

XIV. ANTITRUST IN DIGITAL MARKETS

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A. Overview

This chapter introduces one of the most high-profile, challenging, and rewarding areas of antitrust: its application to digital, platform, and high-tech markets. This topic will test your intuitions, challenge your understanding of core antitrust principles, and raise hard questions. Does (or should) antitrust prohibit “self-preferencing” practices by dominant platforms, by which they give a hand up to their own businesses over those of rivals? Does access to data—or “Big Data”—imply market power? Do the antitrust laws require dominant businesses to allow “multi-homing” or interoperability with rivals? Should we break up the Big Tech platforms? What should we do about algorithmic collusion, or personalized pricing? Do digital markets need special rules? And what is a “digital market” anyway?

Tech antitrust gets plenty of attention, and it can be very controversial. Several factors might help to explain this role as a magnet for controversy. First, almost everyone is a market participant. We have all had at least some first-hand experience with the markets and companies at the heart of the discussion. So choices about digital antitrust affect all of us! Second, the major tech platforms are very important to the economy. Many businesses rely on Big Tech products and services, so tech antitrust policy implicates those businesses' views and interests. Some businesses might not even be profitable without, say, a flow of consumer traffic from Google Search, or the ability to make sales over Amazon's e-commerce website.¹ Third, many of our largest tech companies play an important and sometimes controversial role in our society more generally: affecting how we receive information about the world, how we interact with others, and how we conduct political discourse. Some aspects of this concern are tech-specific; others relate more generally to powerful businesses, monopoly power, or the health of our politics. Policy concerns about inequality, polarization, political influence, fairness, freedom, market concentration, and supply-chain resilience have all had an impact on discussions of tech competition policy.² Fourth, and finally, it implicates a series of questions of antitrust law and regulatory policy that are genuinely difficult and deeply contested. Some of that contestation, in turn, reflects different views about important facts, including whether past enforcement actions (or omissions!) were better or worse than the likely alternative, and the likely good and bad effects of particular interventions today. So, for plenty of reasons, instincts about digital antitrust can be strong and conflicting.

Tech antitrust is not only controversial: it can also be complex and intricate. This is *not* to say that everything about tech antitrust is particularly arcane: price-fixing is still price-fixing, and horizontal mergers are still horizontal mergers! But the details can matter a lot, and first-order intuitions aren't always the end of the story. Some of these complexities flow from the fact that it can be hard to define or measure some of antitrust's traditional metrics—like price, quality, output, and market share—in some digital markets. For example, suppose that you were trying to work out whether a practice or transaction had caused an anticompetitive effect in a market for internet search services, or for personal social networking services, or for AI services of some kind. What would you measure to look for those effects? What plausible alternatives are there? What if different metrics moved in different directions? And are those sensible market definitions anyway?

Other complexities can flow from the fact that some common practices or phenomena have ambiguous effects: that is, they may strike us as good or bad depending on the context and our prior assumptions. For example, the phrase “network effects” describes the fact that some products and services become more valuable as they acquire more (or more active) users.³ Such effects aren't unique to the “digital economy”—whatever that is—and aren't found in every tech market, but they do matter a lot in some such markets. How should antitrust treat such effects: for example, when a merger or acquisition, or an agreement or practice, significantly augments them? On the one hand, they represent improved value to consumers, which sounds like a classic antitrust benefit; on the other hand, they may make entry harder, which sounds like it could increase market power and exacerbate antitrust concerns.

¹ Of course, views differ sharply about the policy implications of this fact! On one view, it's a measure of the remarkable social benefits of the big platforms; on another view, it's a sign of an unhealthy concentration of power. Compare, e.g., U.S. Chamber of Commerce, *Empowering Small Business: The Impact of Technology on U.S. Small Business*, <https://americaninnovators.com/wp-content/uploads/2023/09/Empowering-Small-Business-The-Impact-of-Technology-on-U.S.-Small-Business.pdf> (2022) with American Economic Liberties Project, *The Truth About Google, Facebook, and Small Businesses*, https://www.economicliberties.us/wp-content/uploads/2021/05/Corporate-Power-Quick-Takes_5_Final.pdf (May 2021).

² The spectrum of views is broad, including among other things Neo-Brandeisian critical perspectives, welfarist writing of various kinds, and “New Right” offerings. Compare, e.g., Zephyr Teachout, *BREAK 'EM UP: RECOVERING OUR FREEDOM FROM BIG AG, BIG TECH, AND BIG MONEY* (2020); Matt Stoller, *GOLIATH: THE 100-YEAR WAR BETWEEN MONOPOLY POWER AND DEMOCRACY* (2019) Ch. 18; Tim Wu, *THE CURSE OF BIGNESS: ANTITRUST IN THE NEW GILDED AGE* (2018) with, e.g., Herbert Hovenkamp, *TECH MONOPOLY* (2024); Robert W. Crandall & Thomas W. Hazlett, *Antitrust Reform in the Digital Era: A Skeptical Perspective*, 2 U. Chi. Bus. L. Rev. 293 (2023); Alden Abbott, *Antitrust Law Shouldn't Be Used To Break Up Big Tech*, DISCOURSE (Aug. 27, 2021); Cato Institute, *Big Is Not Always Bad: Why We Shouldn't Rush to Break up the Tech Giants* (June 6, 2019); Will Johnson, *Survey: Americans think Big Tech isn't so bad after all*, TECHCRUNCH (Dec. 10, 2020) and with Mark Meador, *Antitrust for Digital Markets* (remarks of Mar. 23, 2026); Andrew Ferguson, *Keynote Transcript, 2025 Stigler Center Antitrust and Competition Conference*, PROMARKET (Apr. 17, 2025); Oren Cass, *Curtailing Big Tech Requires Much More Than Breaking It Up*, FINANCIAL TIMES (May 30, 2021).

³ Network effects have come up several times already. In Chapter II, for example, we noted that the analysis of entry barriers may include the analysis of network effects. See *supra* § II.F.2. And in Chapter III we saw that the presence of significant “indirect” network effects linking merchants and cardholders played a role in the Supreme Court's controversial decision to break from traditional market-definition principles in the *AmEx* case. See *supra* § III.C.4.

So: are network effects procompetitive or anticompetitive? Both? Neither? (And what does that question *really* mean?)

Likewise, plenty of digital-platform practices may be good for some users and bad for others. This means that tech antitrust often implicates particularly hard questions about whether and when—if ever—a defendant can attempt to justify harms to one set of trading partners (*e.g.*, consumers) by reference to benefits that flow to another set of trading partners (*e.g.*, merchants or workers). Should the cognizability of such benefits depend on whether or not both sides are included in the same antitrust market?⁴ Should the answer turn on whether the benefited or injured parties happen to be workers, consumers, advertisers, or members of some other sub-group?

A further set of challenges can flow from the fact that digital products and services can develop rapidly and unpredictably. Predicting the future of competition may be particularly tough when products and services can “go viral” or acquire significant scale—or lose it!—in a short period of time, and when products and services may be modified by their suppliers in order to roll out new features and functionalities to existing users. These complexities can blur the boundaries of antitrust markets, make it difficult to identify potential competitors or predict competitive effects, and increase the challenges of remedial design and implementation. And, to the extent that plaintiffs are the ones with the burden of proof, these uncertainties can generally make antitrust claims less likely to succeed.

Courts and commentators often emphasize the value of “innovation” in digital antitrust matters: that is, the socially beneficial development of new and better ways to do things. Almost everyone agrees that it is important to promote innovation in tech markets, and that that goal should help guide antitrust doctrine and policy. But there is much less agreement on *how* to do so: that is, on what circumstances, or what antitrust rules, actually tend to promote innovation. For example: does a concern with innovation imply that we should be particularly cautious about interfering with novel business models and practices, lest we punish success and make invention less appealing? Or does it mean that we should be particularly eager to intervene when incumbent or dominant firms do things that make life harder for rivals in fast-moving tech markets? Do we generally think that valuable innovations are more likely to come from incumbent monopolists with scale and resources, or from upstarts and entrants that may have more to gain, and less to lose, from disruption? And what should we measure in order to figure out whether a practice or transaction has in fact harmed innovation, or will do so in future? Unfortunately, there are no easy answers to any of these questions. Scholars, policy advocates, judges, businesses, and citizens simply have different intuitions, experiences, and expectations about the kinds of innovations that will benefit society, and how to encourage them. That means that they often disagree about the best application of antitrust rules.

For all these reasons and more, tech antitrust is a fabulously rewarding field of study, bursting with unresolved questions about the future of technologies, markets, and the antitrust project itself. It offers a terrific forum to explore your own views about the best way to develop the antitrust project in the years to come. But it might be a frustrating area for those hoping for clear answers.

It is good practice—in this area just as in other parts of antitrust—to try to keep an open mind as you engage with these issues, and to resist the lure of easy one-size-fits-all answers. For example, if you are a natural skeptic of antitrust intervention, try to see the sharp edge of the concerns that animate some of the worries about Big Tech, including the view that enduring monopoly power now affects a great many markets across the economy and that some of that power may have been obtained through harmful practices and transactions. And if you are a natural skeptic of tech companies, try to give full and fair value to more cautious perspectives, including the fear that bashing tech companies will harm consumers and stifle innovation and invention, as well as the recognition that it is not always easy to tell whether a particular practice has actually caused harm.

Are Digital Markets Special?

Throughout your study of digital antitrust, ask yourself periodically: should we have special antitrust rules for digital markets? Of course, in some sense antitrust *always* reflects the nature of individual industries and markets.

⁴ See *supra* §§ IV.C.2 (discussing complexities in the formulation and application of the rule of reason, including the admissibility of “out of market” benefits), VIII.D.1 (discussing the role of “out of market” efficiencies in merger analysis).

Agencies and courts have to consider the realities of competition in a specific context in order to understand the effects of any practice or transaction. It's hard to imagine doing antitrust any other way! But, as we will see, many writers and advocates favor going further: for example, by recognizing special theories of harm in digital markets, or creating special obligations for some or all digital platform businesses.

This question will surface time and again. For example, should we treat “self-preferencing” by a search engine, involving preferential search rankings for its own businesses, differently from a supermarket that features its own brands more prominently than those of brand rivals? Should we treat practices involving algorithmic price-setting—including those involving tacit collusion of some kind—differently from those involving direct price-setting by humans? Should we treat the acquisition of digital-economy startup businesses differently from startup acquisitions in mature industries? And, in an increasingly tech-reliant world, what is a “digital market” anyway?

The rest of this chapter gives an overview of antitrust's digital frontier. Section B introduces some common features of certain digital markets, including platforms, network effects, and data. Sections C through I visit, in turn, a series of facets of the tech antitrust realm, showcasing an array of high-profile issues: digital “defaults”; refusal to deal; tech mergers; algorithmic pricing; app-store practices; ad tech; and AI. Section J highlights some scholarly perspectives on digital-markets remedies. Throughout, we will focus on identifying the central issues, and on understanding why reasonable minds—and reasonable courts, writers, enforcers, citizens, and law students—take different views. While there might have been fewer fully litigated cases in the “digital markets” area than in some other parts of the antitrust project, that is starting to change. And, as we shall see, there is no shortage of thoughtful analysis and advocacy.

B. (Some) Features of (Some) Digital Markets

1. Networks, Systems, and Ecosystems

Networks and Network Effects

Some products or services become more valuable to a user as the number of other users, or the intensity of their activity, increases. For example, a telephone is of little use if no one else has or uses one, but as telephones are used more widely by others, each one becomes more valuable. “Network effects” of this kind are present in many markets for digital products and services.⁵ Social networking services, for example, tend to be more attractive to users when many others already use the service. After all, there is not much point in being the only user of a social network, or trying to do personal social networking when none of your friends and family are on the network with you!

As a result, launching a product or service that involves such effects requires solving a basic problem: how do you get users to participate?⁶ A network with no users is a hard sell. Early adopters must somehow be encouraged to join a network before it offers the value that the mature network would provide. And even after a network gets off the ground, users may under-participate, compared to a social optimum, because the social value of the participation of each member may be externalized to other network members.

To incentivize participation, network owners may offer low or negative prices early in the life of a network. They may also offer special inducements to users that are particularly likely to draw others: influencers or trend-setters. And they may also work to ensure that complements to the network product are available on favorable terms, either by “opening up” to third-party participation in ways that encourage favorable prices and quality, or by

⁵ See generally, e.g., Catherine Tucker, *Network Effects and Market Power: What Have We Learned in the Last Decade?*, 32 Antitrust 72 (2018); Oz Shy, *A Short Survey of Network Economics*, 38 Rev. Indus. Org. 119 (2011); Mark A. Lemley & David McGowan, *Could Java Change Everything? The Competitive Propriety of a Proprietary Standard*, 43 Antitrust Bull. 715 (1998); Nicholas Economides, *The Economics of Networks*, 14 Int'l J. Indus. Org. 673 (1996); Michael Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. Econ. Persp. 93 (1994).

⁶ See generally, e.g., Michael Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. Econ. Persp. 93, 100–05 (1994).

creating and offering those complements at low prices.⁷ Over time, as the network becomes more valuable to its users, the network owner may transition from subsidizing participation—which may involve significant losses—to a more sustainable and profitable model. So a network may start out low-priced, and only later raise its prices once the network is established and offering a valuable service. Or a network may start out fully open to third parties, and only later “close up” in various ways (*e.g.*, charging third parties higher fees, or excluding them in order to take a profit margin as the only on-network provider of certain products or services) in order to extract profit through complementary products and services. This is sometimes referred to as the “open early, close late” model.

There is not necessarily anything sinister—at least from the perspective of traditional antitrust doctrine—about changing the price or other rules of a network after it enjoys some success.⁸ Doing so may be a natural and efficient way to run the business profitably in the long run, while encouraging participation early in the network’s lifecycle. In many plausible cases, if the network charged the full price from the beginning, it would never have got off the ground; if it charged the low price in perpetuity, it would never become profitable to have built the network! Moreover, antitrust does not generally prohibit price increases over time, nor does it impose obligations to deal with third parties in most cases.⁹ (Of course, we might have a different reaction to a network owner that deceives its trading partners: for example, by making false or misleading statements or promises to lure them onto the platform.¹⁰)

More generally, the presence of network effects is a mixed blessing. In essence, they are a special type of scale efficiency: they amount to a quality improvement arising from a larger user-base. This means that users receive additional value from the product as network effects become more significant. This is the kind of thing that we normally think of as an antitrust benefit, and it is not obvious that we should think about it differently just because electrons are involved.¹¹ But, like other scale efficiencies, network effects also tend to favor incumbents over new entrants and thus serve as a barrier to successful entry or expansion by rivals.¹² Thus, even if a new entrant has incrementally superior technology, it may find it difficult or impossible to attract users if everyone else is on the incumbent network. Such difficulties may not be insurmountable: the new network may be able to offer favorable terms, in just the ways described above, to attract users and build scale.

The term “tipping” is sometimes used to describe the phenomenon in which a single network acquires a decisive advantage over its rivals from scale.¹³ A competitor may be willing to invest considerable resources and energy in ensuring that its network, and not those of its rivals, emerge victorious.¹⁴ This effect, as two scholars point out, “is neither inherently good nor bad,” as it may be inevitable as well as the lowest-cost solution, although “[t]he fact

⁷ See, *e.g.*, Gregory J. Werden, *Network Effects and Conditions of Entry: Lessons from the Microsoft Case*, 69 Antitrust L.J. 87, 92–93 (2001) (noting that the need for complementary products and services may make network entry “exceptionally difficult”).

⁸ Others take a different view. See, *e.g.*, Brief of Amicus Curiae American Antitrust Institute in Support of Plaintiffs-Appellants, *New York v. Facebook, Inc.*, No. 21-7078 (D.C. Cir. filed Jan. 28, 2022) 4–5, 14–18 (suggesting that an “open early, close late” strategy is necessarily deceptive); see also Susan Athey & Fiona Scott Morton, *Platform Annexation*, 84 Antitrust L.J. 677, 680 (2022) (arguing that some forms of “open early, close late” can constitute monopolization).

⁹ Of course, practices that satisfy antitrust’s very demanding criteria for predatory pricing or for an unlawful refusal-to-deal may result in liability. See generally *supra* §§ VII.C.3, VII.D.3 (considering applicable monopolization law).

¹⁰ See *supra* § VII.D.5 (noting that misrepresentation can give rise to liability for monopolization under appropriate circumstances).

¹¹ See generally, *e.g.*, Howard Shelanski, Samantha Knox & Arif Dhilla, *Network Effects and Efficiencies in Multisided Markets*, OECD Note DAF/COMP/WD(2017)40/FINAL (Nov. 15, 2017) 7 (“Accounting for [cost-reducing] efficiencies requires consideration of relevant cross-network externalities.”).

¹² See, *e.g.*, *FTC v. Facebook, Inc.*, 581 F. Supp. 3d 34, 51 (D.D.C. 2022) (“[T]here can be little doubt that network effects and switching costs are commonly recognized types of barriers to entry[.]”).

¹³ See, *e.g.*, Özlem Bedre-Defolie & Rainer Nitsche, *When Do Markets Tip? An Overview and Some Insights for Policy*, 11 J. Eur. Comp. L. & Practice 610 (2020); Mark A. Lemley & David McGowan, *Could Java Change Everything? The Competitive Propriety of a Proprietary Standard*, 43 Antitrust Bull. 715, 721–24 (1998); Michael Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. Econ. Persp. 93, 105–06 (1994) (noting examples from pre-Big Tech industries).

¹⁴ For empirical testing of the salience of network effects, see, *e.g.*, Michał Grajek, *Estimating Network Effects and Compatibility: Evidence from the Polish Mobile Market*, 22 Info. Econ. & Pol’y 130 (2010); David Dranove & Neil Gandal, *The DVD-vs.-DIVX Standard War: Empirical Evidence of Network Effects and Preannouncement Effects*, 12 J. Econ. & Mgmt. Strategy 363 (2003); Neil Gandal, *Competing Compatibility Standards and Network Externalities in the PC Software Market*, 77 Rev. Econ. & Stat. 599 (1995).

that] a market is best served by a single standard . . . does not always imply that the standard should be owned by a single firm, or even that the standard should be owned at all.”¹⁵

There are other complications too. For one, the presence of some positive network effects does not mean that all returns to scale are constant, or even that all additional scale is beneficial. In fact, beyond a certain point a network might start to experience congestion or interference effects, where the presence of additional users or activity inflicts a *negative* externality on other users.¹⁶ In addition, users may not regard the participation of every other user as equally valuable: for example, a user of a personal social network may highly value the presence on the network of close friends, may only modestly value the presence of more distant acquaintances, may be indifferent to the presence of people the user is unlikely to meet, and may even negatively value the presence of some others.¹⁷ (For example, a young adult user of a social network might actively disvalue their parents or grandparents joining their favorite social network or dating app!) These effects can complicate or falsify the “bigger is better” principle.

More generally, the presence of some network effects need not mean that the result will necessarily be a single incumbent network of the relevant kind. It may well be possible for multiple networks to coexist. For one thing, perhaps congestion and other effects may qualify the benefits of scale. For another, perhaps differentiation among products and differentiated preferences among customers may support the existence of multiple networks, each of which is specialized in some way. Thus, for example, perhaps one network might be best suited for users who prefer a high-quality, high-security network, and are willing to pay more for it; another might be best suited for users who prefer a low-priced and highly customizable network. Under such circumstances, both may sustainably co-exist even if network effects are very salient. Or perhaps one network may achieve pre-eminence in provision of a “general” service of some kind (such as search, retail, or social networking), while others may simultaneously maintain viable scale in various “niches” (such as travel or restaurant search, craft-based or auction retail, or interest-based personal social networking). (Can you think of examples?)

So we may observe competition *among* networks that provide a similar product or service. This might be: because a market has not yet tipped to a single dominant provider; because such tipping is not likely to happen because of limits to returns from scale; because differentiation and specialization support the existence of multiple networks; or for some combination of these or other reasons.

When there is such competition among networks, switching costs (*i.e.*, costs that must be incurred by a user wishing to switch from one network to a competing alternative) may play an important role. These switching costs may include, for example, the time and effort required to extract and transfer information from one supplier to another, or the effort required to duplicate or re-generate it on the new network.¹⁸ When these costs are significant, we may speak of users being “locked in” to some extent.

In addition to competition among present rivals, competition may take place “for” the relevant network market: that is, competition to replace an existing incumbent with a step-change improvement that leaps forward in technology, design, or consumer appeal. This is sometimes described as “competition for the market,” or “Schumpeterian” competition, and it may involve the replacement of one monopolist by another.¹⁹ (The replacement of MySpace by Facebook is sometimes cited as a famous example of this kind of thing. Some would also cite, in turn, the effect of TikTok upon Facebook some years later. Can you think of others?)

¹⁵ Mark A. Lemley & David McGowan, *Legal Implications of Network Economics Effects*, 86 Cal. L. Rev. 479, 497 (1998).

