left and right to "do something" about the digital platforms that, because of the enormous surplus they offer consumers, have become so central to 21st-century life. The objective of this paper has not been to argue that the status quo is perfect or that competitive conditions could not be improved. Consideration of the possible downsides of a move to ex ante conduct rules or continual agency oversight, however, urges caution. At a minimum, US policymakers should await the outcome of the major pending antitrust cases against the technology platforms and gather data from the natural

experiments occurring in the EU and UK before jettisoning antitrust in favor of ex ante conduct rules or some new digital platforms regulator.