¹⁶ See, e.g., Catherine Tucker, *Network Effects and Market Power: What Have We Learned in the Last Decade?*, 32 Antitrust 72, 77–78 (2018) (emphasizing congestion, privacy-preference, and “cool people avoiding those they deem as uncool”); Oz Shy, *A Short Survey of Network Economics*, 38 Rev. Indus. Org. 119–20 (2011) (“congestion,” “interference,” “snobbism,” and “vanity”).

¹⁷ See, e.g., Mark A. Lemley & David McGowan, *Legal Implications of Network Economics Effects*, 86 Cal. L. Rev. 479, 494 (1998) (“[N]ot everyone on the Internet wants to be connected to everyone else; some would prefer that access to the Internet remain limited, or at least that they be able to shut themselves off from the masses in a private group.”); Catherine Tucker, *Network Effects and Market Power: What Have We Learned in the Last Decade?*, 32 Antitrust 72, 76 (2018) (“[I]n a world of scarce attention, users tend to focus only on connections and interactions that matter personally to them when deciding what platform or service to use.”).

¹⁸ See, e.g., Joseph Farrell & Paul Klemperer, *Coordination and Lock-In: Competition with Switching Costs and Network Effects*, in Mark Armstrong & Robert H. Porter (eds.), 3 HANDBOOK OF INDUSTRIAL ORGANIZATION (2007).

¹⁹ See, e.g., Gregory J. Werden, *Network Effects and Conditions of Entry: Lessons from the Microsoft Case*, 69 Antitrust L.J. 87, 91 (2001); Fiona Scott Morton, Gregory Crawford, Jacques Crémer, David Dinielli, Amelia Fletcher, Paul Heidhues & Monika Schnitzer, *Equitable Interoperability: The “Supertool” of Digital Platform Governance*, 40 Yale J. Reg. 1013, 1020 (2023).

Multihoming, Interoperability, and Portability

Using an additional network need not always involve high—or even any—switching costs. Users may be able to “multihome”: that is, simultaneously use or participate in multiple different networks.²⁰ The ability to do this may make it easier for new entrants to build share despite the presence of an incumbent, because users need not surrender membership in the incumbent network in order to deal with the entrant. Sometimes multihoming may be easy: for example, a user might just install a second app or sign up to a second service. On other occasions, costs are higher: a user wishing to multihome might have to buy a second device or negotiate burdensome technological barriers. In some settings, third parties may create and offer multihoming tools that make it easier for users to access more than one service; depending on the circumstances, dominant platforms may or may not have incentives to try to deter or prohibit this practice.²¹

Likewise, under certain circumstances networks may exhibit “interoperability” or “interconnectivity”: that is, the networks may connect to one another in some way, such that a participant in any one network may enjoy benefits of membership and participation in the others. Some prominent proposals for regulatory intervention focus on requiring certain networks to interoperate with others.²² This raises some complex questions of policy and practice that we will consider below.

Similarly, network operators may permit or promote (or regulators might require!) “portability”: that is, reducing the difficulty and cost of switching from one network to another by allowing users to carry certain assets or investments over to a rival. What this involves will depend on the relevant technology and the nature of competition. One of the most famous examples of a portability remedy is the FCC rule requiring telephone number portability.²³ (What do you think would, or could, be required to achieve portability for a personal social network? A smartphone? A video game console? An e-reader? A dating app? An email provider?)

Systems, Ecosystems, and Standards

Some networks involve sets of products or services that are complementary to one another and commonly used together. For example, a supplier may offer a console with games, or an operating system with applications, or a device with peripherals. The sets of complements (*e.g.*, console + games, or operating systems + applications) may be generally called “systems,” and networks of systems may be called an “ecosystem.”²⁴ (These terms are used in a variety of different ways in the literature: this is just one way of using them.²⁵) When the components of an ecosystem are wholly supplied by a single entity, in the presence of factors that mean that others cannot feasibly supply compatible products and services, we might call the ecosystem “closed”; when third parties can readily do so, we might call it “open.” An ecosystem might be “closed” for a variety of reasons, including because third parties need access to intellectual property, technical information, special inputs, commercial relationships, or anything else that is necessary to offer a complement, but difficult or impossible to come by.

²⁰ See, *e.g.*, European Commission, *Multi-Homing: Obstacles, Opportunities, Facilitating Factors*, Observatory for the Online Platform Economy Study (2019); Catherine Tucker, *Network Effects and Market Power: What Have We Learned in the Last Decade?*, 32 Antitrust 72, 75 (2018) (“Multihoming increases competition within [the relevant] market, as platforms may use price reductions or quality improvements to try to entice users to spend more time on their platforms rather than on others.”).

²¹ See, *e.g.*, Susan Athey & Fiona Scott Morton, *Platform Annexation*, 84 Antitrust L.J. 677 (2022) (examining practices that reduce or deter multihoming).

²² See, *e.g.*, Fiona Scott Morton, Gregory Crawford, Jacques Crémer, David Dinielli, Amelia Fletcher, Paul Heidhues & Monika Schnitzer, *Equitable Interoperability: The “Supertool” of Digital Platform Governance*, 40 Yale J. Reg. 1013 (2023).

²³ See, *e.g.*, FCC, *Wireless Local Number Portability (WLNP)*, <https://www.fcc.gov/general/wireless-local-number-portability-wlnp>.

²⁴ See, *e.g.*, Carmen Matutes & Pierre Regibeau, “Mix and Match”: *Product Compatibility Without Network Externalities*, 19 RAND J. Econ. 221 (1988) (defining “systems” as “lines of products where each good cannot, or usually is not, used separately but might still be purchased separately. Examples are photography, where the typical product line includes cameras, lenses, film and film processing services, and computers, where a system involves software and several hardware components.”); OECD, *Executive Summary of the Hearing on Competition Economics of Digital Ecosystems*, DAF/COMP/M(2020)2/ANN6/FINAL (Dec. 3, 2020) (“[D]igital ecosystems offer access to their consumers to a line of products and services with a technological linkage increasing the complementarity between them.”).

²⁵ See, *e.g.*, Masaharu Tsujimoto, Yuya Kajikawa, Junichi Tomita & Yoichi Matsumoto, *A Review of the Ecosystem Concept — Towards Coherent Ecosystem Design*, 136 Tech. Forecasting & Social Change 49, 49 (2018) (“[T]he term *ecosystem* seems to be used without clear definition or sound theoretical backing.”).

In practice, many ecosystems are partly closed and partly open: for example, in the United States, at the time of writing, Apple’s iOS ecosystem is generally closed with respect to devices, operating systems, and app stores (only Apple supplies these), but somewhat open with respect to applications (they may be supplied by third parties, subject to review by Apple) and device peripherals like speakers and headphones (these may be supplied by third parties *without* Apple approval if they conform to the technical requirements of an interface with the device).

Participation in a single network or ecosystem often requires a certain degree of compatibility or interoperability among the various components. This may be more difficult to achieve and maintain when those components are supplied by multiple different entities, each of which may have different preferences, expectations, interests, and technical capabilities.²⁶ Some kind of standardization may therefore be necessary. The relevant standards or protocols may be unilaterally defined and amended by a single entity (*e.g.*, a network owner), or collectively through a standard-setting or standards-development organization. In rare cases, they may even be legislated.²⁷ Such standards may be of any kind, from arcane technical requirements to functional criteria relating to quality, safety, design, consumer protection, privacy, and so on. When a network owner sets standards unilaterally, a wide variety of factors can determine whether it will have the ability and incentive to facilitate, permit, hinder, or completely prohibit the supply of compatible products by others.²⁸

The existence of a standard, however it is formulated, may have mixed effects.²⁹ On the one hand, it may promote or ensure effective interoperation, and so make it easier and cheaper to design and offer products that will work successfully with the network. The result can be higher quality products and services, and more efficient planning by market participants. On the other hand, though, standards may exert a drag effect on product quality by deterring or prohibiting quality improvements and innovations that would violate the standard. Needless to say, different participants in an ecosystem or network may have different preferences about the content of a standard, and those preferences may or may not align with the interests of some or all users, consumers, competitors, or other stakeholders. For example, a dominant incumbent may have an incentive to favor standards that make life harder for rivals and entrants! Take a look back at Chapter X for a discussion—and some examples—of how the use and abuse of standard-setting processes may raise competitive concerns.³⁰

2. Multisided Platforms

Some networks can be described as “multisided platforms.” Although there are many different definitions of this term in the economic literature, we can think of them as networks for which the users (or other trading partners) can be classified into multiple different groups, and for which the value of the network to users in at least one group is a function of the number and activity of users in *other groups*.³¹ Each group constitutes a “side” of the platform. Thus, for example, a credit card is a multisided platform that serves two groups of users: merchants and cardholders. The credit card becomes more valuable to each merchant as more cardholders carry the card, and more valuable to each cardholder as more merchants accept it. These value effects—which accrue from additional participation by users in a *different* group—are often called “indirect” network effects. They may be bidirectional, as in the case of a credit card, or only one-directional. Some suggest, for example, that in many ad-supported platform businesses the advertisers value the participation of more users, while the users do not value the

²⁶ See generally, *e.g.*, Michael Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. Econ. Persp. 93 (1994) (discussing a range of issues relating to intrasystem compatibility).

²⁷ See, *e.g.*, Francesco Guarascio, *Apple forced to change charger in Europe as EU approves overhaul*, REUTERS (Oct. 4, 2022) (describing European legislation that forced Apple to abandon the “Lightning” connector in favor of USB-C).

²⁸ See, *e.g.*, Oz Shy, *A Short Survey of Network Economics*, 38 Rev. Indus. Org. 119, 131 (2011); Jeffrey Church & Neil Gandal, *Platform Competition in Telecommunications*, in Martin E. Cave, Sumit Majumdar & Ingo Vogelsang (eds.), 2 HANDBOOK OF TELECOMMUNICATIONS ECONOMICS (2005); Stanley M. Besen & Joseph Farrell, *Choosing How to Compete: Strategies and Tactics in Standardization*, 8 J. Econ. Persp. 117 (1994).

²⁹ See generally, *e.g.*, Maureen Ohlhausen, *The Elusive Role of Competition in the Standard-Setting Antitrust Debate*, 20 Stan. Tech. L. Rev. 93 (2017); Richard Gilbert, *Competition Policy for Industry Standards*, in Roger D. Blair & D. Daniel Sokol (eds.), 2 OXFORD HANDBOOK OF ANTITRUST ECONOMICS (2015); Mark A. Lemley & David McGowan, *Legal Implications of Network Economics Effects*, 86 Cal. L. Rev. 479, 515–22 (1998).

³⁰ See *supra* § X.D.

³¹ See generally, *e.g.*, Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. Eur. Econ. Ass’n 990 (2003); David S. Evans, *The Antitrust Economics of Multi-Sided Platform Markets*, 20 Yale J. Reg. 325 (2003).

participation of more advertisers.³² (Do you agree? Can you think of cases in which users do experience greater value from the participation of more advertisers, and cases in which they do not?)

The boundaries of the multisided platform category are not completely clear. Certainly it includes businesses that are not “high-tech” or “digital” in any sense. An ad-supported newspaper, for example, clearly constitutes a multisided platform connecting different groups (users and advertisers); so may certain auction houses (buyers and sellers) and some art galleries (artists and art buyers). More generally, it is not quite clear whether and in what ways it is useful to think about traditional businesses as “platforms.” For example, a supermarket is arguably more valuable to consumers when it deals with more suppliers, and more valuable to suppliers when it has more consumers. Does this mean that we should think about supermarkets—and by extension many other businesses that have suppliers and customers—as “multisided platforms”? Is the concept still useful if we use it in settings like this?³³

Like other networks, new-entrant multisided platforms face a participation puzzle: how can an owner attract users to a network that does not (yet) have many participants? Multisided platforms face a particular version of this difficulty that is sometimes called the “chicken and egg” problem. Users of one type may not want to join a platform until users of other types are present; while those other users may not themselves want to join until users of the first type are present!³⁴ In the D.C. Circuit’s celebrated *Microsoft* case, the court identified just such a dynamic in the operating-system business: users don’t want to buy a computer operating system for which there is not an ample supply of applications; and app developers don’t want to build applications for which there is not a robust population of users.³⁵ To respond to this problem, platform owners may either participate directly on one side or the other to stimulate demand (*e.g.*, Apple, Google, and Microsoft supplying sets of their own apps to attract users which, in turn, attract more app developers), or may invest in incentivizing third parties to do so.

The fact that a platform business deals simultaneously with multiple different groups has some interesting implications for competition. Among other things, competitive conditions—including cost, demand, own-price elasticity, and the platform’s value and market share—may at any one moment differ very significantly from one side to the next. An ad-supported newspaper, for example may face intense competition on one side while enjoying a virtual monopoly on the other: such as if there were many other (paid-for) newspapers in a particular area but no other sellers of advertising, or vice versa. In particular, different sides of the platform may exhibit different price elasticities of demand at the same absolute price level: users on one side may be highly elastic while those on another side may be highly inelastic.

It follows that a platform often will maximize overall platform output by charging different prices to users on different sides.³⁶ In fact, the output-maximizing practice may be to charge a relatively high price on one side and a relatively low, or even negative, price on the other. This happens all the time. For example, an ad-supported personal social network may charge a relatively high price to advertisers, while charging an effective zero price to users by providing valuable social networking and other services for no charge. Economists call the relationship between the prices on a platform’s various sides the platform’s “price structure,” and one technical definition of a platform business is that a change in price structure, without a change in overall price level, results in a change in demand for the platform.³⁷

³² See, *e.g.*, Richard Schmalensee & David S. Evans, *Multi-Sided Platforms*, in THE NEW PALGRAVE DICTIONARY OF ECONOMICS (2017) (“[A]dvertisers value more users, but users don’t necessarily value more advertising.”).

³³ See, *e.g.*, Michael Katz & Jonathan Sallet, *Multisided Platforms and Antitrust Enforcement*, 127 YALE L.J. 2142, 2149–51 (2018) (“Almost any firm selling an input to a manufacturer would prefer that the manufacturer have more customers, as then the manufacturer will demand more of the input.”).

³⁴ See, *e.g.*, Bernard Caillaud & Bruno Jullien, *Chicken & Egg: Competition Among Intermediation Service Providers*, 34 RAND J. Econ. 309, 310 (2003).

³⁵ See, *e.g.*, *United States v. Microsoft Corp.*, 253 F.3d 34, 55 (D.C. Cir. 2001) (en banc).

³⁶ See generally, *e.g.*, Jean-Charles Rochet & Jean Tirole, *Two Sided Markets: A Progress Report*, 37 RAND J. Econ. 645, 648 (2006) (“Managers [in two-sided businesses] devote considerable time and resources to figuring out which side should bear the pricing burden, and commonly they end up making little money on one side . . . and recouping their costs on the other side[.]”).

³⁷ See, *e.g.*, Jean-Charles Rochet & Jean Tirole, *Two Sided Markets: A Progress Report*, 37 RAND J. Econ. 645, 651 (2006) (“We [have] defined two-sided markets as ones in which the price structure (. . . for a given price level . . .) affects the economic outcome (volume, profits, and/or welfare).”).

One consequence of these dynamics is that some general principles about the relationships between prices, costs, output, and competition do not necessarily hold in the context of platform businesses. For example, the fact that a platform is charging a price significantly in excess of its costs on one side does not without more imply that the platform holds market or monopoly power: the same platform may be charging a price significantly *below* its own costs on another side, and may be earning razor-thin (or even negative) profits overall, and facing vigorous competition. As a result, examining only one side—or fewer than all the sides—of a multisided platform may give a misleading picture of what is going on.³⁸

Despite what is sometimes supposed,³⁹ a multisided platform business can compete with other multisided platform businesses, with single-sided businesses, or with both. The set of competitors on one side of the platform may or may not overlap with the set of competitors on the other. For example, ad-supported newspapers may compete with one another and also with paid-for newspapers for the business of readers. They might also compete with one another and with other (non-newspaper!) forms of advertising for the business of advertisers.

The Supreme Court has, in its *AmEx* decision of 2018, labeled a certain subset of platform businesses “transaction platforms,” and has indicated that such platforms qualify for special treatment under market definition rules.⁴⁰ Although the bounds of this category are notoriously uncertain, the *AmEx* Court seemed to have in mind services that are provided to a pair of transacting parties that purchase the product or service jointly and receive it simultaneously. Such services include, for example, payment processing services, or transaction-handling or fulfillment services, when provided to buyer-seller pairs. It seems clear that any particular platform may provide *some* services that are transactional in nature, while also providing *other* services that are not.⁴¹

Interbrand Competition and Aftermarkets

As you may recall, antitrust doctrine has since the mid-1970s generally reflected a “primary” concern with so-called interbrand, rather than intrabrand, competition.⁴² This distinction is commonly exemplified by reference to manufacturers of competing brands of consumer goods. In that context, it reflects the prioritization of competition among different manufacturers, rather than competition among different retailers of the same manufacturer’s goods. The basic idea is that many restraints on intrabrand competition can and should be tolerated because manufacturers have every incentive to use such restraints to compete more effectively against other brands, and that such competition will lead to greater welfare overall. Moreover, the idea goes, if interbrand competition is robust, retailers will be able to switch (or threaten to switch) to other manufacturers, which will in turn help to ensure that manufacturers impose only efficient restraints on their retailers.

The interbrand/intrabrand distinction has some interesting implications for competition among networks, ecosystems, and platforms. On what might be the most natural reading, it might imply that antitrust is primarily concerned with competition *among* those units, not competition within or on them. For example, optimal competition among networks (etc.) might involve significant intra-network restraints, including those that might help to guarantee the secure and efficient operation of the network as a whole. Likewise, if inter-network competition is robust, market participants may be able to switch (or threaten to switch) in order to deter the network owner from imposing inefficient restrictions.

But in some important ways networks, ecosystems, and platforms seem very different from the manufacturers of consumer goods that were at issue in *GTE Sylvania*, and those differences might affect the role of the

³⁸ See, e.g., *Ohio v. American Express Co.*, 585 U.S. 529, 544–47 (2018) (making a version of this point); Steven C. Salop, Daniel Francis, Lauren Sillman & Michaela Spero, *Rebuilding Platform Antitrust: Moving On from Ohio v. American Express*, 84 Antitrust Law Journal 883, 908–13 (2022) (proposing an approach to antitrust analysis in platform cases that reflects this point).

³⁹ See, e.g., *Ohio v. American Express Co.*, 585 U.S. 529, 546 (2018) (“Only other two-sided platforms can compete with a two-sided platform for transactions.”); *United States v. Sabre Corp.*, 452 F. Supp. 3d 97, 138 (D. Del. 2020) (same), *vacated as moot*, No. 20-1767, 2020 WL 4915824 (3d Cir. July 20, 2020).

⁴⁰ *Ohio v. American Express Co.*, 585 U.S. 529 (2018). In brief, the Court’s *AmEx* decision holds among other things that a single antitrust market definition should be constructed to include both (or all?) sides of such platforms, even though the services on those sides may not be substitutable for one another. See *supra* § III.C.4.

⁴¹ See Steven C. Salop, Daniel Francis, Lauren Sillman & Michaela Spero, *Rebuilding Platform Antitrust: Moving On from Ohio v. American Express*, 84 Antitrust Law Journal 883, 930 (2022).

⁴² See *Continental T.V., Inc. v. GTE Sylvania Inc.*, 433 U.S. 36, 52 n.19 (1977).

interbrand/intrabrand distinction in antitrust policy. For one thing, inter-network competition may not be particularly robust if the network owner is an entrenched monopolist, or engaged in tacit collusion. Such competition may not help at all if the relevant restraints are adopted in parallel by the other tacit colluders. For another thing, switching costs, lock-in, and similar effects—not always found in consumer-goods markets like those in *GTE Sylvania*—may reduce the extent to which alternative networks genuinely discipline internal restraints. Chicken-and-egg problems might exacerbate this effect: for example, app developers might resist switching away to other operating systems so long as users stay on the dominant operating system, and vice versa. Ultimately, a commitment to the primacy of interbrand competition might involve some steeper costs—at least in the short term—in the digital context than it does in the brick-and-mortar one. (But then, one might reply: are any of these factors really unique to digital markets? Don’t some brick-and-mortar markets exhibit them too?)

There is, of course, another side to this coin. The need for repeated or continuous interaction among participants in a network, ecosystem, or platform may *increase* the value of internal restraints and limitations, including those that limit competitive freedom in some way. In the context of a digital ecosystem, there may be a particular need for coordination—for both technological and commercial reasons—going far beyond what is necessary or desirable in the distribution of traditional consumer goods. For example, internal restrictions may be necessary to ensure product compatibility, system security, consumer privacy, ease of use, consistency of user experience, or the integrity of commercial practices grounded in network or platform economics (*e.g.*, asymmetric price structures).

All this tees up some tough questions for antitrust policy. Should the primacy of interbrand competition in brick-and-mortar antitrust imply the equal primacy of inter-network (or inter-ecosystem, or inter-platform) competition in digital antitrust? If so, what are the implications and limits of that primacy: should antitrust focus exclusively on protecting inter-unit competition, and effectively ignore on-network competition? Or is it time to reconsider interbrand competition’s primacy, either in some tech markets or across the board?

One analytical tool that might play a role in approaching this problem is the “aftermarket” concept, exemplified by the Supreme Court’s decision in *Eastman Kodak*.⁴³ In brief, the aftermarket concept permits an antitrust market to be defined around the set of products and services available to consumers, or other trading partners, that have already bought a particular primary product or service. In *Eastman Kodak* itself, the Court held that even if the defendant, Kodak, lacked market or monopoly power in a market for photocopying equipment, it might nevertheless hold market or monopoly power in an aftermarket for service and parts for its own equipment. In particular, such “aftermarket power” might exist if information costs and other market imperfections meant that competition in the supply of equipment did not in fact discipline competitive conditions in the supply of service and parts, leaving some customers vulnerable to adverse and discriminatory exploitative conduct in those complementary markets. (Look back at Chapter III for a fuller refresher.⁴⁴)

There may well be some room to apply the aftermarket concept to certain digital markets in ways that have not yet been much explored. In particular: even when competition between networks, ecosystems, or platforms is robust, it is possible that costs and market imperfections—similar to the ones in *Eastman Kodak*—could result in imperfect competitive discipline *within* (or “on”) those units, exposing a set of trading partners to the risk of harm. In such cases, a court might rely on *Eastman Kodak* to define an antitrust “aftermarket,” specific to a particular network, ecosystem, or platform, including only the complementary products and services offered within that environment. For example, even if a smartphone market was competitive, a court might conclude that information costs and other factors meant that such competition did not discipline restraints that affected, say, the supply of apps to users of the smartphone, exposing some or all users of a device, or app developers for a device, to competitive harm. Do you think this would be an appropriate way to qualify antitrust’s general preference for “interbrand” competition? Or would this approach lead to undesirable results and excessive antitrust intervention?

⁴³ *Eastman Kodak Co. v. Image Technical Services, Inc.*, 504 U.S. 451 (1992).

⁴⁴ See *supra* § III.E.

3. Digital Advertising

Many digital products and services are supported by advertising. That is: the products and services are provided free of charge to users, and they are made profitable by charging advertisers for the right to display advertising to those users. Online advertising has been around since the early days of the mainstream internet, and today it represents a vast amount of economic activity.⁴⁵

Digital advertising comes in many forms. Some traditional categories will be familiar to you: “display advertising” typically takes the form of an advertising image displayed on a web page: for example, on a banner at the top, or in a bar down one side.⁴⁶ “Search advertising” is displayed in response to a search—on an internet search result screen, an e-commerce product search result window, a map or otherwise—and it promotes the advertised products or services in some way, and which may or may not be integrated into non-advertising (“organic”) search results.⁴⁷ “Video advertising” typically takes the form of videos or video clips that promote a product or service.⁴⁸ “Influencing” generally involves paid promotional social media content, such as videos, photos, or posts that endorse or praise a product or service.⁴⁹ Advertising that blends with its nonadvertising context is generally known as “native advertising,” a category which may overlap with any of the above.⁵⁰ And of course new forms of digital advertising are emerging all the time: including, recently, experiments with introducing advertising into AI chatbot interactions.⁵¹ Assessing competition among different forms of digital advertising can be very tricky: of course, this is often critical for the assessment of market definition, market or monopoly power, and other pieces of an antitrust case.⁵²

The welfare effects of advertising, like many other things about it, are controversial.⁵³ On the one hand, like other forms of marketing and promotion, digital advertising appears to promote the satisfaction of demand: a traditionally procompetitive effect.⁵⁴ The fact that many businesses spend vast sums on digital advertising does, at

⁴⁵ See, e.g., Statista, *Digital advertising in the United States - statistics & facts*, <https://www.statista.com/topics/1176/online-advertising/> (“The United States is the largest digital advertising market in the world, boasting a revenue of 317 billion dollars in 2024.”); see also, e.g., Jeejun Lee & Chang-Hoan Cho, *Digital Advertising: Present and Future Prospects*, 39 Rev. Mktg. Comms. 332 (2020); Andrew McStay, DIGITAL ADVERTISING (2016).

⁴⁶ See, e.g., *United States v. Google LLC*, 747 F. Supp. 3d 1, 69–70 (D.D.C. 2024).

⁴⁷ See, e.g., Pavel Kireyeva, Koen Pauwels & Sunil Gupta, *Do Display Ads Influence Search? Attribution and Dynamics in Online Advertising*, 33 Intl. J. Res. Mktg. 475 (2016); Yakov Bart, Andrew T. Stephen & Miklos Sarvary, *Which Products Are Best Suited to Mobile Advertising? A Field Study of Mobile Display Advertising Effects on Consumer Attitudes and Intentions*, 51 J. Mktg. Res. 270 (2014); Avi Goldfarb & Catherine Tucker, *Online Display Advertising: Targeting and Obtrusiveness*, 30 Mktg. Sci. 389 (2011).

⁴⁸ See, e.g., Catherine E. Tucker, *The Reach and Persuasiveness of Viral Video Ads*, 34 Mktg. Sci. 281 (2015); Hao Li & Hui-Yi Lo, *Do You Recognize Its Brand? The Effectiveness of Online In-Stream Video Advertisements*, 44 J. Advertising 208 (2014).

⁴⁹ See, e.g., Andrea Galeotti & Sanjeev Goyal, *Influencing the Influencers: A Theory of Strategic Diffusion*, 40 RAND J. Econ. 509 (2009); Paul Harrigan, Timothy M. Daly, Kristof Coussement, Julie A. Lee, Geoffrey N. Soutar & Uwana Evers, *Identifying Influencers on Social Media*, 56 Intl. J. Info. Mgmt. 102246 (2021).

⁵⁰ Colin Campbell & Pamela E. Grimm, *The Challenges Native Advertising Poses: Exploring Potential Federal Trade Commission Responses and Identifying Research Needs*, 38 J. Pub. Pol’y & Mktg. 110 (2018).

⁵¹ See, e.g., Cade Metz, *OpenAI Starts Testing Ads in ChatGPT*, N.Y. TIMES (Jan. 16, 2026).

⁵² See, e.g., *United States v. Google LLC*, 747 F. Supp. 3d 1, 125–42 (D.D.C. 2024) (considering a variety of issues in digital advertising market definition); *In re Google Digital Advert. Antitrust Litig.*, No. 20-CV-03556, 2021 WL 2021990, at *3 (N.D. Cal. May 13, 2021) (“[T]he Court agrees with Defendants that the alleged market for online display advertising services on the open web improperly excludes other ways for advertisers to reach publishers without using Google’s services. The Court is particularly concerned that Plaintiffs’ market excludes social-media display advertising and direct negotiations.”) (internal quotation marks and citations omitted); *FTC v. IQVIA Holdings Inc.*, 710 F. Supp. 3d 329, 352–77 (S.D.N.Y. 2024) (sustaining relevant market for programmatic advertising to health care professionals). For an overview of the landscape, see generally OECD, COMPETITION IN DIGITAL ADVERTISING MARKETS (2020); U.K. Competition and Markets Authority, ONLINE PLATFORMS AND DIGITAL ADVERTISING: MARKET STUDY FINAL REPORT (July 2020) § 5; Simeon Thornton, Chris Jenkins & Marie-Madeleine Husunu, *Competition in Digital Advertising Markets*, 20 Comp. L.J. 89 (2021); Catherine Tucker, *Competition in the Digital Advertising Market in GAI*, THE GLOBAL ANTITRUST INSTITUTE REPORT ON THE DIGITAL ECONOMY (2020); Damien Geradin & Dimitrios Katsifis, *An EU Competition Law Analysis of Online Display Advertising in the Programmatic Age*, 15 Eur. Comp. J. 55 (2019).

⁵³ An old strand of criticism and analysis targets advertising itself—digital or otherwise—on the ground that by introducing “artificial” demand inelasticity it results in market power and consumer harm. See, e.g., Lakshman Krishnamurthi & S.P. Raj, *The Effect of Advertising on Consumer Price Sensitivity*, 22 J. Mktg. Res. 119 (1985); Paul W. Farris & Mark S. Albion, *The Impact of Advertising on the Price of Consumer Products*, 44 J. Mktg. 17 (1980); H. Paul Root, *Should Product Differentiation Be Restricted?*, 36 J. Mktg. 3 (1972); Dorothea Braithwaite, *The Economic Effects of Advertisement*, 38 Econ. J. 16 (1928).

⁵⁴ See generally, e.g., Geoffrey A. Manne & Eric Fruits, *The Antitrust Assault on Ad Tech: A Law & Economics Critique*, ICLE White Paper (2022).

least, strongly suggest that at least they think it works to connect users with products and services that they want to buy. On the other hand, in some circumstances, advertising may be associated with welfare harms. For example, if a personal social network increases the ratio of advertising to “organic” social content in a user’s feed—sometimes called the “advertising load” or “ad load”—the most desirable content may be effectively diluted, arguably reducing the welfare of users.⁵⁵ This is not to say that an ad-supported model is necessarily more harmful for users than the alternative, which may be a subscription-based model with a money price.

The effects of data-driven targeting (“behavioral advertising”) are particularly contested.⁵⁶ There is clearly something to be said in favor of the practice: all else equal, it seems plausible that users are more likely to value advertising that reflects their interests and preferences, compared to advertising that does not. Some scholarly contributions have explored ways in which targeted advertising may contribute to social welfare.⁵⁷ But scholars and advocates have also raised concerns that behavioral advertising—along with the widespread collection and use of personal data that it includes—may be injurious to privacy, dignity, and a variety of other interests.⁵⁸ They suggest that harms may be particularly significant if users either do not consent, or do not consent in a sufficiently robust fashion, to the collection, sharing, or commercialization of their data.⁵⁹ This worry is sometimes identified with broader concerns about a “surveillance economy” in which human dignity or autonomy may be impaired.⁶⁰

Privacy (and similar) concerns related to advertising can show up in antitrust or competition policy in a variety of ways. Some have suggested, for example, that injuries to privacy might play a role in demonstrating that market or monopoly power exists in a particular case, or that a practice or transaction has had harmful effects (*e.g.*, by reducing competitive pressure that would otherwise force a digital business to offer better privacy protections). Others argue that the consistency and magnitude of consumer preferences for privacy are overstated, and that on net consumers prefer to share their information in order to get free products and services, such that more data-sharing does not necessarily correspond to consumer injury. We will return to this point below.

A distinct but related set of concerns has been articulated in connection with features of product or service design that are designed to influence or affect user behavior (sometimes called “dark patterns”): for example, to encourage behaviors, like use or purchasing, that are arguably inconsistent with a user’s “true” preferences.⁶¹ Of course, many suppliers design their products to be attractive and to encourage their use. And a very great deal of advertising aims to influence consumer preferences or behavior. So: is the effort to influence consumers different in any salient respect—more effective, more harmful, more pernicious—when it is deployed in connection with an online product or service? And how would we prohibit it, if we wanted to do so?

⁵⁵ See, *e.g.*, FTC v. Meta Platforms, Inc., 811 F. Supp. 3d 67, 84–86 (D.D.C. 2025) (reviewing evidence of salience of ad load).

⁵⁶ See generally, *e.g.*, Eduardo Abraham, Schnadower Mustri, Idris Adjerid & Alessandro Acquisti, *Behavioral Advertising and Consumer Welfare: An Empirical Investigation*, working paper (Mar. 22, 2023) 2–3 (reviewing literature); Yan Lau, *A Brief Primer on the Economics of Targeted Advertising*, FTC Bureau of Economics Working Paper (Jan. 2020).

⁵⁷ See, *e.g.*, Jianqing Chen & Jan Stallaert, *An Economic Analysis of Online Advertising Using Behavioral Targeting*, 38 M.I.S.Q. 429 (2014); David S. Evans, *The Online Advertising Industry: Economics, Evolution, and Privacy*, 23 J. Econ. Persp. 37, 42–43 (2009); Lola Esteban & Jose M. Hernandez, *Strategic Targeted Advertising and Market Fragmentation*, 12 Econ. Bull. 1 (2007).

⁵⁸ See, *e.g.*, Jane S. Hoffman, YOUR DATA, THEIR BILLIONS: UNRAVELING AND SIMPLIFYING BIG TECH (2022); Dissenting Statement of Commissioner Rohit Chopra, In re Facebook, Inc. FTC File No. 1823109 (July 24, 2019); Natasha Lomas, *The Case Against Behavioral Advertising Is Stacking Up*, TECHCRUNCH (Jan. 20, 2019).

⁵⁹ See, *e.g.*, Federico Galli, Francesca Lagioia & Giovanni Sartor, *Consent to Targeted Advertising*, Eur. Bus. L. Rev. 485 (2022).

⁶⁰ See generally, *e.g.*, Shoshana Zuboff, THE AGE OF SURVEILLANCE CAPITALISM: THE FIGHT FOR A HUMAN FUTURE AT THE NEW FRONTIER OF POWER (2019).

⁶¹ See, *e.g.*, House of Representatives Subcommittee on Antitrust, Commercial and Administrative Law of the Committee on the Judiciary, INVESTIGATION OF COMPETITION IN DIGITAL MARKETS: MAJORITY STAFF REPORT AND RECOMMENDATIONS (2020) 53 (“[B]ehavioral nudges—referred to as dark patterns—are commonly used in online tracking and advertising markets to enhance a firm’s market power and maximize a company’s ability to extract revenue from its users.”); Eric Ravenscraft, *How to Spot—and Avoid—Dark Patterns on the Web*, WIRED (July 29, 2020); see also Gregory Day & Abbey Stemler, *Are Dark Patterns Anticompetitive?* 72 Ala. L. Rev. 1 (2020).

4. Data

No survey of digital antitrust issues would be complete without some mention of data: or indeed “Big Data.”⁶² Data, of course, is just information: and digital products and services often involve plenty of it.

Data plays many different roles in digital competition matters.⁶³ Sometimes the product or service of competitive concern itself involves the supply of data.⁶⁴ On other occasions, data of some kind may be an important input into a relevant product or service.⁶⁵ For example, personal data about users may be a valuable input into the provision of targeted advertising services; likewise, data about internet search queries (“query data”) may be a valuable input into the provision of internet search services. This may give rise to concerns about foreclosing rivals’ access to data, or using data—obtained by agreement or through a merger—to free-ride on competitors’ investments in ways that reduce their incentives to make such investments and thus harm welfare.⁶⁶ And on still other occasions, data may affect the analysis of barriers to entry: for example, parties may argue or a court may conclude that a need for data of a particular kind limits the ability of businesses to enter or expand, given the absence of reasonable substitutes.⁶⁷

These settings, among others, raise the question of whether and when access to data may give rise to market or even monopoly power. Can one be a monopolist of some kind of information? The answer is almost certainly yes in principle: data is a valuable thing that may be scarce, even if it is what economists call “non-rivalrous in consumption” (*i.e.*, use of data by one person does not leave less of it for others).⁶⁸ But, as with any other product or service, market or monopoly power in data is most likely to be plausible when alternative datasets, or other non-data-driven alternatives, are not reasonably available on comparable terms to meet the demand in question.⁶⁹

⁶² “Big Data” is a term that usually refers loosely to very large datasets. It is sometimes used to connote datasets that are particularly extensive with respect to their “volume, velocity, and variety,” with different commentators adding or emphasizing different things. *See generally, e.g.*, Xavier Boutin & Georg Clemens, *Defining “Big Data” in Antitrust*, CPI Antitrust Chronicle (Aug. 2017); OECD, *Big Data: Bringing Competition Policy to the Digital Era*, DAF/COMP/M(2016)2/ANN4/FINAL (Apr. 26, 2017).

⁶³ *See generally, e.g.*, Kristof Zetenyi & Dheeraj Chaudhary, *Data in the Digital Economy: The “Anti-Hero” of Antitrust or Just “Bad Reputation?”* CPI Antitrust Chronicle (Feb. 2024); D. Daniel Sokol & Roisin Comerford, *Antitrust and Regulating Big Data*, 23 Geo. Mason L. Rev. 1129 (2016); Maureen K. Ohlhausen & Alexander P. Okuliar, *Competition, Consumer Protection, and The Right [Approach] to Privacy*, 80 Antitrust L.J. 121, 123 (2015).

⁶⁴ *See, e.g.*, Statement of the FTC, In the Matter of Nielsen Holdings N.V. and Arbitron Inc., FTC File No. 131-0058 (Sept. 20, 2013), 1 (“We believe Nielsen’s acquisition of Arbitron is likely to deprive media companies and advertisers of the benefits of competition between two firms that are currently developing, and are most likely to be effective suppliers of, syndicated crossplatform audience measurement services.”); FTC, Analysis of Agreement Containing Consent Order to Aid Public Comment, In the Matter of CoreLogic, Inc., FTC File No. 131-0199 (Mar. 24, 2014), 2 (“The acquisition would significantly increase concentration in an already highly concentrated market for national assessor and recorder bulk data.”); Complaint, In the Matter of Verisk Analytics, Inc., FTC Dkt. No. 9363 (F.T.C., filed Dec. 16, 2014), ¶ 1 (“Verisk’s proposed acquisition of EagleView threatens to harm competition by eliminating its largest and most significant competitor for rooftop aerial measurement services and reports.”).

⁶⁵ *See, e.g.*, Competitive Impact Statement, United States v. Google Inc., No. 1:11-CV-688 (D.D.C. filed Apr. 8, 2011) (resolving concerns that Google’s acquisition of ITA Software would enable it to foreclose rivals’ access to important data and information); *see also* FTC v. IQVIA Holdings Inc., 710 F. Supp. 3d 329, 351 (S.D.N.Y. 2024) (noting, but not adjudicating, claim that “IQVIA’s acquisition of DeepIntent will allow it to foreclose other industry participants from accessing IQVIA’s data, which is a key input for HCP programmatic advertising”).

⁶⁶ *See, e.g.*, United States v. UnitedHealth Gp. Inc., 630 F. Supp. 3d 118, 142 (D.D.C. 2022) (describing such a claim); U.S. Dept. of Justice & FTC, MERGER GUIDELINES (2023) 17 (“[A] merged firm might use visibility into a rival’s competitively sensitive information to undermine competition from the rival. For example, the merged firm’s ability to preempt, appropriate, or otherwise undermine the rival’s procompetitive actions can discourage the rival from fully pursuing competitive opportunities.”); *id.* at 25 (“Mergers that involve firms that provide other important inputs to platform services can enable the platform operator to deny rivals the benefits of those inputs. For example, acquiring data that helps facilitate matching, sorting, or prediction services may enable the platform to weaken rival platforms by denying them that data.”).

⁶⁷ *See, e.g.*, Jingyuan Ma, REGULATING DATA MONOPOLIES: A LAW AND ECONOMICS PERSPECTIVE (2022) Ch. 6; Daniel L. Rubinfeld & Michal S. Gal, *Access Barriers to Big Data*, 59 Ariz. L. Rev. 339 (2017); D. Daniel Sokol & Roisin Comerford, *Antitrust and Regulating Big Data*, 23 Geo. Mason L. Rev. 1129 (2016).

⁶⁸ *See, e.g.*, *Standfacts Credit Servs. v. Experian Info. Sols., Inc.*, 294 F. App’x 271, 272 (9th Cir. 2008) (accepting, for the purposes of a motion to dismiss, a “wholesale market for . . . credit data for use in tri-merged Mortgage Credit Reports”); Complaint, In the Matter of Fidelity National Financial/Stewart Information Services, FTC File No. 181-0127 (F.T.C. filed Sept. 24, 2019) ¶¶ 39–42 (alleging a market for “title information services”).

⁶⁹ *See generally, e.g.*, Nadeem U. Shahid & Nasir J. Sheikh, *Impact of Big Data on Innovation, Competitive Advantage, Productivity, and Decision Making: Literature Review*, 9 Open J. Bus. & Mgmt. 586 (2021); Anja Lambrecht & Catherine E. Tucker, *Can Big Data Protect a Firm from Competition?*, CPI Antitrust Chronicle (Jan. 2017); Inge Graef, *Market Definition and Market Power in Data: The Case of Online Platforms*, 38 World Competition 473 (2015).

Just as with any other product or service, merely having a lot of information or data is not itself constitutive of market or monopoly power in the antitrust sense, even if it contributes in some way to a competitive advantage.⁷⁰

Data may also play a role in the assessment of market power by making a particular subset of inelastic customers, consumers, or other trading partners more easily identifiable. For example, in determining whether to define a “price discrimination” (or “targeted customer”) market, agencies and courts must commonly determine whether a particular segment of demand is inelastic and vulnerable to a price increase or other harm from the relevant practice or transaction. This assessment may turn in part on whether the relevant market participants have access to data about customer identity, preference, and behavior in ways that would make it easier to target inelastic customers.⁷¹

In other settings, we might think of data not as a source of market power but as a possible dimension of benefit or harm. For example, improved access to accurate data might be a relevant procompetitive benefit of a practice or transaction: it might contribute to welfare by permitting the accurate identification and satisfaction of demand, more valuable product design and innovation, or the reduction of waste and information costs.⁷² As we saw in Chapter V, even data exchange among direct competitors can be, and often is, procompetitive.⁷³ Conversely, data may figure in a story of harm. For example—as noted above—if consumers do indeed prefer to share less data rather than more, their welfare may be reduced if the “data price” for a product or service is increased and all else is otherwise equal.⁷⁴

This touches a notorious empirical puzzle that sometimes raises its head in digital competition policy discussions: how much do consumers really value their digital privacy? When they receive a digital product or service for no cash price, in exchange for providing data that is used to target advertising, is their surplus value high or low? The evidence on this question is mixed and puzzling. Consumers frequently indicate (*e.g.*, on surveys and in interviews) that they value their privacy online.⁷⁵ And many scholars and policy advocates emphasize the harms of tech “surveillance” as an urgent problem for legislators and regulators.⁷⁶ And yet many consumers seem to act in ways that suggest they value digital privacy little, if at all.⁷⁷ Researchers, including industry participants, have made

⁷⁰ See generally *supra* §§ II.F, III.E (economics and law of market power).

⁷¹ See generally, *e.g.*, U.S. Executive Office of the President, *BIG DATA AND DIFFERENTIAL PRICING* (Feb. 2015); Ariel Ezrachi & Maurice E. Stucke, *The Rise of Behavioural Discrimination*, 37 Eur. Comp. L. Rev. 484 (2016).

⁷² See, *e.g.*, Catherine Tucker, *Online Advertising and Antitrust: Network Effects, Switching Costs, and Data As An Essential Facility*, CPI Antitrust Chronicle (Apr. 2019) (noting that “[d]ata has revolutionized online advertising by allowing platforms to ‘target’ consumers who are likely to respond well to an ad with the right ad at the right time, and then measure the effectiveness of the ad,” and that “the right data can greatly improve the performance of advertising,” albeit “only because of the baseline assumption that online advertising is rather ineffective”); D. Daniel Sokol & Roisin Comerford, *Antitrust and Regulating Big Data*, 23 Geo. Mason L. Rev. 1129, 1133 (2016) (“Unprecedented consumer benefits have already been realized through the use of Big Data, chief among them free user services (as a number of the cases have noted), improved quality, and a rapid increase in innovation.”). Some have suggested that under certain circumstances data may be so beneficial as to be competitively essential. Zachary Abrahamson, *Essential Data*, 124 Yale L.J. 867 (2014).

⁷³ See, *e.g.*, *Todd v. Exxon Corp.*, 275 F.3d 191, 213 (2d Cir. 2001) (“Public dissemination is a primary way for data exchange to realize its procompetitive potential. For example, in the traditional oligopoly . . . context, access to information may better equip buyers to compare products, rendering the market more efficient while diminishing the anticompetitive effects of the exchange.”); see generally *supra* § V.C.2.

⁷⁴ See, *e.g.*, Magali Eben, *Personal Data as a Price in Market Definition: A Brief Assessment*, CPI Antitrust Chronicle (Sept. 2021).

⁷⁵ This is a favorite empirical topic for scholars and marketers alike. See, *e.g.*, Data & Marketing Ass’n, *UK Data Privacy: What the Consumer Really Thinks* (2022) 4 (“The proportion of UK consumers who claim to have high levels of concerns about their online privacy has fallen notably over the past decade. In 2022, 69% of UK consumers stated high levels of online privacy concerns, compared to 84% in 2012.”); Jeffrey T. Prince & Scott Wallsten, *How Much Is Privacy Worth Around the World and Across Platforms?*, 31 J. Econ. & Mgmt. Strat. 841 (2022) (presenting empirical data across multiple jurisdictions); KPMG, *Corporate Data Responsibility: Bridging the Consumer Trust Gap* (Aug. 2021) 1 (“86% [of U.S. general population] say data privacy is a growing concern” and “68% are concerned about the level of data being collected by businesses”); see generally Alessandro Acquisti, Curtis Taylor & Liad Wagman, *The Economics of Privacy*, 54 J. Econ. Lit. 442 (2016) (comprehensive survey).

⁷⁶ See *supra* notes 58–60 and accompanying text.

⁷⁷ See, *e.g.*, Susan Athey, Christian Catalini & Catherine Tucker, *The Digital Privacy Paradox: Small Money, Small Costs, Small Talk*, NBER Working Paper 23488 (June 2017) 2 (“Whereas people say they care about privacy, they are willing to relinquish private data quite easily when incentivized to do so.”). See also Christopher Jon Sprigman & Stephan Tontrup, *Privacy Decision-making and the Effects of Privacy Choice Architecture: Experiments Toward the Design of Behaviorally-Aware Privacy Regulation*, 21 J. Empirical L. Stud. 577 (2024) (offering an explanation for this phenomenon grounded in trustworthiness heuristics).

various efforts to quantify the economic value to consumers of unpriced services like search, email, and social networking, in order to assess the net surplus that accrues from receiving such services in exchange for data.⁷⁸

5. Innovation and the “Dynamism Discount”

Arrovian and Schumpeterian Perspectives on Innovation

Even more than other areas of antitrust, digital competition policy is haunted by concerns about innovation. Everyone recognizes that innovation—the invention and dissemination of new and better ways of doing things—is a source of tremendous social benefit. And what we loosely call the digital or platform economy certainly seems to be marked by rapid and often desirable technological change, including a series of socially valuable inventions. (Of course, this does not mean that everything about digital markets is necessarily or always good!) Most people who write about competition policy broadly agree that innovation should be promoted, supported, and encouraged through antitrust.⁷⁹ In other words, almost everyone is in favor of innovation!

But that’s about as far as the consensus goes. There is deep disagreement about where innovation comes from; how to measure or predict it; what practices, circumstances, or rules are most likely to generate valuable innovation; and what a focus on innovation does or should imply for enforcement.⁸⁰ Some writers (including, most famously, Joseph Schumpeter) have argued that the best way to promote innovation is to allow businesses to gain and exploit monopoly power. They argue that the “dynamic” benefits of new inventions and ideas will outweigh the “static” harms of high monopoly prices, and they predict that successive generations of monopolists will be continually swept away in a “gale of creative destruction” by businesses with radically new approaches.⁸¹ A Schumpeterian approach to antitrust and competition policy might therefore take a relatively hands-off approach, for fear of deterring or preventing incumbents from pursuing valuable innovations, and for fear of making monopoly itself a less attractive goal for would-be investors.⁸² Such an approach would still be attuned to threats to innovation competition.

Other writers (including, most famously, Kenneth Arrow) have argued that monopolists tend to be stakeholders in the status quo, so the best hope for real innovation comes from rivals and entrants.⁸³ An Arrovian approach to antitrust and competition policy might therefore take a relatively interventionist stance, to make sure that incumbents do not snuff out small entrants (or deter their entry in the first place) and thus deprive society of the most promising sources of innovation. Remember that both Schumpeterian and Arrovian approaches are directional ideas about complicated (and imperfectly understood) relationships, not laws of the universe!

Innovation and Substantive Antitrust: The Dynamism Discount

The innovation debate continues, and there is probably not much chance of consensus breaking out any time soon.⁸⁴ And the elusiveness of innovation creates a real puzzle for those who want courts (or other institutions, like

⁷⁸ See, e.g., Erik Brynjolfsson, Avinash Collis, Asad Liaqat, Daley Kutzman, Haritz Garro, Daniel Deisenroth, Nils Wernerfelt & Jae Joon Lee, *The Digital Welfare of Nations: New Measures of Welfare Gains and Inequality*, NBER Working Paper 31670 (Sept. 2023); Erik Brynjolfsson, Avinash Collis & Felix Eggers, *Using Massive Online Choice Experiments to Measure Changes in Well-Being*, 116 Proc. Nat’l Acad. Sci. U.S.A. 7250 (2019).

⁷⁹ See, e.g., Diana Moss, American Antitrust Institute, *The Impact of Consolidation and Monopoly Power on American Innovation*, Testimony Before the U.S. Senate, Committee on the Judiciary Subcommittee on Antitrust, Competition, and Consumer Rights (Dec. 15, 2021) (“antitrust enforcement and competition policy [are] vital tools for promoting innovation”); Christine S. Wilson, *Antitrust and Innovation: Still Not a Dynamic Duo?* (remarks of Sept. 10, 2019) (emphasizing importance of innovation as a goal for antitrust).

⁸⁰ See, e.g., Michael L. Katz & Howard A. Shelanski, *Merger Policy and Innovation: Must Enforcement Change to Account for Technological Change?*, in Adam B. Jaffe, Josh Lerner & Scott Stern (eds.), 5 INNOVATION POLICY AND THE ECONOMY (2005) 110 (“Merger policy has thus increasingly focused on innovation, although exactly what the new focus in merger policy means or how it translates into enforcement has proven difficult to ascertain.”).

⁸¹ See, e.g., Joseph Schumpeter, CAPITALISM, SOCIALISM, AND DEMOCRACY (1942).

⁸² *Id.* at 87–91 (indicating tolerance for “restrictive practices” by monopolists for this reason).

⁸³ See, e.g., Kenneth Arrow, *Economic Welfare and the Allocation of Resources to Invention*, in NBER (ed.), THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS (1962) (noting the disincentive to invest created by pre-innovation monopoly profits).

⁸⁴ The literature is enormous. For a selection, see, e.g., Richard J. Gilbert & A. Douglas Melamed, *Antitrust For Innovation: A Progress Report*, GW Competition & Innovation Lab Working Paper 2024/9 (2024); Gönenç Gürkaynak, INNOVATION PARADOX IN

agencies) to try to take it seriously. For example, suppose that an antitrust plaintiff alleges that a particular transaction—such as the acquisition of a nascent or potential competitor—had harmed innovation, on the ground that more and more valuable innovation would or could have emerged if the transaction had not taken place. How could that be proved? What metrics or outcomes should a court examine? Likewise, suppose that an antitrust defendant argues that a practice or transaction is justified overall, despite the existence of some short-term harms, by its tendency to promote valuable innovation. How could a court or agency evaluate that claim?

In principle, antitrust doctrine is crystal clear that harm to innovation counts as an anticompetitive effect, and that the promotion of innovation counts as a procompetitive benefit.⁸⁵ But it's one thing to affirm, as courts and writers do, that antitrust cares about innovation in principle, and quite another thing to say that antitrust has a reliable or coherent way for assessing innovation effects. It does not: nor, it seems, does anyone else!⁸⁶

In practice, some courts exhibit a kind of soft Schumpeterianism in tech cases: that is, they show particular caution about intervening in markets that are new, expanding, changing rapidly, or high-tech in some sense. This seems to amount to a kind of informal, inconsistent “dynamism discount” on antitrust cases: all else equal, the more dynamic and fast-moving the market, the stronger a plaintiff's case must be to win.⁸⁷ And, even when liability is established, a similar discount is arguably visible in at least some remedial decisions.⁸⁸

Reasonable minds can disagree about whether this is a good idea. Some writers support this approach, arguing that the risks of unintended harm are particularly acute in complex or fast-moving markets, or that the presence of rapid technological change means that the market is more likely to self-correct, so we should be more cautious about intervening through antitrust or other competition-law tools.⁸⁹ Others take the opposite view, suggesting that it may be especially important to maintain antitrust vigilance in markets for tech-heavy products and services, to protect against harms to innovation.⁹⁰ As you would expect, one's views about the right path for antitrust here

MERGER CONTROL (2023); Richard J. Gilbert, INNOVATION MATTERS: COMPETITION POLICY FOR THE HIGH-TECHNOLOGY ECONOMY (2020); Carl Shapiro, *Competition and Innovation: Did Arrow Hit the Bull's Eye?*, in Josh Lerner & Scott Stern (eds.) THE RATE & DIRECTION OF ECONOMIC ACTIVITY REVISITED (2012); Geoffrey A. Manne & Joshua D. Wright, *Innovation and the Limits of Antitrust*, 6 J. Comp. L. & Econ. 153 (2010); Ilya Segal & Michael D. Whinston, *Antitrust in Innovative Industries*, 97 Am. Econ. Rev. 1703 (2007).

⁸⁵ See, e.g., NCAA v. Alston, 594 U.S. 69, 102 (2021) (noting that antitrust remedies should not “suppress procompetitive innovation”); Epic Games, Inc. v. Apple, Inc., 67 F.4th 946, 998 (9th Cir. 2023) (noting in a tying analysis that courts should avoid interpretations that would “dampen[] innovation”); FTC v. Surescripts, LLC, 424 F. Supp. 3d 92, 103 (D.D.C. 2020) (emphasizing adequacy of allegations that the defendant's conduct “hurt innovation, decreased output, and lowered quality”); see also U.S. Dept. of Justice & FTC, MERGER GUIDELINES (2023) 11 (listing “greater innovation” as a “procompetitive effect” of entry).

⁸⁶ See generally Daniel F. Spulber, *Antitrust and Innovation Competition*, 11 J. Antitrust Enforcement 5 (2023) (criticizing some traditional analytical approaches to the assessment of innovation effects).

⁸⁷ See, e.g., New York v. Meta Platforms, Inc., 66 F.4th 288, 305 (D.C. Cir. 2023) (“[C]ourts should proceed cautiously when asked to deem novel products or practices anti-competitive. Many innovations may seem anti-competitive at first but turn out to be the opposite, and the market often corrects even those that are anti-competitive.”); *id.* at 295 (“The States’ lawsuit is not only odd, but old. ‘Odd’ because the States’ suit concerns an industry that, even on the States’ allegations, has had rapid growth and innovation with no end in sight.”); FTC v. Qualcomm Inc., 969 F.3d 974, 990–91 (9th Cir. 2020) (emphasizing special caution in cases involving “novel business practices—especially in technology markets”); United States v. Microsoft Corp., 253 F.3d 34, 93 (D.C. Cir. 2001) (en banc) (relying in part on the “pervasively innovative” nature of platform software markets as a reason to disapply the purported *per se* rule against tying in that context).

⁸⁸ See, e.g., United States v. Google LLC, 803 F. Supp. 3d 18, 70 (D.D.C. 2025) (stating that, in framing an antitrust remedy, a “court must be sensitive to remedies that risk substantially stifling technological innovation or impairing consumer welfare” and that courts must be “mindful” of “their limitations” and retain “a healthy dose of judicial humility”).

⁸⁹ See, e.g., Geoffrey Manne & Dirk Auer, *Antitrust Dystopia and Antitrust Nostalgia: Alarmist Theories of Harm in Digital Markets and Their Origins*, 28 Geo. Mason L. Rev. 1279, 1309 (2021) (“Because of . . . relatively static, backward-looking market definitions, innovation or other procompetitive conduct may be systematically misidentified as anticompetitive. . . . These problems are likely to be particularly acute in rapidly changing digital markets.”); Douglas H. Ginsburg, Koren W. Wong-Ervin, & Joshua D. Wright, *Product Hopping and the Limits of Antitrust: The Danger of Micromanaging Innovation*, CPI Antitrust Chronicle (Dec. 2015) (“Antitrust law is not a suitable instrument for micromanaging product design and innovation. Imposing antitrust liability upon new product introductions requires competition agencies and courts to weigh the benefits to consumers from the innovation against any costs to consumers arising from the diminution of competition. Not only are agencies and courts ill-equipped to make such determinations, but it is also unclear whether the balancing contemplated by a rule prohibiting anticompetitive product hopping can be done at all.”).

⁹⁰ See, e.g., Jonathan B. Baker, *Beyond Schumpeter vs. Arrow: Antitrust Fosters Innovation*, 74 Antitrust L.J. 575 (2007); Diana L. Moss, *The Record of Weak U.S. Merger Enforcement in Big Tech*, American Antitrust Institute White Paper (July 8, 2019); Franklin M. Fisher, *Antitrust and Innovative Industries*, 68 Antitrust L.J. 559, 559 (2000) (“[I]t is wrong to concentrate only on the innovations introduced by the defendant.”). See also Anu Bradford, *The False Choice Between Digital Regulation and Innovation*, 118 Nw. U. L. Rev. 377 (2024) (arguing that “stringent” regulation is consistent with innovation); Tim Wu, *Taking Innovation Seriously: Antitrust Enforcement If Innovation Mattered Most*, 78 Antitrust L.J. 313 (2012) (proposing a substantive agenda for an innovation-focused antitrust policy).

have plenty to do with one’s own background beliefs about how markets generally work. These arguments and views may remind you of the debates we explored in Chapter I about the benefits and risks of intervention in markets more generally.

Innovation and Antitrust Procedures

Aside from the debate over whether we should have a “dynamism discount” in antitrust, there are fair questions about the fit between antitrust’s institutions and procedures, on the one hand, and the realities of digital competition, on the other. The wheels of our antitrust system turn slowly. A government monopolization investigation can take two or three years, and after a complaint issues it can take just as long again—or more!—to get through motions to dismiss, fact and expert discovery, and summary judgment, to reach a full trial. Appeals can add years on top of that. By the time a final remedy is imposed at the far end of that process, the subject matter of the litigation may long have been overtaken by technological and commercial developments. Many people see this as a problem.⁹¹ In one extreme example, the FTC’s challenge to the acquisitions of Instagram and WhatsApp by Facebook (now Meta) was rejected by the district court after trial because, in the years *since* the filing of the complaint, the defendant had lost its monopoly power.⁹²

So what can be done? The answer—as with everything else in tech antitrust—is open to multiple competing interpretations. Some suggest that this long lag time means that antitrust is useless for fast-moving markets. On one reading, we should therefore get out of the game altogether, because the prospect of real benefit is slender and the costs are great. On another reading, we just need faster tools for responding to problems in tech markets.

One important difficulty is that it is not clear where the time-savings both could and should come from. A faster process would probably mean giving up on efforts to measure the things that make antitrust cases so complicated and burdensome, like market definition, market power, competitive effects, and procompetitive benefits. Which of those things should we stop worrying about? Would new presumptions lead to faster processes—or would all the same arguments and evidence be relevant in any event?

In the meantime, even with its delays and imperfections, the base case for tech antitrust seems solid, for most of the same reasons that we might value antitrust in the rest of the economy. For one thing, the slowness of antitrust process is a feature of *all* antitrust litigation, not a unique problem in tech markets. For another, the social value of antitrust litigation often extends beyond merely fixing the litigated problem: much of its value flows from the guidance that it provides to others about the interpretation and application of antitrust rules.

It is also worth remembering that tech monopolies are not always washed away overnight in a turning of the Schumpeterian tide. For example, the most famous tech antitrust decision of all time—the D.C. Circuit’s *Microsoft* opinion—concerned Microsoft’s position in PC operating systems. That complaint was filed in 1998; Microsoft still enjoyed a substantial market position in operating systems when the D.C. Circuit rendered its opinion three years later; and indeed it still does so today, two decades later.⁹³ There are plenty of other examples of businesses that have maintained an impressive position for more than a decade: Google, for example, has been a leading internet search provider for more than two decades; Facebook has been a leading personal social network for more than 15 years; and so on. This does not necessarily imply a policy problem. But it does suggest that success, incumbency, and market power can endure in digital markets just as they can in non-digital parts of the economy:

⁹¹ See, e.g., Ashley Gold, *While Big Tech Zips, Regulators Slog*, AXIOS (Jan. 12, 2022) (“Tech firms and Beltway regulators not only see issues differently but also operate on wildly different scales of time — with DC’s glacial pace often leaving it at a deep disadvantage in its quest to limit tech giants’ power.”); Testimony of Charlotte Slaiman before the U.S. House of Representatives Committee on the Judiciary Subcommittee on Antitrust, Commercial, and Administrative Law, Hearing On Reviving Competition, Part 1: Proposals to Address Gatekeeper Power and Lower Barriers to Entry Online (Feb. 25, 2021) (“In markets as fast-moving and prone to tipping as [digital platform markets are], case-by-case antitrust litigation is too slow and limited to fully address the breadth of the problem.”). These concerns are not new! See, e.g., Jonathan B. Baker, *Can Antitrust Keep Up?: Competition Policy in High-Tech Markets*, BROOKINGS COMMENTARY (Dec. 1, 2001) (“The critics’ central claim is that the pace of change in high tech is so rapid that antitrust, and the legal machinery within which it must operate, is too slow and potentially counterproductive.”).

⁹² *FTC v. Meta Platforms, Inc.*, 811 F. Supp. 3d 67, 123 (D.D.C. 2025) (“Whether or not Meta enjoyed monopoly power in the past . . . the agency must show that it continues to hold such power now. The Court . . . determines that the FTC has not done so.”).

⁹³ See, e.g., StatCounter, *Desktop Operating System Market Share Worldwide*, STATCOUNTER GLOBALSTATS (May 2026) (listing Windows worldwide market share at 62.16%, with the next highest named alternative, OS X, at just 10.37%).

for good reasons, bad ones, and combinations of the two. This suggests that antitrust intervention may be necessary to bring harmful practices to an end, remedy their effects, and enjoin recidivism.

For these and other reasons, there seems to be plenty of social value in antitrust enforcement in tech markets. The harder question is how to do it best: that is, in a way that best serves society, while accurately reflecting the workings of the relevant technologies, businesses, and markets. And that, as we shall see, can be tricky.

Are There Digital Markets?

Finally: what is a “digital” or “tech” market anyway? Today, many businesses of all kinds—supermarkets and publishers, furniture makers and therapists, insurers and accountants, libraries and hospitals—use digital platforms, rich datasets, algorithms and AI tools, cloud computing, and automation of all kinds. They operate multisided businesses, enjoy network effects, buy or sell advertising, and use data to optimize their businesses. It is not clear that we should treat two similar practices and transactions dissimilarly just because more electrons are involved in one than the other. And, certainly, if we decide to apply an antitrust discount in “tech” cases, we will surely find that, over time, that discount applies to a steadily greater proportion of our economic activity.

NOTES

- 1) Do we need a special approach to “tech antitrust”? Is there a “tech sector” in any meaningful sense, and, if so, are there good reasons to take a special approach to antitrust or other regulatory decisions in that sector? (Can you think of practices that should be permitted outside the tech sector but prohibited within it, or vice versa?) When brick and mortar businesses use or offer digital products and services (*e.g.*, retailers selling through websites, or using rich consumer data to target advertising and special offers), does that fall in the “tech sector”?
- 2) Herbert Hovenkamp has suggested that, of all the sectors of the economy upon which one might focus antitrust attention, digital markets seem to be among the least promising: innovation seems high, competition seems vigorous, and consumers seem to be getting good products and services for low or zero prices.⁹⁴ Do you agree?
- 3) Do you agree with the following statement: “Antitrust should only promote competition, not other goals that we might have for the digital economy”? If you do agree with it, what do you mean by “competition” and to what extent does it overlap with, or contain, other values and goals? If you don’t agree with it, what goals do you think antitrust should promote in this area and why?
- 4) Suppose that Congress wants to do something about the fact that antitrust litigation is too slow and expensive, on the ground that this limits its relevance in tech markets. Congress asks for your best ideas. What reforms—substantive, procedural, or institutional—would you propose?
- 5) Would we be better off if we banned behavioral advertising? What effects do you predict this would have?
- 6) Should privacy play any role in antitrust analysis? If so, what would that role be?
 - a. Can you think of how it might play a role in market definition?
 - b. How might providing less privacy protection figure as a form of competitive harm? Should it always be treated that way?
- 7) Antitrust doctrine generally takes demand as it finds it: that is, it assumes that things that improve the satisfaction of consumer demand are generally good, and things that reduce the satisfaction of demand are generally bad. Can and should antitrust analysis respond to concerns that some digital products and services might *reshape* our preferences in ways that might be regrettable? Such concerns have been raised about a wide array of products and services, from social media to video games to behavioral advertising. Are those concerns irrelevant to antitrust enforcement and adjudication, or should enforcers and courts take them into account

⁹⁴ Robert Armstrong & Ethan Wu, *What Big Tech Antitrust Gets Wrong: An Interview with Herbert Hovenkamp*, FINANCIAL TIMES (Jan. 19, 2024) (“Which industries should the antitrust authorities pursue? You look for industries that are characterised by slow growth, oligopoly, rigid market shares, not very big increases in productivity—industries of poor performance. You try to make those industries perform better. With Big Tech, we’re looking at probably the most productive part of the economy. The rate of innovation is high. They spend a lot of money on R&D. They are among the largest patent holders. There’s very little evidence of collusion. They seem to be competing with each other quite strongly. They pay their workers relatively well and have fairly educated workforces. None of this is a sign that these are industries we should be pursuing. That doesn’t mean they don’t do some anti-competitive things. But the whole idea that we should be targeting Big Tech strikes me as fundamentally wrong-headed.”).

in some way? And what about similar concerns that some have raised in connection with *non-digital* products and services, from alcohol and tobacco to politically disfavored books?

C. “Defaults” as Preferred Digital Distribution: *Google Search*

In the broadest sense, a “default” setting is any automatic or presumptive setting on a hardware or software product or service that can be changed by a user. For example, devices have default volume and brightness levels, a default color scheme, and so on. But, in the sense at issue here, a default is an automatic or presumptive designation of one product or service, rather than any of its alternatives, to perform a complementary function. For example, a device operating system may have a default setting for the choice of app that is used to read a document or browse the internet; an internet browser app may have a default setting for the choice of search engine that is activated whenever a user types a search query, rather than a URL web address, into the address bar; and a tablet device may have a default setting for the choice of communication app that is used to connect with a contact whenever that person’s name is selected from a contacts list. Such default settings can typically be changed by the user, with the new default replacing the original factory setting.

Defaults, including factory defaults, can confer significant value on users in a variety of ways. For one thing, they can ensure that a high-quality product or service is made available to the user, even if the user lacks the expertise required to judge quality for themselves. (Suppose, for example, that you were a new and unsophisticated computer user, and when you tried to open a word-processing document for the first time you were presented with a list of dozens or hundreds of apps, with unfamiliar names, and asked to choose one to use. As a new user, you might very well be unable to make an informed choice; and you could very well pick a low-quality or low-security app that failed to meet your expectations, or exposed you to some harm, in some important respect.)

For another thing, default settings allow system and ecosystem suppliers to ensure a certain level and consistency of user experience. A supplier of a device or operating system may wish to ensure that users—including those without experience or expertise—have a smooth, high-quality experience, including robust interoperability and compatibility among a set of apps. After all, part of the value of a device or operating system is the experience of using apps and functionalities on that device or operating system. By designating a set of compatible products or services as factory defaults, the supplier can ensure a seamless experience.

Finally, there are probably some transaction cost savings from allowing users to avoid a string of lengthy choice menus each time—or even the first time—they use a device. Figuring out which options should be included on such a list, and in what order, and after what kind of testing and evaluation, and how often the user should be prompted to pick a new default, may involve real costs for the supplier and for the user.

So, in general, the existence of default options is not very surprising, nor very sinister. But, in particular cases, defaults can be associated with competitive concerns and with welfare harms. Defaults are ultimately a form of preferred distribution, and like other forms of distribution they can be locked up or foreclosed by exclusivity commitments or similar practices, in ways that can raise rivals’ costs.⁹⁵ Such practices are particularly likely to have a significant impact when default status is very important: for example, when users seldom change the original default. Of course, antitrust has always been concerned with the risk that a business with market or monopoly power might use exclusive distribution rights to exclude rivals and harm consumers.

When defaults are “sticky”—that is, when users seem reluctant to change them even if they appear to prefer another product or service—the stickiness can be understood to imply some kind of switching cost. And, like other costs, they may lead to a welfare reduction compared to a costless and frictionless alternative. But it can be difficult to figure out when and how default status, rather than product quality, is driving behavior: for example, suppose

⁹⁵ See, e.g., *United States v. Google LLC*, 747 F. Supp. 3d 1, 156 (D.D.C. 2024) (“[P]reloaded default placements are the most efficient channel for reaching search consumers, and Google has secured all the major ones (except the default on the Edge browser preloaded on Windows devices). Sure, users can access Google’s rivals by switching the default search access point or by downloading a rival search app or browser. But the market reality is that users rarely do so.”) (citation omitted).

that you learned that users of a particular kind of device infrequently changed the default search engine away from an initial setting of Google Search, should we draw an inference about the power of the default status, or about the strength of their preference for Google?⁹⁶

Some defaults are stickier than others. The costs and burdens of changing a default often seem lower—perhaps much lower—than many other kinds of switching cost elsewhere in the economy and in antitrust, including costs that courts often treat as trivial. For example, switching from one trading partner to another in a non-digital market often involves at least making a phone call to, or otherwise communicating with, another trading partner, or driving to a store or other physical place of business—but antitrust courts do not usually consider that sort of cost worth analyzing. This poses some puzzling questions. Does this mean that the stickiness of a default, which can be changed in a few seconds, is also of negligible concern? Or do other features—such as the technical difficulty of changing some default settings, at least for some inexperienced users, or the fact that using a search engine is a brief and free activity for which a user may be reluctant to invest a minute in changing a setting—mean that defaults may really be a stronger deterrent on switching than, say, the need to drive to another store? And, to touch on a broader issue, do competition concerns of this kind recede if “competition is just a click away”?⁹⁷ (*Is competition just a click away?*)

As with many other practices, it is impossible to evaluate the effects of defaults without asking: what would be a better alternative? This question is relevant not just when trying to measure effects—that is, when figuring out whether having a default is better or worse than not having one—but also when trying to design a remedy. For example, suppose that we concluded that a monopolist supplier of internet search had entered into a long-term agreement with one or more important trading partners for exclusive default status on their apps or devices, and that this had harmfully foreclosed rivals in ways that had led to welfare harms. What remedy should follow?⁹⁸ Going forward, should the trading partners—device OEMs, browser developers, and so on—be allowed to have a factory default search provider, subject to a rule that the default cannot be the monopolist? (What if users prefer the monopolist’s product?) Should the trading partners be allowed to choose a factory default, including the monopolist, so long as the monopolist does not pay for that status? (Does that amount to requiring the trading partner to provide a distribution benefit to the monopolist for free: and, if so, is that a good idea? And if we knew that the consequences of cutting off the payments would be to increase consumer prices—because the price of a device or app was no longer being subsidized—would that matter?) Or should we create a “choice menu” from which a user can, on first use, select a default: and if so, how should that work? Real-world experiences with choice menus seem to have been mixed.⁹⁹

These are tough puzzles. Very likely the competitive effects of particular default relationships, and the value of any particular remedy for a harmful practice, will be a fact-specific affair. And *all* remedies are imperfect. That does not mean that no remedy would be better!

➔ The ongoing case against Google brought by the U.S. Department of Justice and a coalition of states challenges, among other things, Google’s use of agreements to obtain exclusive default status at key points of search distribution, including browsers and devices. In August 2024, the district court held that Google was liable for

⁹⁶ Compare, e.g., Paul Heidhues, Alessandro Bonatti, L. Elisa Celis, Gregory S. Crawford, David Dinielli, Michael Luca, Tobias Salz, Monika Schnitzer, Fiona M. Scott Morton, Michael Sinkinson & Jidong Zhou, *More Competitive Search through Regulation*, 40 Yale J. Reg. 915 (2023) with Kent Walker, Google, *A deeply flawed lawsuit that would do nothing to help consumers*, Google Public Policy Blog (Oct. 20, 2020).

⁹⁷ See, e.g., David Wismer, *Google’s Larry Page: “Competition Is One Click Away” (And Other Quotes Of The Week)*, Forbes (Oct. 14, 2012) (describing “competition is one click away” as “[a]n oft-used and now iconic response from Google”). What, if anything, do you find persuasive about the point? What, if anything, do you think might be said by way of response or qualification?

⁹⁸ See, e.g., Herbert Hovenkamp, *Fixing Platform Monopoly in the Google Search Case*, PROMARKET (Oct. 6, 2023); Tessie LiJu Su, *Not All Google Trial Remedies Would Restore Search Competition*, BLOOMBERG (Sept. 19, 2023).

⁹⁹ See, e.g., Omar Vasquez Duque, *Active Choice vs. Inertia? An Exploratory Assessment of the European Microsoft Case’s Choice Screen*, 19 J. Comp. L. & Econ. 60 (2023); Francesco Decarolis, Muxin Li & Filippo Paternollo, *The role of default settings in online searches*, VOXEU (Mar. 13, 2023); Megan Gray, *“Choice Screen” Fever Dream: Enforcers’ New Favorite Remedy Won’t Blunt Google’s Search Monopoly*, TECH POLICY PRESS (Feb. 15, 2024); George Nguyen, *Google’s search choice screen had virtually no effect on search market share, perhaps by design*, SEARCH ENGINE LAND (Feb. 17, 2021); Daisuke Wakabayashi & David McCabe, *Google’s European Search Menu Draws Interest of U.S. Antitrust Investigators*, N.Y. TIMES (June 4, 2020).

monopolization, and in September 2025 the court imposed a modest behavioral remedy. At the time of writing, the matter is on appeal to the D.C. Circuit.

As you read the extract, notice that the court repeatedly emphasizes that the lawsuit challenges Google’s payment for *exclusive default* status, and that merely paying to be a default is not at issue. Why might that distinction matter? When does the court focus on the effects of exclusivity, and when on the effects of default status as such?

United States v. Google LLC (*Google Search liability*)

747 F. Supp. 3d 1 (D.D.C. 2024)

Judge Mehta.

[1] Google’s dominance has gone unchallenged for well over a decade. In 2009, 80% of all search queries in the United States already went through Google. . . . By 2020, it was nearly 90%, and even higher on mobile devices at almost 95%. The second-place search engine, Microsoft’s Bing, sees roughly 6% of all search queries—84% fewer than Google.

[2] Google has not achieved market dominance by happenstance. It has hired thousands of highly skilled engineers, innovated consistently, and made shrewd business decisions. The result is the industry’s highest quality search engine, which has earned Google the trust of hundreds of millions of daily users.

[3] But Google also has a major, largely unseen advantage over its rivals: default distribution. Most users access a general search engine through a browser (like Apple’s Safari) or a search widget that comes preloaded on a mobile device. Those search access points are preset with a “default” search engine. The default is extremely valuable real estate. Because many users simply stick to searching with the default, Google receives billions of queries every day through those access points. [. . .]

[4] For years, Google has secured default placements through distribution contracts. It has entered into such agreements with browser developers, mobile device manufacturers, and wireless carriers. These partners agree to install Google as the search engine that is delivered to the user right out of the box at key search access points.

[5] Google pays huge sums to secure these preloaded defaults. Usually, the amount is calculated as a percentage of the advertising revenue that Google generates from queries run through the default search access points. This is known as “revenue share.” In 2021, those payments totaled more than \$26 billion. That is nearly four times more than all of Google’s other search-specific costs combined. In exchange for revenue share, Google not only receives default placement at the key search access points, but its partners also agree not to preload any other general search engine on the device. Thus, most devices in the United States come preloaded exclusively with Google. These distribution deals have forced Google’s rivals to find other ways to reach users.

[6] . . . According to [complaints filed by the U.S. Department of Justice and many state Attorneys General], Google has unlawfully used the distribution agreements to thwart competition and maintain its monopoly in the market for general search services and in various online advertising markets. [. . .]

Findings of Fact

[7] [. . .] Google has entered into search distribution contracts with two major browser developers (Apple and Mozilla); all major [original equipment manufacturers (“OEMs”)] of Android devices (Samsung, Motorola, and Sony); and the major wireless carriers (AT&T, Verizon, and T-Mobile) in the United States. In 2021, Google paid out a total of \$26.3 billion in revenue share under these contracts, an expense listed in its financial statements as “traffic acquisition costs,” or TAC. . . .

Browser Agreements

[8] The Internet Services Agreement (“ISA”) is an agreement between Google and Apple, wherein Google pays Apple a share of its search ads revenue in exchange for Apple preloading Google as the exclusive, out-of-the-box default [general search engine] on its mobile and desktop browser, Safari. [. . .]

[9] The ISA requires Apple to set Google as the default search engine on Safari for all its devices. Under the ISA, a “Default” search engine is one that “will automatically be used for responding to Search Queries initiated from the Web Browser software, unless the End User selects a different third-party search service.” [. . .]

[10] Across all Apple devices, 65% of searches are entered into Safari’s default access point, which is the integrated search bar. This means that across all Apple devices, only 35% of all queries flows through non-default search access points. The numbers are similar for mobile searches: 61.8% of query volume flows through search access points governed by the ISA, and 38.2% of queries are run through non-default search access points. [. . .]

[11] In return for these default placements, Google pays Apple [Redacted]% of its ad revenue on Safari and Chrome

[12] In 2022, Google’s revenue share payment to Apple was an estimated \$20 billion

[13] Google has long recognized that, if Apple were to develop and deploy its own search engine as the default [general search engine] in Safari, it would come at great cost to Google. [. . .]

[14] Notwithstanding [some investments to grow its own capacity in search], Apple has decided not to enter general search at this time. Apple would forego significant revenues under the ISA if it were to do so. [. . .]

[15] Apple and Microsoft occasionally have had discussions regarding installing Bing as the default [general search engine] on Safari. Microsoft has not been successful. [. . .]

[16] Microsoft thought they had great search quality and they said that[,] with Apple’s search volume, they could be even better, but Apple disagreed. Moreover, Apple was concerned that despite the high revenue share percentage [that Microsoft was willing to pay to Apple in return for default status], Bing would not be able to bring in sufficient revenues because it was “horrible at monetizing advertising.” [. . .]

[17] Apple proposed to Microsoft that it guarantee [minimum annual] revenues . . . but Microsoft balked Regardless, Apple would not have accepted the deal, even if Microsoft had agreed to a guarantee. According to [Apple executive Eddy] Cue, there was no price that Microsoft could ever offer Apple to make the switch, because of Bing’s inferior quality and the associated business risk of making a change. [Cue testified:] “I don’t believe there’s a price in the world that Microsoft could offer us. They offered to give us Bing for free. They could give us the whole company.” [. . .]

[18] . . . [D]uring ISA negotiations, Google understood that Bing was not a viable option, which minimized Apple’s leverage.

[19] Although Apple has never seriously considered Bing as an option, Microsoft perceives that Apple has used Bing to bid up the price in its negotiations with Google and extract a higher revenue share from Google. [. . .]

[20] Google also has a revenue sharing agreement with the browser developer Mozilla, whereby it pays Mozilla [Redacted]% revenue share in exchange for the default search placement on the Firefox browser. The search access points on Firefox include the search box in the browser, the navigation or location bar, [and] any search box displayed on a Firefox Startpage, among others. . . .

[21] Google’s 2021 revenue share payment to Mozilla was over \$400 million, or about 80% of Mozilla’s operating budget. Mozilla has repeatedly made clear that without these payments, it would not be able to function as it does today. [. . .]

[22] Mozilla has run experiments to assess a potential switch of the default [general search engine] from Google to a rival. It tends to run these experiments when its agreements come up for renewal.

[23] In a 2016 experiment, Mozilla switched the default [general search engine] on both new and existing users from Google to Bing. By the twelfth day, Bing had kept only 42% of the search volume. After some additional time, those numbers dropped to 20–35%, depending on certain variables. Mozilla’s takeaway was that switching the Firefox default to Bing would result in missing revenue targets.

[24] The same year, Mozilla conducted an experiment switching the default [general search engine] to Yahoo. Yahoo only retained 16.5% of the total search volume. [. . .]

[25] Google has comparable agreements with smaller browsers, like Samsung's S Browser [. . .]

Android Agreements

[26] Google has entered into Mobile Application Distribution Agreements, or MADAs, with all Android OEMs, including Motorola and Samsung, among others. The MADA is a device-by-device license that allows OEMs to use Google's proprietary mobile applications developed for the Android ecosystem. This suite of applications is referred to as Google Mobile Services ("GMS"). OEMs pay no fee for the GMS license, but Google requires OEMs to preload certain applications in prominent placements. [. . .]

[27] Under the MADA, partner OEMs must preload all 11 GMS applications onto a new device, including the Google Search Widget, Chrome, YouTube, Gmail, Google Maps, and Google Drive, among others. [. . .]

[28] Nothing in the MADA expressly requires an OEM to preload only the GMS applications. OEMs are, for instance, free to preload a second (or third) browser or search widget.

[29] In practice, however, OEMs recognize that preloading more than one of the same search access points, especially in similar prominent positions, is a suboptimal design that would degrade the user experience. . . . Even Microsoft avoided adding a Bing search widget on its Duo devices to avoid degrading the user experience. [. . .]

[30] A revenue share agreement, or RSA, is a separate agreement from the MADA. Each RSA generally follows a tiered structure, in which a carrier's or OEM's payment is tied to the degree of device exclusivity. The RSAs are device-by-device, meaning that partners can opt into different tiers based on the device model sold. [. . .]

[31] Google has signed RSAs with each major wireless carrier: Verizon, AT&T, and T-Mobile. . . .

[32] Google has long viewed RSAs with carriers as essential to securing query traffic on Android devices to the exclusion of rivals. In fact, Google viewed exclusivity on Android devices as "very strategic to Google." In a 2011 email, Google executive Chris Barton wrote about then-existing exclusive distribution deals with T-Mobile, Verizon, and Sprint, "I think this approach is really important otherwise Bing or Yahoo can come and steal away our Android search distribution at any time, thus removing the value of entering into contracts with them. Our philosophy is that we are paying revenue share *in return for* exclusivity." . . .

[33] Verizon's RSA has three tiers: Core, Qualifying, and Preferred. Google pays Verizon [Redacted]% revenue share on devices where the "core" search access points have been preinstalled and defaulted to Google. . . . In exchange for more placements, Google pays more revenue share. The RSA requires Google to pay Verizon [Redacted]% revenue share on Preferred Tier devices (a three-fold increase from Verizon's Core Tier), provided that those devices have several other default Google placements. Those include, but are not limited to, the Google Search Widget, Chrome, and the default homepage on the browser. [. . .]

[34] [Previously,] Verizon . . . conducted a full revenue impact assessment if it were to either not renew the RSA or renew but accept the Core Tier to allow it to commingle search with Yahoo. That analysis demonstrated that Verizon's acceptance of the Core Tier revenue share payment [rather than a higher tier] would result in a \$1.4 billion loss in revenue to the company. [. . .]

[35] AT&T's RSA is very similar to Verizon's, although it does not have a tier for Core Devices. AT&T may instead choose to enroll its devices in the Preferred Tier, maintain them as Qualifying Devices, or forego any revenue share.

[36] The [AT&T] RSA requires Google to pay AT&T [Redacted]% revenue share on Preferred Tier devices provided that all search access points default to Google and those devices preload the Google Search Widget on the default home screen.

[37] T-Mobile’s RSA is structured differently than the others. T-Mobile is compensated for the default placements on Qualifying Devices and Preferred Devices through a \$[Redacted] bounty per device. If T-Mobile does not configure a device on an exclusive basis, it is entitled to no bounty at all. [. . .]

[38] Google also has RSAs with the two primary Android OEMs, Samsung and Motorola. . . .

[39] Under its current RSA, Samsung receives [Redacted]% revenue share for devices complying with prior terms. Additional incremental revenue share requires Samsung to configure certain search access points to Google. “Core Devices” per the Samsung RSA must have Google set as the default [general search engine] on the S Browser and must not allow users to change the S Browser default from the browser search bar itself In exchange, Google pays Samsung [Redacted]% revenue share on certain search access points for Core Devices.

[40] The Samsung RSA also provides for “Enhanced Devices,” which requires additional placements beyond the MADA, such as placing Chrome as the default browser (over S Browser) in the hotseat, or dock. The revenue share paid to Samsung is the same for Enhanced Devices and Core Devices, but that percentage applies to a broader set of search access points.

[41] Nearly all Samsung devices sold in the United States are Enhanced Devices.

[42] Motorola’s RSA with Google is structured differently. All devices sold must meet the minimum requirements of the Foundation Tier (preinstallation of Chrome with Google as the default [general search engine] in the device’s dock or hotseat). Motorola then earns at least \$[Redacted] monthly in return. The Premier Tier requires exclusive preinstallation of Google as the default on all search access points on the device, in return for additional monthly payments. Google estimates that the number of Motorola devices sold by the OEM that are subject to this RSA is north of 95 percent. [. . .]

Conclusions of Law

[43] . . . The offense of monopolization requires proof of two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident. [. . .]

{*Eds.: the court determined that relevant antitrust markets existed for “general search services” and “general search text advertising.”*}

[*Monopoly Power*]

[44] . . . Monopoly power is the power to control prices or exclude competition. More precisely, a firm is a monopolist if it can profitably raise prices substantially above the competitive level. . . . The material consideration in determining whether a monopoly exists is not that prices are raised and that competition is actually excluded but that power exists to raise prices or exclude competition when it is desired to do so. [. . .]

[45] Plaintiffs’ direct evidence [of monopoly power] is limited. They note that Google’s immense revenues and large profit margins allow it to capture significant surplus from the challenged contracts.

[46] In addition, Plaintiffs point to Google’s admission that it does not consider whether users will go to other specific search providers (general or otherwise) if it introduces a change to its Search product. Google’s indifference is unsurprising. In 2020, Google conducted a quality degradation study, which showed that it would not lose search revenue if [it] were to significantly reduce the quality of its search product. Just as the power to raise price when it is desired to do so is proof of monopoly power, so too is the ability to degrade product quality without concern of losing consumers. The fact that Google makes product changes without concern that its users might go elsewhere is something only a firm with monopoly power could do. [. . .]

[47] Assessing monopoly power through indirect evidence begins with determining market share. Although there is no minimum percentage, the Supreme Court has recognized that two-thirds of a domestic market can constitute a predominant share. Duration also matters. Monopoly power must be shown to be persistent in order to warrant judicial intervention.

[48] Plaintiffs easily have demonstrated that Google possesses a dominant market share. Measured by query volume, Google enjoys an 89.2% share of the market for general search services, which increases to 94.9% on mobile devices. This overwhelms Bing’s share of 5.5% on all queries and 1.3% on mobile, as well as Yahoo’s and DDG’s shares, which are under 3% regardless of device type. Google does not contest these figures. [. . .]

[49] Barriers to entry are essential to establishing monopoly power because the current market share may not reflect the possibility of competition from new entrants. If barriers to entry are high, then market power can be sustainable over a long period of time. Plaintiffs identify several such barriers to the general search services market: (1) high capital costs, (2) Google’s control of key distribution channels, (3) brand recognition, and (4) scale. The court finds that these barriers exist and that, both individually and collectively, they are significant barriers that protect Google’s market dominance in general search. [. . .]

[50] Building and maintaining a competitive [general search engine] require an extraordinary upfront capital investment, to the tune of billions of dollars. Apple’s Chief of Machine Learning and AI Strategy, John Giannandrea, testified that a startup could not raise enough money to build a very good, large-scale search engine because to build a competitive project is very expensive, amounting to a multi-billion dollar investment. . . . Google’s internal estimates also are consistent with this testimony. And those capital expenditures are required before the additional, multi-billion-dollar investment needed to build and maintain an ad platform or other means of monetization.

[51] High capital costs thus constitute a substantial barrier to entry. [. . .]

[52] . . . Google controls the most efficient and effective channels of distribution for [general search engines]. It is the exclusive preloaded [general search engine] on all Apple and Android mobile devices, all Apple desktop devices, and most third-party browsers (Edge and [DuckDuck Go (“DDG”)] are the exceptions). Rivals cannot presently access these channels of distribution without convincing Google’s partners to break existing agreements, all of which are binding for a term of years. [. . .]

[53] Record evidence firmly establishes that Google’s brand is widely recognized and valued. After all, “Google” is used as a verb. Even on Bing, “google.com” is the number one search. The “entrenched buyer preferences” enjoyed by Google are a major deterrent to market entry.

[54] Finally, Plaintiffs identify scale as a barrier to entry. . . . It is enough to say for now that scale is an important factor in search quality. As Google admits, the volume and availability of user interaction data is one factor that can affect search quality. Google has a lot of scale, and new entrants struggle to obtain it. [. . .]

[Anticompetitive Conduct]

[55] According to Plaintiffs, the challenged contracts are unlawful exclusive agreements. They effectively block Google’s rivals from the most effective channels of search distribution, namely, the out-of-the-box default search settings. Google is the exclusive default search engine on the Safari and Firefox browsers. Likewise, on all Android devices, the Google Search Widget appears on the home screen and, on all except Samsung devices, Chrome is preloaded as the exclusive browser. Plaintiffs say that these distribution contracts effectively “lock up” half of the market for search and, by extension, nearly half of the market for general search text ads. These exclusive deals protect Google’s dominant position and shield it from meaningful competition. Plaintiffs also specify certain contractual provisions that they claim thwart competition. The ISA, for example, contains provisions arguably restricting Apple’s ability to divert queries away from Google and serve search ads, and the RSAs prohibit partners from preloading “alternative search services” on Android devices. [. . .]

[56] Google disputes that the distribution agreements are exclusionary. Recall, the Supreme Court has drawn a line between exclusionary conduct versus growth or development as a consequence of a superior product, business acumen, or historical accident. The former violates the Sherman Act; the latter does not. Google says that it has secured default distribution, not through exclusionary conduct, but by developing a superior product through constant innovation. Google claims that it has repeatedly outcompeted its rivals on the basis of its superior quality and monetization, and that any scale benefits achieved from winning customers’ business based on competition on the merits do not turn an otherwise lawful agreement into an unlawful one. Google points out that its partners

chose to design their products to have a default [general search engine], and Google simply has bested its rivals to secure those default positions. . . . Thus, Google says, it has won (and continues to win) the defaults through competition as opposed to exclusionary conduct. . . .

[57] In a sense, Google is not wrong. It has long been the best search engine, particularly on mobile devices. Nor has Google sat still; it has continued to innovate in search. . . .

[58] But these largely undisputed facts are not inconsistent with possessing and exercising monopoly power. Nor do they tell the full story. There is no genuine “competition for the contract.” Google has no true competitor. [. . .]

[59] The market reality is that Google is the only real choice as the default [general search engine]. Apple’s Senior Vice President of Services, Eddy Cue, put it succinctly when, in a moment of (perhaps inadvertent) candor, he said: “There’s no price that Microsoft could ever offer [Apple] to” preload Bing. . . .

[60] Google understands there is no genuine competition for the defaults because it knows that its partners cannot afford to go elsewhere. Time and again, Google’s partners have concluded that it is financially infeasible to switch [the default to another general search engine] or seek greater flexibility in search offerings because it would mean sacrificing the hundreds of millions, if not billions, of dollars that Google pays them as revenue share. [. . .]

[61] [The antitrust framework for exclusive dealing arrangements] requires the court to consider, at the threshold, the degree to which the agreements foreclose the relevant markets. But because foreclosure is only a useful screening function, the court also must identify real-world anticompetitive effects that arise from such agreements. [. . .]

[62] Google’s browser agreements are exclusive insofar as they establish Google as the out-of-the-box default search engine. The Apple ISA requires that Google be preloaded as the exclusive default search engine on all Safari search access points in exchange for [Redacted]% revenue share. The resulting query volume is substantial. About 65% of queries on all Apple devices (mobile and desktop), and 61.8% on iOS devices (mobile), flow through the Safari default, demonstrating that default placement is a primary channel for distribution of search.

[63] The Mozilla RSA has a similar effect. Google is the default [general search engine] on all Firefox search access points, including the navigation bar and the homepage Google’s default placements on Firefox generate 80% of Mozilla’s overall operating revenue, demonstrating that the vast majority of query volume on Firefox goes through defaults. Google also has comparable agreements with smaller browsers, like Samsung’s S Browser. [. . .]

[64] Google points out that the ISA does not prevent Apple from preloading a third-party’s search application or a third-party browser on its devices. But market realities matter more than what is theoretically possible. Apple has made clear it will not design its products to include third-party applications. Google knows this well. So, even though the ISA contains no express exclusivity provision, its terms in combination with Apple’s established business practices means that Google will be the only [general search engine] preloaded on an Apple device. That makes it exclusive. . . .

[65] . . . Google argues that users’ search behavior is not consistent with Plaintiffs’ assertion that the agreements were exclusive or *de facto* exclusive, and that ultimately, user choice is determined by quality, not defaults. It points out that nearly 40% of queries on Apple’s mobile devices flow through non-default search access points, such as default bookmarks or organic search. . . .

[66] But the fact that some consumers access search on non-default access points is not dispositive on exclusivity. On Apple devices, 65% of queries still go through the default. . . .

[67] To be deemed exclusive, a contract need not foreclose all other avenues of distribution to which consumers might have access. It is enough that the contract closes to rivals a substantial percentage of the available opportunities for distribution. [. . .]

[68] . . . With the benefit of a full trial, the court can now conclude that the MADA is exclusive in practice.

[69] Its exclusivity arises from two contractual requirements and two market realities. The two contractual requirements are that all MADA signatories must: (1) feature the Google Search Widget in the center of the home screen and (2) place Chrome on the home screen with Google as the default [general search engine]. The two market realities are that: (1) the Google Play Store is a must-have on all Android devices, and (2) the industry-wide practice is to avoid excessive preloading of applications, or “bloatware.” This combination of factors has resulted in all Android OEMs and carriers entering into MADAs, with all Android devices featuring the Google Search Widget and Chrome on the home screen to the exclusion of rivals as a practical matter. No Android device carries a second search widget and, other than Samsung, no device comes with a second preinstalled browser These prized placements are extremely effective at driving searches to Google. [. . .]

[70] The RSAs between Google and Android device distributors formalize the practical exclusivity of the MADAs. That has been their purpose from the outset. All of the RSAs contain an “alternative search services” clause. That clause prohibits Google’s Android partners from preloading rival search engines. It also greatly restricts a partner’s ability to promote other [general search engines]. In return, the Android partner receives revenue share. The structure of revenue share payments varies among the RSAs, but the basic barter is revenue share in exchange for default exclusivity.

[71] It is, of course, true that no distributor of Android devices is *required* to enter into an RSA with Google. They can opt to distribute MADA-compliant devices without earning revenue share. Also, Google’s agreements with Verizon and Samsung permit those partners to retain the option to preinstall another [general search engine], albeit at a lower revenue share percentage. As Google argues, RSA partners are not prevented from preloading rivals on any devices (and any amount of devices) of their choosing—the only result of doing so is that the partner will not receive the highest revenue share on those devices.

[72] This optionality does not make the RSAs any less exclusive. Antitrust policy should not differentiate between the manufacturer of widgets that explicitly imposes exclusive dealing on its dealers and the manufacturer that gives such dealers a discount or rebate for dealing exclusively in the manufacturer’s widgets, because both have the practical effect of inducing exclusive dealing. While financial incentives to deal exclusively may not thwart competition in the short-term, such a scheme is problematic when the defendant is a dominant firm in a position to force manufacturers to make an all-or-nothing choice.

[73] That is effectively how the RSAs operate. No rational market actor would sell a MADA-compliant device without ensuring that it earned search revenue through the RSA. The forgone revenue is simply too great. For instance, Verizon considered switching away from the Google default but would have had to risk a \$1.4 billion loss to do so. The decision to stick with Google was the only rational choice. Not surprisingly then, Google has identified no Android device presently sold in the United States that is subject to a MADA but not an RSA. [. . .]

Effects in the Market for General Search Services

[74] To be condemned as exclusionary, a monopolist’s act must have an anticompetitive effect. That is, the monopolist must harm the competitive process and thereby harm consumers. In contrast, harm to one or more competitors will not suffice.

[75] Anticompetitive effects analysis involves establishing a causal link. The exclusionary conduct must cause the anticompetitive harm. As here, when a regulator is seeking only injunctive relief, the standard is somewhat relaxed. Courts may infer causation from the fact that a defendant has engaged in anticompetitive conduct that reasonably appears capable of making a significant contribution to maintaining monopoly power. [. . .]

[76] The key question then is this: Do Google’s exclusive distribution contracts reasonably appear capable of significantly contributing to maintaining Google’s monopoly power in the general search services market? The answer is “yes.” . . .

[77] The agreements have three primary anticompetitive effects: (1) market foreclosure, (2) preventing rivals from achieving scale, and (3) diminishing the incentives of rivals to invest and innovate in general search. [. . .]

[78] U.S. Plaintiffs’ expert, Dr. Whinston[,] found that 50% of all queries in the United States are run through the default search access points covered by the challenged distribution agreements [28% through the ISA, 19.4%

through the MADAs and RSAs, and the remaining 2.3% through third-party browser agreements]. This figure does not include the 20% of all queries in the United States that flow through Google on user-downloaded Chrome. [. . .]

[79] . . . [P]reloaded default placements are the most efficient channel for reaching search consumers, and Google has secured all the major ones (except the default on [Microsoft’s own] Edge browser preloaded on Windows devices). Sure, users can access Google’s rivals by switching the default search access point or by downloading a rival search app or browser. But the market reality is that users rarely do so. [. . .]

[80] Google’s exclusive agreements have a second important anticompetitive effect: They deny rivals access to user queries, or scale, needed to effectively compete. Scale is the essential raw material for building, improving, and sustaining a [general search engine]. For more than a decade, the challenged distribution agreements have given Google access to scale that its rivals cannot match. Google has used that scale to improve its search product and ad monetization. Meanwhile, without access to scale, other [general search engines] have remained at a persistent competitive disadvantage, and new entrants cannot hope to achieve a scale that would allow them to compete with Google. Naturally then, [search] distributors prefer Google because of its search quality and because it would be economically irrational to sacrifice the high revenue share. They thus routinely renew the distribution deals with their exclusive terms. In this feedback loop, the revenue share payments effectively make the ecosystem exceptionally resistant to change and basically freeze the ecosystem in place. That is the antithesis of a competitive market. [. . .]

[81] The distribution agreements have caused a third key anticompetitive effect: They have reduced the incentive to invest and innovate in search.

[82] For more than a decade, the market for general search services has presented the opportunity to earn outsized profits. . . . Yet the general search services market has remained static for at least the last 15 years, with investments largely coming from established players. Only Google and Microsoft have made the sizeable capital investments needed to build a self-sustaining [general search engine]. Smaller competitors do [not even] compete as fully integrated search engines.

[83] Nor has venture capital money rushed in. As Apple’s [executive] John Giannandrea wrote in 2018: “[T]he reason a better search engine has not appeared is that it’s not a VC fundable proposition even though it’s a lucrative business.” [. . .]

[84] Today, Microsoft could invest more money in search but chooses not to without assurances of additional distribution on mobile. That withholding of additional investment is in part attributable to Google’s exclusive search distribution agreements. As Microsoft’s former CEO of Advertising and Web Services, Mikhail Parakhin, testified, “fundamentally it boils down to what kind of a long-term revenue we can achieve . . . If you don’t have the ability to effectively distribute through defaults, it’s almost meaningless to invest in the area.”

[85] Google responds that Microsoft’s current investment strategy is not evidence of an anticompetitive effect because market actors must take financial risks to compete and Microsoft’s unwillingness to take such risks is not an antitrust problem.

[86] What Google says has intuitive appeal, but it does not reflect market realities. Microsoft stood no realistic chance of beating Google for the Apple default, and there is no evidence of any serious negotiations for Android placements. No profit-driven firm in Microsoft’s position would invest the substantial sums required to enhance its search product when there is little to no genuine opportunity for a default distribution deal. Google’s distribution agreements thus appear reasonably capable of having significantly contributed to disincentivizing Microsoft from enlarging its investment in search. [. . .]

[Procompetitive Benefits]

[87] If a plaintiff successfully establishes a prima facie case under § 2 by demonstrating anticompetitive effect, then the monopolist may proffer a procompetitive justification for its conduct. . . .

[88] Google advances three categories of procompetitive benefits. It submits that the challenged agreements (1) enhance the user experience, quality, and output in the market for general search services, (2) incentivize competition in related markets that redounds to the benefit of the search market, and (3) produce consumer benefits within the related markets. The court concludes that the record does not sufficiently support any of these procompetitive justifications.

[89] First, Google argues that its browser agreements allow the browser’s search functionality to work effectively out of the box, which ensures convenience for Safari and Firefox users. As support for this proposition, Google notes the longstanding industry practice of preloading a browser with a default [general search engine]. Indeed, all browsers in the United States are so designed. This practice, Google contends, is evidence that the browser agreements benefit consumers.

[90] But the procompetitive benefit must justify the specific means here in question, namely exclusive dealing contracts. Assuming Google has established the value of a default placement to competition and consumers, it has not shown that *exclusive* defaults across nearly all key search access points have such utility.

[91] What’s more, a non-exclusive default would still provide all the convenience and efficiency benefits that Google touts. . . .

[92] Second, Google contends that the contest to be the default presents search engines the opportunity to win incremental promotion, thereby incentivizing firms to make quality improvements to compete for the default position. That may be true in a competitive market. But as the court already has concluded, there is no genuine competition . . . for defaults, and there is no record evidence that competition for the default has motivated [other general search engines] to make quality improvements. [. . .]

[93] Third, Google contends that the challenged contracts have led to increased search output due to the efficiency of the default placements and its superior search quality. Google is right that search output has increased significantly, but it has presented no evidence that default exclusivity—as opposed to a host of other market forces—is a substantial cause of that result. [. . .]

[94] Accordingly, Plaintiffs have established that Google is liable under Section 2 of the Sherman Act for unlawfully maintaining its monopoly in the market for general search services through its exclusive distribution agreements with browser developers and Android OEMs and carriers.

* * *

In the wake of this liability finding, the court held a separate briefing process and hearing to determine the appropriate remedy. Declining the kind of blockbuster breakup remedy proposed by the Justice Department and some commentators,¹⁰⁰ the district court took a much narrower approach. What do you make of the court’s reasoning? If entrusted with a district court’s broad discretion in shaping a remedy, what would you have done? Remember that—like the liability decision—the remedies decision is currently being appealed.

United States v. Google LLC (*Google Search* remedy)

803 F. Supp. 3d 18 (D.D.C. 2025)

Judge Mehta.

[1] The remedy in a Section 2 [case] must seek to unfetter a market from anticompetitive conduct, deny to the defendant the fruits of its statutory violation, and ensure that there remain no practices likely to result in monopolization in the future. [. . .]

[2] The ordinary starting point is an injunction terminating the anticompetitive conduct. But relief, to be effective, must often go beyond the narrow limits of the proven violation. Accordingly, the district court is empowered to

¹⁰⁰ See, e.g., David McCabe, *U.S. Proposes Breakup of Google to Fix Search Monopoly*, N.Y. TIMES (Nov. 20, 2024); Steven Salop, *Why an Android Divestiture Is a Necessary Google Search Remedy*, PROMARKET (Sept. 20, 2024).

fashion appropriate restraints on the defendant's future activities both to avoid a recurrence of the violation and to eliminate its consequences. [. . .]

[3] Structural relief, such as divestiture or dissolution, is also available to redress a Section 2 violation. The most drastic, but most effective, of antitrust remedies, and perhaps the most important, structural measures are designed to eliminate the monopoly altogether and therefore require a clearer indication of a significant causal connection between the conduct and creation or maintenance of the market power. Courts have traditionally ordered such remedies where the monopoly arose by merger or acquisition, and where other measures will not be effective to redress a violation. [. . .]

[4] The relief granted should not exceed evidence of a causal connection between the defendant's anticompetitive behavior and its dominant position in the relevant market. [. . .]

[5] At the outset, the court can dispatch with the notion that the distribution agreements were the sole reason Google maintained its monopoly. The court reaffirms what it wrote in its liability decision:

Google has not achieved market dominance by happenstance. It has hired thousands of highly skilled engineers, innovated consistently, and made shrewd business decisions. The result is the industry's highest quality search engine, which has earned Google the trust of hundreds of millions of daily users.

[6] The court also recognized that Google's overwhelming market share in mobile search is attributable, at least in part, to Microsoft "missing" the mobile revolution, placing it on the back foot in competing against Google.

[7] Notwithstanding its innovation and successful business strategy, Google still used illegal restraints to maintain its monopoly. It was not entitled to maintain and magnify the relevant network effects by entrenching its dominance through anticompetitive conduct. [. . .]

Adequacy of Prohibitory Injunctive Relief Only

[8] Google would have this court go no further than its proposed remedies, the central feature of which is an injunction against those provisions of the MADAs, the RSAs, and the browser agreements that the court deemed exclusive. . . . Under its proposal, Google still would be permitted to pay OEMs and wireless carriers for default distribution or other on-device placement of any Google product or service. Google also would be permitted to pay Browser Developers, including Apple, to set Search as the default [general search engine], so long as the Browser Developer (1) can promote other [general search engines] and (2) is permitted to set a different [general search engine] on different operating system versions or in a privacy mode and makes [annual] changes, if desired.

[9] Taken together, these prohibitions grant [general search engine] distributors far more freedom to partner with firms other than Google. . . . OEMs and carriers would be able to preload different [general search engines] on a device-by-device, access-point-by-access-point basis. Motorola, for instance, could make different [general search engines] the search widget default on different devices without putting at risk revenue share from Google. Additionally, RSAs can no longer offer higher revenue share percentages for exclusive tiers. This provision had the practical effect of causing distributors to set all of their device defaults to Google to receive the benefit of a higher revenue share percentage. And Apple could preload [general search engines] on a device-by-device basis . . . and install different [general search engines] for different search modes, like private browsing. [. . .]

[10] [But] [m]erely excising the exclusive provisions from Google's distribution agreements will not unleash competition. Google's [proposed] remedies fail to address any illegally obtained fruit of those agreements other than the freedom from competition that it enjoyed for more than a decade. They do nothing to eliminate the *consequences* of its exclusionary acts. Google simply retains too many advantages that are derived in part from its decade-long vice grip on default distribution, including its quality, data volume, and capacity to monetize search queries. These advantages are particularly pronounced for mobile search. [. . .]

[Divestitures]

[11] [Plaintiffs propose that] Google would be compelled to sell its Chrome web browser . . . and would be prohibited from releasing any other [browser] during the term of [the remedy] absent approval by the Court. . . .

[12] The case for Chrome divestiture is straightforward: Google sets its own [general search engine] as the default in Chrome. Chrome is a very popular browser, and its default constitutes a particularly important search access point, accounting for 20% of all searches in the United States. . . . Plaintiffs thus believe that ordering Google to divest Chrome would open a critical, contestable access point to rivals with the aim of counteracting the anticompetitive effects of Google’s durable monopolies and prevent Google from using Chrome as a tool to unfairly advantage its search product. [. . .]

[13] But the complete divestiture of Chrome is a poor fit for this case. For one, the D.C. Circuit has instructed that divestiture is a remedy that is imposed only with great caution, in part because its long-term efficacy is rarely certain. And in cases like this one, which do not [involve mergers or acquisitions], courts have ordered such relief only after determining that less severe remedies likely would prove inadequate. . . . Plaintiffs have not shown that their behavioral remedies will be ineffective without the immediate divestiture of Chrome. [. . .]

[14] The remedy also extends beyond the conduct Plaintiffs seek to redress. . . . Ordering Google to sell one of its most popular products, one that it has built from the ground up and in which it has invested (and continues to invest) billions of dollars, in the hope of opening a single channel of distribution to competition—and not even one that was unlawfully foreclosed by the challenged contracts—cannot reasonably be described as a remedy tailored to fit the wrong creating the occasion for the remedy. Further, as a legal matter, the divestiture of Chrome exceeds the proper scope of relief. All parties agree that the relevant geographic market is the United States. Chrome, however, is not so geographically confined. The vast majority—over 80%—of its monthly active users are located outside the United States. Plaintiffs do not try to make the case that a divestiture of Chrome to just U.S.-based users is feasible. [. . .]

[15] [Plaintiffs’ alternative proposal to require divestiture of the Android smartphone operating system] suffers from similar legal infirmities as the Chrome divestiture. [. . .]

Payment Ban

[16] [Plaintiffs also propose] a prohibition on Google making nearly all search-related payments to distributors. That includes any form of consideration for default or preferential placement as well as revenue share payments. The dollar amounts at stake are staggering. In 2021, Google paid more than \$26 billion in “traffic acquisition costs” to distribution partners. That number has likely grown since. For that reason, this proposal holds the greatest immediate consequence for Google’s distribution partners. If accepted, it would have profound impacts on them and the related markets in which they operate. [. . .]

[17] [If the court were to impose such a ban,] [d]istributors would have to look to other [general search engines] to earn revenue share, thereby stimulating competition among Google’s rivals to secure default distribution. [. . .]

[18] [But] the court declines to impose such a remedy at this time. Two main reasons counsel against it.

[19] First, if adopted, the remedy would pose a substantial risk of harm to OEMs, carriers, and browser developers. Distributors would be put to an untenable choice: either (1) continue to place Google in default and preferred positions without receiving any revenue or (2) enter distribution agreements with lesser-quality [general search engines] to ensure that some payments continue. Both options entail serious risk of harm.

[20] The first would not promote competition and in fact would likely advantage Google, at least in the short term. On “day one” post-judgment, distributors will have no real alternative: because Google is the best search provider, they likely will maintain it as the default [general search engine] Google thus would continue to receive a disproportionate volume of search queries for a fraction of the cost. Freed of having to pay billions in revenue share, Google’s profits would increase. Not paying Apple alone would result in a windfall worth tens of billions of dollars. Google then could use those profits to improve its products and monetization, further propagating the network effects flywheel that has proven so difficult to disrupt.

[21] As for the second option, even if distributors were, at some point, to select a different [general search engine] or a [generative AI] product to provide search functionality, without Google in the mix, they likely would earn less than they do now for two reasons. For one, a sizeable number of users would switch back to Google, thereby

reducing the revenue share a distributor could earn from the new provider. Additionally, with Google sidelined from competition, rivals would pay less than Google did to secure default or preferential placement. [. . .]

[22] The complete loss or reduction of payments to distributors is likely to have significant downstream effects on multiple fronts, some possibly dire. They could include:

- Lost competition and innovation from small developers in the browser market. Mozilla, in particular, fears that lower revenue share payments could potentially start a downward spiral of usage as people defected from [the] browser, which could at the end of the day put Firefox out of business.
- Fewer products and less product innovation from Apple. . . .
- Less investment in the U.S. market by Android OEMs, which would reduce competition in the U.S. mobile phone market with Apple.
- Higher mobile phone prices and less innovative phone features. [. . .]

[23] So, for now, Google will be permitted to pay distributors for default placement. There are strong reasons not to jolt the system and to allow market forces to do the work. . . . [But] [t]he court is . . . prepared to revisit a payment ban (or a lesser remedy) if competition is not substantially restored through the remedies the court does impose.

Data-Sharing Remedies

[24] [. . .] [T]he court agrees with Plaintiffs that [a] data sharing [obligation] represents a reasonable method of eliminating the consequences of the illegal conduct[.] [. . .]

[25] One clear area where data sharing would help promote more competition is a [general search engine’s] ability to respond to “long-tail” queries. . . . [T]hese are uncommon or unique queries that make up a large percentage of searches, and Google sees long-tail queries in orders of magnitude greater than its next closest rival, Bing. Because it sees such queries far more often, Google is more adept at answering them. Data-sharing remedies thus can help to close the sizeable advantage Google has in answering long-tail queries, thereby improving product quality and attractiveness to new users. [. . .]

[26] A search index is essentially a database of publicly available web pages that can be returned in response to a user query. A comprehensive and current index is critical to returning high-quality search results. Google has been able to grow its web search index and improve its search results due in part to the high volume of queries that it receives relative to other [general search engines]. [. . .]

[27] Granting [certain rivals] access to Google’s search index can help address the [difficulty of answering “long-tail” uncommon or unique queries] and improve [rivals’] search quality. [. . .]

[28] Plaintiffs [propose that Google should be required to] make the data available on a “periodic basis” Presumably, Plaintiffs want periodic sharing so that [the rivals] have the freshest search index data.

[29] The court declines such a remedial requirement. [The relevant competitors] will receive a one-time snapshot of the relevant data contained in Google’s Search Index Periodic data disclosure over the course of years goes beyond what is needed to cure the ill effects of the illegal conduct. A one-time disclosure of Google’s current Search Index data will reveal what Google thinks is important and relevant, and will enable [the rivals] to build their own search indexes to answer long-tail queries, thereby giving them the kick start they need to compete. Further, a one-time disclosure minimizes the risk of free riding For [rivals] to compete, they must innovate and differentiate their product from Google’s rather than simply feeding off Google’s work. [. . .]

[30] Plaintiffs’ next data-disclosure proposal involves compelled sharing of “User-side Data.” . . . In simple terms, User-side Data is data that Google collects from the pairing of a user query and the returned response. It also can be thought of as user-interaction data or “click-and-query” data. Examples of such data include the web link or vertical information the user clicks on, how long a user hovers over a link, and whether the user clicks back from a web page and how quickly. [This data] is the raw material that Google uses to improve search services. [. . .]

[31] Google’s vast trove of User-side Data is a fruit of its anticompetitive agreements, and for that reason compelled sharing of some of that data is a reasonable method of eliminating the consequences of Google’s conduct. Witnesses from rival companies testified that access to Google’s user-interaction data would allow them to improve their [general search engine], particularly in responding to long-tail queries. [. . .]

[32] Google will be required to share [relevant User-side Data, including information about queries and results-page interactions, as well as data used to train page ranking models] with [relevant rivals] at least twice. A more than one-time disclosure is reasonable given the importance of updating training data with fresh information. The court, however, intends to set a cap on the number of such disclosures that can occur during the term of the judgment. A cap protects against . . . free riding on Google’s data, and it will lessen the burdens associated with implementing privacy measures that will have to be applied before disclosure occurs. [. . .]

Search Syndication

[33] Plaintiffs [also] urge . . . the syndication of search results by Google to [relevant rivals]. “Syndication” in this context means an arrangement whereby one [general search engine] provides another [general search engine] the results and content for its [results page]. [. . .]

[34] Syndication . . . would enable [relevant rivals] to compete in the short term as they work towards developing a [general search engine] that can independently compete against Google. It would aid, in particular, in answering long-tail and local queries and queries for which freshness is important. . . . Syndication therefore is a reasonable method of addressing the effects of Google’s anticompetitive acts. [. . .]

[35] [But, contrary to Plaintiffs’ proposal,] Google will not be required to provide syndication services at . . . marginal cost. Pricing shall [instead] be based on financial terms no worse than those offered to any other user of Google’s search syndication products. . . . [S]yndication at marginal cost . . . would create perverse incentives. It would encourage market entry by . . . a [general search engine] that would seek simply to present Google search results under a different brand name. Such entrants could exist for years at nominal cost and will lack the incentive to differentiate and invest for the long term. Plaintiffs’ expert . . . recognized this risk, testifying that the syndication remedy could create a free-rider problem, whereby rivals would not have incentives to innovate in the future if they could take advantage of Google’s innovation. By requiring a [rival] to pay a market rate for syndication, a [rival] will be incentivized to invest in its own search index and search technology to lower [its costs]. [. . .]

[36] [T]he syndication license shall be for five, not 10 years [as Plaintiffs had proposed]. Witnesses consistently described syndication as a near-term solution that would enable [rivals] to offer high-quality results while working towards building a search index that could compete with Google’s. . . .

[37] . . . [Rivals’] use of Google’s syndication services in the first year will [also] be capped at 40% of annual queries. Establishing this query cap is consistent with the record evidence that competitors are capable of building search technologies that will allow them to answer 80% of user queries “pretty quickly.” It is the last 20%—long-tail and other rare queries—where Google’s scale advantage gives it the competitive edge that is hard to overcome.

Choice Screens

[38] The final component of Plaintiffs’ [proposed] core remedies is the implementation of choice screens. A choice screen is fundamentally a user interface that asks the consumer to make an explicit choice among a number of products. [. . .]

[39] In simple terms, these provisions would enable users to choose a [general search engine] at various search access points and to select a default [general search engine] on a search access point, where there is one. Users would be asked to make a [general search engine] selection upon first-time device use and then again on an annual basis. These choice screens would be designed by Google in the first instance, in accordance with certain specifications; reviewed by [a technical committee constituted under the remedial order]; and approved by Plaintiffs. [. . .]

[40] The court, however, declines to impose the proposed choice screen remedies for multiple reasons.

[41] First, the case law is unwavering in the admonition that it is not a proper task for the Court to undertake to redesign products. Antitrust scholars have long recognized the undesirability of having courts oversee product design. Yet, that is what Plaintiffs’ proposed remedy would have the court do. . . .

[42] Second, forcing Google to redesign its own products is not an appropriate remedy. This case was always about Google’s distribution agreements with third parties, not its product design. . . . Plaintiffs have never asserted that Google’s decision to use Google Search as the default for its own products violates the Sherman Act. Such self-promotion, in fact, appears consistent with industry practice: Microsoft makes Bing the default on Edge, and DuckDuckGo integrates its [general search engine] and browser. . . .

[43] Third, choice screens are not likely to change the competitive landscape under current or even near-term market conditions. . . . The European Commission has mandated the display of choice screens on Android devices since 2020, yet there has been little shift in market share away from Google. [. . .]

Public Education Fund

[44] Plaintiff States propose a remedy that they alone sponsor: that Google underwrite a public education campaign. Plaintiff States would have Google fund a nationwide advertising and education program designed to inform users of the outcome of this litigation, the remedies . . . , the purpose of the remedies . . . , and the mechanisms available to consumers to exercise choice in the selection of [general search engines]. . . .

[45] Plaintiff States’ proposal has some surface appeal. . . . [D]efaults and habit influence consumers’ use of [general search engines]; many users do not know that there is a default search engine, what it is, or that it can be changed; and switching a default . . . can be technically difficult. By increasing consumer awareness, a public education campaign could stimulate more competition.

[46] Still, the court declines to sign off on a public education campaign. . . . Plaintiff States have not shown any connection between the distribution agreements and the public’s perceptions of other [general search engines] besides Google or changing the default.

[47] What’s more, the lack of specifics is fatal. Most glaringly, Plaintiff States presented no evidence about how much Google can expect to spend to develop and maintain a nationwide public education campaign, or how long the campaign would last. In closing arguments, counsel suggested—much to the court’s surprise—that this would be a “nine-figure campaign.” That amount could ascend to even greater heights if, as Plaintiff States seem to suggest, Google might have to underwrite the cost of paying users to try other [general search engines]. The court will not impose a remedy whose price tag is so ill-defined and seemingly boundless.

NOTES

- 1) How would you measure the foreclosure arising from an agreement to make a particular search engine the default option? In other words: what quantity or proportion would be the best measure, and what would you do in order to measure that quantity?
- 2) What do you make of the court’s liability decision in *Google Search*? On the court’s reasoning, is a default always equivalent to an exclusivity arrangement? What facts make a default “exclusive”?
- 3) Do you agree with any of the following statements?
 - a. “What matters is not whether one search engine is the default for searches typed into the address bar of a browser, but whether users are free to visit other search engines. As long as they are free to go visit alternative search sites, there is no real threat to competition.”
 - b. “Monopolists should not be able to purchase preferred distribution. The risks are too great.”
 - c. “In practice, default status is so important to actual consumers that an agreement for ‘default status’ is equivalent to an agreement for exclusivity.”
 - d. “The only people injured by a search default agreement are those people sophisticated enough to have a preference about their search engine but not sophisticated enough to be able to change the default. That’s a pretty small group.”
 - e. “It would be fine for a monopolist search provider to be the default option on an app or device: it just shouldn’t be permitted to pay to hold that status.”

- 4) In what ways, if any, did the Justice Department prove that, if Google had only paid for device-by-device default slots rather than getting an exclusivity commitment, Bing or DuckDuckGo would have been worse off? Does this matter?
- 5) Is there any difference between an operating system or browser having a default search engine and a brick-and-mortar business having a “preferred partner” that customers are encouraged, but not required, to use?
- 6) Suppose that you were a court that had decided to impose antitrust liability for a practice involving default status. Suppose also that the parties had agreed that a choice menu—giving users the ability to elect a default provider or none—was the right solution. What would you write into a remedial order to ensure that a choice menu worked desirably? How would you approach or decide:
 - a. which businesses or products should be included on the menu;
 - b. the order in which the businesses or products should be displayed;
 - c. whether businesses could pay for more prominent treatment on the choice menu;
 - d. whether it ought to be possible for businesses to give users a “one-click” power to reassign the default after they had made the choice;
 - e. how much time should elapse before users are invited to pick a new default from the choice menu;
 - f. concerns that some of the businesses wanting to include on the choice menu might be unsafe, low-quality, or funded by hostile governments or criminal actors; and
 - g. who should bear the costs and burdens of administering the choice menu, and dealing with any objections or complaints?
- 7) Does Google face any antitrust limits on its ability to make Google Search the default search engine on its own devices and browsers (*e.g.*, Pixel phones and the Chrome browser)? How, if at all, does this situation differ from agreements with third-party OEMs and browser developers? Must Google allow users of Pixel phones and the Chrome browser to use them to visit competing search engines?

D. The Refusal-to-Deal Frontier: Self-Preferencing and Beyond

1. The Limits of Section 2

As you may remember from Chapter VII, the law of the refusal-to-deal offense is dominated by two landmark Supreme Court opinions: to put it crudely, the generally “pro-plaintiff” decision in *Aspen Skiing* in which the Court imposed liability on a ski resort for terminating a joint ticket with its competitor, and the generally “pro-defendant” decision in *Trinko*, in which the Court declined to impose liability on a telecommunications company for refusing to interoperate with a rival.¹⁰¹ You may also remember that refusal-to-deal cases are notoriously difficult for plaintiffs to win, including in light of a long-standing principle that there is no general duty to deal, even for a monopolist.¹⁰²

But refusals to deal—including refusals to sell, buy, supply, distribute, interoperate, promote, host, link, license, or otherwise engage with or accommodate other market participants—are often prominent in policy debates about tech antitrust. Specifically: many complaints about tech platform behavior amount to allegations that a platform has refused to provide some valuable product or service, or that it has done so only on insufficiently favorable terms. As a result, antitrust’s general reluctance to impose liability for such refusals has come under close scrutiny.

In some cases, there is considerable disagreement over whether some practice or other is in fact a refusal to deal. Because the law of refusal to deal is so favorable to defendants, this question is heavily freighted: defendants have strong incentives to try to frame antitrust complaints as “really” challenging a refusal, while plaintiffs have strong incentives to argue that their claims should *not* be understood as refusal-to-deal allegations.

As you think about the limits and bounds of *Trinko*, it is particularly important to appreciate that the “refusal to deal” framework does not only cover literal and complete refusals to transact. The gravamen of a refusal-to-deal

¹⁰¹ See *supra* § VII.C.3.

¹⁰² See generally, *e.g.*, *United States v. Colgate & Co.*, 250 U.S. 300 (1919).

claim is that the defendant’s wrongful act is a failure to deal (*e.g.*, supply, sell, buy, license, cooperate, interoperate) *on sufficiently favorable terms*: to put it crudely, the quality of what the defendant is supplying is too low or the price is too high. To see this clearly, notice that a complete refusal to deal is identical to setting an infinitely high price, or reducing the quality of supply to an infinitely low level. Conversely, a plaintiff in a refusal-to-deal case would not be mollified if the defendant agreed to supply for a zillion (or billion, or million) dollars a unit, or if it grudgingly agreed to provide minimal quantities of late and minimal-quality output. Indeed, the defendant in *Trinko* itself was not flatly refusing to supply interconnection services: it was just dragging its feet, providing slow and low-quality service.¹⁰³

Thus, the implicit theory of a refusal to deal complaint—at least as a matter of economic principle—is virtually always that the defendant is charging too much and/or providing insufficient quality service, by reference to some or other point of comparison identified by the plaintiff. In other words, implicit in the very idea of a “refusal to deal” violation is very often the proposition that there is a “right price” and a set of “right terms” at which the defendant should be selling. Trying to figure out what those are can make courts uncomfortable: as you may remember, *Trinko* itself expressed strong reluctance to define, monitor, or enforce an obligation to deal with all comers on reasonable prices and terms.¹⁰⁴ Moreover, seeing this clearly should remind us that every firm that sets a price or terms of dealing (either finally or as a negotiating position) is in some relevant sense “refusing to deal” on more favorable terms.

All this means that the range of possible refusal-to-deal claims in online markets is very wide indeed. Such claims could include, for example, allegations that a defendant is refusing to promote or distribute a plaintiff’s product or service (*e.g.*, refusing to carry an app in an app store, refusing to include a product in an e-commerce retail site, or refusing to list a website in search results), or doing so on insufficiently favorable terms (*e.g.*, ranking it too low, failing to give it some kind of prominence or favored treatment, or simply charging too high a price). They could include allegations that a defendant is refusing to interoperate or to allow interoperability with third-party software or hardware, or doing so on insufficiently favorable terms (*e.g.*, providing only limited functions, data, or access, or charging too high a price). And they might include allegations that a defendant imposes obligations on trading partners that are substantively too onerous: prices, fees, quality commitments, feature requirements, and so on.

So—more than 20 years after *Trinko*—where is the law? The most recent detailed foray by a court of appeals into the law of refusal-to-deal comes from a brick-and-mortar market. *Duke Energy* involves an antitrust challenge by a newer entrant electrical power company, NTE, to a monopolist incumbent, Duke Energy, based on an alleged (and somewhat complicated!) multipart scheme to keep NTE out of the market. The district court had granted summary judgment to Duke. In reversing that decision, the court of appeals held that *Trinko* did not bar NTE’s claim, even to the extent that it was premised on Duke’s refusal to support NTE by providing electrical transmission services to its upstart rival. As you think about *Duke Energy*’s implications for tech markets, ask yourself why NTE prevailed when so many refusal plaintiffs do not. Duke’s subjective intention? Something about the profitability of dealing with NTE? The existence of other practices that were themselves illegal? Something else? Some combination?

Duke Energy Carolinas, LLC v. NTE Carolinas II, LLC

111 F.4th 337 (4th Cir. 2024)

Judge Niemeyer.

[1] NTE Carolinas II, LLC (“NTE”), a power company based in St. Augustine, Florida, sued Duke Energy Corporation (“Duke”), a power company based in Charlotte, North Carolina, alleging that Duke had monopoly power in the wholesale power market in the Carolinas and willfully maintained that power through anticompetitive conduct . . . in violation of § 2 of the Sherman Act. In particular, NTE presented evidence in the district court that Duke devised a plan to ensure that NTE, its only serious competitor, would not have the

¹⁰³ Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 404–05 (2004).

¹⁰⁴ Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 414–15 (2004).

opportunity to compete for the business of Fayetteville, North Carolina, the only major wholesale customer whose long-term contract with Duke was expiring soon enough to allow NTE to compete for its business. [. . .]

[2] NTE, as an independent power producer (“IPP”), generates power at power plants, but it does not own transmission lines and therefore cannot, with its own resources, transmit the energy it produces to wholesale customers. Thus, NTE must rely on the transmission networks owned by other energy companies to transmit electricity over power lines to its wholesale customers, typically municipalities. To facilitate such access, the Federal Energy Regulatory Commission (“FERC”) requires utilities to share their transmission networks with competitors.

[3] In 2014, NTE began construction of a new combined-cycle natural gas facility in Kings Mountain, North Carolina. To transmit electricity in the Carolinas, however, it needed to use the transmission lines of Duke, a longtime monopolist holding more than 90% of the wholesale power market in the region. Duke is a vertically integrated power company, meaning that it owns both power plants and transmission lines and serves both wholesale and retail customers. In accordance with FERC regulations requiring interconnection, Duke and NTE entered into a standard interconnection agreement, with Duke providing NTE access to its transmission network so that NTE could sell power from its Kings Mountain plant. While NTE thus entered Duke’s service area, Duke at first had little concern about its presence as a competitor, inasmuch as NTE’s Kings Mountain plant was a relatively small generator. Duke’s Vice President of Wholesale Power Sales remarked at the time that he thought it was very doubtful that the threat of Duke customers switching to NTE was real.

[4] Duke’s view of NTE changed over the following year, however, as Duke began to realize that NTE was successfully attracting Duke customers. [. . .]

[5] Eventually, Duke lost a total of nine of its customers to NTE selling electricity from its Kings Mountain plant. . . . [D]uring that same time, it lost only one customer to a competitor other than NTE.

[6] Despite NTE’s cleaner, more efficient power generators, Duke recognized that it had an advantage [over NTE] by reason of [Duke’s] long-term wholesale power supply contracts with its customers, which spanned 20 years and required several years’ notice of termination. . . . But Duke identified one contract that was set to expire soon enough for Duke to worry about losing a major customer’s business to NTE—the City of Fayetteville[.] [. . .]

[7] Fayetteville had been a Duke customer for more than 100 years, and, at the time that NTE began its attempt to win Fayetteville’s business, Fayetteville and Duke were operating under a 20-year agreement that they had entered into in 2012. . . . Duke not only sold Fayetteville electrical power, but, under a separate contract, it also purchased excess power from Fayetteville that was produced at Fayetteville’s [own] Butler Warner plant. That plant was, however, very inefficient[.] [. . .]

[8] [I]n 2016, NTE announced its plan to build a second plant, the Reidsville Energy Center, which could serve Fayetteville. . . . To bring the Reidsville plant online, however, NTE needed to attract not only wholesale customers who were not already locked into long contracts, but especially a large wholesale customer such as Fayetteville.

[9] Because NTE was an IPP, it also needed to enter into an interconnection agreement with Duke to have access to Duke’s transmission lines for its Reidsville plant. So, in November 2017, again in accordance with FERC regulations, NTE and Duke entered into a standard interconnection agreement for the Reidsville plant (“the Reidsville Interconnection Agreement”). Under this pro forma interconnection agreement, NTE agreed to pay Duke \$58,917,362 to build the interconnection infrastructure for the Reidsville plant, and once the lines were built, Duke would own those transmission lines and charge NTE to use them. The contract required NTE to make “security payments”—payments made in advance of incurred costs—for Duke’s construction work on a schedule fixed by the agreement.

[10] A few months after Duke and NTE entered into the Reidsville Interconnection Agreement, NTE persuaded three of Duke’s wholesale customers to buy power from NTE—McCormick, South Carolina; City of Camden, South Carolina; and Western Carolina University. These were significant wins for NTE. Camden, for example, had been a Duke customer for more than 70 years.

[11] As Duke continued to lose customers to NTE, Duke’s competitive concerns intensified. [. . .]

[12] Despite Duke’s concern with NTE’s competition, NTE and Duke continued to operate under the terms of the Reidsville Interconnection Agreement throughout 2018, and by January 2019, NTE had paid Duke \$1.6 million in security payments, as required by the schedule set forth in the Agreement. In February of that year, however, Duke changed the routine payment practice. It sent NTE an email stating that it was implementing a new payment program, and NTE “should wait and send their payments per the instructions on the invoice, instead of just wiring it in” in accordance with the Agreement’s schedule. Only days later, Duke officials exchanged emails discussing its hope to “get Fayetteville wrapped up and put it to bed and ruin NTE’s plans” for the Reidsville plant. When March 1, 2019, came around—the day that NTE would have owed Duke a security payment under the Reidsville Interconnection Agreement—Duke did not send an invoice. Accordingly, in compliance with Duke’s instructions, NTE did not wire Duke the security payment then due.

[13] At the same time that Duke failed to send NTE invoices, it again circulated internal reports showing that Duke was unable to compete with NTE on efficiency[.] . . .

[14] Despite its relative inefficiency, Duke made a highly attractive, multi-faceted offer to Fayetteville, which amounted in the aggregate to a discount of \$325 million for Fayetteville and which was unprecedented. First, Duke agreed to provide Fayetteville with . . . [a] massive discount on the rates set forth in its [existing] 2012 Power Supply Agreement with Fayetteville—something no other competitor could offer—but it required as a condition that Fayetteville begin to pay Duke more for its electricity after 2024, indeed more than NTE would have charged Fayetteville. Duke labeled this two-part discount-now increase-later strategy as “blend-and-extend,” and it later admitted that the strategy would enable Duke to charge customers like Fayetteville “higher prices than offered by the competition” beginning in 2024. . . . Duke [also] agreed to quadruple the price it paid for the excess power it bought from Fayetteville’s Butler Warner plant—increasing its purchase price from \$50/kW-year to \$197.82/kW-year. One Duke employee acknowledged regarding this proposal that Duke would pay more to Fayetteville under this arrangement than it would have to pay at market for the same power. [. . .]

[15] Subsequently, in May 2019, Fayetteville and Duke signed a Letter of Intent, reflecting Fayetteville’s tentative decision to renew its 2012 Power Supply Agreement with Duke in light of what appeared to be an attractive offer.

[16] Meanwhile, NTE was originally required to make another security payment to Duke under the Reidsville Interconnection Agreement on May 1, 2019. But, as with the March 1 security payment, Duke again did not send NTE an invoice, and NTE, in accordance with Duke’s instructions, did not make the payment.

[17] Later that month, on May 15, 2019, NTE exercised its contractual right under the Reidsville Interconnection Agreement to suspend work on the construction of the transmission lines facility. Such suspensions were common in the industry, and NTE’s suspension was explicitly permitted by the Reidsville Interconnection Agreement, which allowed NTE “to suspend at any time” so long as NTE paid Duke “for all reasonable and necessary costs” incurred “prior to the suspension.” NTE had decided to suspend the Reidsville Interconnection Agreement to create some flexibility in its development timeline.

[18] Nonetheless, Duke interpreted NTE’s suspension and nonpayment of the security payments as a breach of the Reidsville Interconnection Agreement, and Duke therefore sent NTE a notice of breach by a letter dated May 22, 2019. In the letter, Duke also demanded payment of the security amounts for which it had not invoiced NTE. Duke’s letter stated that Duke had in fact sent invoices earlier, but Duke later admitted that that statement was false. The day Duke sent its letter, a Duke official . . . remarked to another, “breach! breach! punt em!”

[19] Important to NTE, when an IPP suspends a standard interconnection agreement, such suspension is not supposed to affect its placement in the queue for interconnection with transmission lines. FERC requires energy providers like Duke to publish information about their transmission capacity to industry participants and the general public through the online Open Access Same-Time Information System (“OASIS”). And an IPP’s listing in an OASIS queue informs the public (including potential customers) that the IPP would be capable of transmitting the electricity it produced. Thus, if an IPP’s interconnection project is listed as “canceled” on an OASIS queue, that signals to the public—including customers and investors—that the IPP is unable to transmit its power. [. . .]

[20] During the summer of 2019, Duke and NTE disputed the consequences of NTE’s suspension under the terms of the Reidsville Interconnection Agreement, and in June 2019, Duke sent NTE a formal notice of default. NTE disputed that it had breached the agreement or defaulted in any manner, but it offered to pay Duke for the costs that it had incurred on the Reidsville project and for the reasonable and necessary costs caused by the suspension. Duke then sent a second notice of default and now demanded security payments, stating that it had earlier sent NTE invoices. Later, however, Duke again admitted that such statement was false. [. . .]

[21] On September 6, 2019, Duke unilaterally terminated the Reidsville Interconnection Agreement with NTE. While the terms of that agreement required Duke to notify FERC prior to any termination, Duke did not do so. Later that same month, Duke also listed the Reidsville project as “canceled” in its OASIS queue, effectively “punting” NTE to the end of the line. Duke did this at a time when NTE’s lenders were crystal clear that their ability to finance the Reidsville project had everything to do with ensuring that the Interconnection Agreement was intact. [. . .]

[22] Without the hope of competing for Fayetteville’s business to justify its Reidsville plant, NTE’s expansion effort lost force. In November 2019, one of NTE’s business partners informed NTE that “Reidsville sounds like a good project . . . but we can’t make any commitment until the interconnection issues are resolved.” Even so, NTE sought to move forward with the project, and it applied to the North Carolina Utilities Commission for a permit needed to construct the Reidsville plant. Such applications rarely attracted outside involvement and were routinely granted. Duke, however, petitioned to intervene before the State Commission to assert that NTE had breached the Reidsville Interconnection Agreement and to suggest that NTE would fail to meet its construction goals “apparently due to a lack of financing and insufficient wholesale customers to justify the need for Reidsville.” At that time, however, Duke knew that NTE had won the business of some of Duke’s own customers, such as the City of Camden. [. . .]

[23] According to NTE, Duke’s actions destroyed the value of the Reidsville project, leaving Duke’s customers with no choice but to pay Duke’s higher rates. . . .

[24] The day that Duke unilaterally terminated the Reidsville Interconnection Agreement—September 6, 2019—it also sued NTE in North Carolina state court for breach of the agreement. NTE removed the action to federal court and filed a counterclaim alleging that Duke had monopolized or attempted to monopolize the Carolinas wholesale energy market, in violation of § 2 of the Sherman Act[.] [. . .]

[25] [T]he district court granted summary judgment to Duke on NTE’s antitrust . . . counterclaims. . . . [The court] concluded that NTE had not demonstrated that Duke had engaged in anticompetitive or exclusionary conduct. In reaching that conclusion, the court divided NTE’s allegations into discrete challenges to assess whether each individually amounted to an antitrust violation, addressing particularly: (1) Duke’s termination of the Reidsville Interconnection Agreement as a “refusal to deal” or “denial of an essential facility,” (2) Duke’s renewal offer to Fayetteville as “predatory pricing” or “fraud on FERC,” (3) Duke’s filing of its breach-of-contract lawsuit against NTE as “sham” litigation, (4) Duke’s erroneous OASIS posting as “defamation,” and (5) Duke’s intervention before the North Carolina Utility Commission as an additional exclusionary act. The court applied separate tests as relevant to each subject, found each of them lawful, and declined to consider the acts taken as a whole. [. . .]

[*]

[26] [The Supreme Court] has required that a plaintiff, to be successful on a § 2 claim, must satisfy two essential elements: (1) that the defendant possessed monopoly power in the relevant market, and (2) that the defendant willfully acquired or maintained that power through anticompetitive conduct, as opposed to gaining its monopoly status as a consequence of a superior product, business acumen, or historic accident.

[27] The first element is not at issue . . . Duke does not challenge the district court’s conclusion that a reasonable jury could find that Duke has or is likely to achieve monopoly power in the relevant market But the second element is at issue—whether Duke maintained its power through anticompetitive conduct, *i.e.*, conduct intended to exclude rivals on some basis other than efficiency. [. . .]

[28] The record is . . . sufficient to support a finding that Duke’s blend-and-extend strategy, coupled with its Butler Warner agreement, independently produced anticompetitive effects. . . . {Eds.: we are omitting the detailed discussion of these practices, to keep the focus on the refusal-to-deal analysis.}

[29] The second prong of Duke’s campaign, as NTE has alleged, was Duke’s interference with NTE’s effort to connect its Reidsville plant to Duke’s transmission lines, which included disrupting NTE’s placement in Duke’s OASIS queue and interfering with its application to the North Carolina Utilities Commission. Because this aspect of Duke’s conduct somewhat resembles a refusal to deal, that is the framework through which the parties discuss Duke’s conduct.

[30] Typically, firms have no duty to deal with their competitors, although in limited circumstances a firm’s unilateral refusal to deal with its rivals can give rise to antitrust liability. Applying the established principles applicable to refusals to deal, Duke notes that NTE needed to show (1) that both NTE and Duke, as competitors, were engaged in a voluntary course of dealing, and (2) that Duke refused to sell its goods or services to NTE on the same terms as it would to others. It argues that NTE failed to make that showing. [. . .]

[31] The leading case concerning refusal to deal with a competitor is *Aspen Skiing*, where the Supreme Court upheld a jury verdict against a dominant ski resort that had cut a smaller rival out of a joint venture to sell multi-area ski tickets. The dominant ski resort failed to persuade the jury that its refusal to continue the joint ticket arrangement was justified by any normal business purpose. Instead, the jury credited the smaller rival’s evidence of predation, which included, among other evidence, statements made by the officers or agents of the company and evidence that the conduct was not related to any apparent efficiency. . . . The main lesson of *Aspen Skiing* is that it is fair to characterize a monopolist’s behavior as predatory if it has been attempting to exclude rivals on some basis other than efficiency.

[32] . . . The *Trinko* plaintiff was an AT&T customer who claimed that Verizon delayed fulfilling its rivals’ interconnection requests as part of an anticompetitive scheme to disincentivize customers from moving to Verizon’s rivals, thus impeding the rivals’ ability to enter and compete in the local telephone services market. The Telecommunications Act of 1996 required Verizon to share its network with competitors, and the *Trinko* plaintiff alleged that Verizon breached that duty and that such breach violated § 2 of the Sherman Act. . . . [T]he Court distinguished *Trinko* from *Aspen Skiing* on two grounds. First, *Aspen Skiing* involved the unilateral termination of a voluntary (and thus presumably profitable) course of dealing suggesting a willingness to forsake short-term profits to achieve an anticompetitive end. By contrast, the interconnection service Verizon was required to offer its rivals was not profitable to it. Second, the *Aspen Skiing* defendant’s unwillingness to renew the ticket even if compensated at retail price revealed a distinctly anticompetitive bent. By contrast, interconnection to Verizon’s own system was not something that Verizon had offered at retail price, and its reluctance to interconnect at the cost-based rate of compensation, as provided for in the Telecommunications Act, revealed nothing about dreams of monopoly. The *Trinko* record contained no evidence that Verizon had abandoned a profitable deal for the purpose of undermining competition, and so the Court concluded that Verizon’s behavior did not fall within a recognized antitrust claim under the Court’s existing refusal-to-deal precedents.

[33] An important distinction between *Aspen Skiing* and *Trinko* is that *Trinko*—like the case now before us—involved a regulated market. Even so, the *Trinko* Court did not adopt a rule that unlawful refusals to deal were impossible in regulated markets. Instead, it instructed that the existence of a regulatory structure designed to deter and remedy anticompetitive harm was an important factor in an antitrust analysis because the existence of such a regime can lessen the need for antitrust enforcement by courts. [. . .]

[34] In this case, if a jury were to resolve all factual disputes in NTE’s favor, it could reach the conclusion that Duke, like the defendant in *Aspen Skiing*, forsook short-term profits to achieve an anticompetitive end by unilaterally terminating the Reidsville Interconnection Agreement. A reasonable jury could find that Duke put NTE in the position of appearing to have breached its agreement with Duke, thereby giving Duke a justification to upset NTE’s placement in Duke’s OASIS queue. NTE’s apparent breach and lack of interconnection ability, in turn, would ensure that Fayetteville would not issue an RFP to NTE, thereby ultimately stalling it from bringing its Reidsville plant online.

[35] In this formulation of facts, FERC’s regulatory oversight would not foreclose antitrust liability. It is true that, as in *Trinko*, Duke only offered NTE interconnection services because it was compelled to do so by statute, and therefore the parties’ dealing was not voluntary. But the Reidsville Interconnection Agreement was profitable to Duke, a fact Duke does not dispute. Once NTE paid Duke \$59 million to build the transmission infrastructure, Duke would own the infrastructure, and it would then provide transmission services at FERC-approved rates. Thus, in terminating that relationship, Duke forewent a profitable arrangement. [. . .]

[36] Regarding NTE’s claim that Duke interfered with its efforts to interconnect with Duke’s transmission line, Duke asserts that it had good reasons for terminating the Reidsville Interconnection Agreement and canceling NTE’s position in its OASIS queue. Of course, if that were a true fact, Duke would not be liable for violating § 2 under a refusal-to-deal theory. But accepting Duke’s business justifications as fact at this stage of the litigation would require resolving factual disputes in favor of Duke, in violation of the applicable standards for summary judgment. While Duke maintains that it stopped dealing with NTE only when NTE stopped paying, NTE presented evidence that it stopped paying on the Reidsville Interconnection Agreement only at Duke’s request.

[37] At bottom, the facts of record support a potential finding that Duke timed its unilateral termination of the Reidsville Interconnection Agreement to achieve anticompetitive ends. And we need not determine, as a matter of law, whether, if those facts are believed, such conduct in isolation amounted to a § 2 violation under a refusal-to-deal theory of liability. Rather, we recognize NTE’s claim that this conduct was but a part of a larger scheme. As NTE has shown, the interconnection dispute occurred during the very same time that Duke designed its retroactive rebate for Fayetteville to keep it from issuing an RFP. On NTE’s telling of the facts, the two prongs were executed simultaneously and *to the same effect*. As a synthetic consequence, NTE could not compete to secure an anchor customer for its Reidsville plant, thus depriving it of any practical ability to bring the more efficient plant to market. Such foreclosure to competition is precisely what § 2 seeks to proscribe. [. . .]

[38] Alongside [the parties’ factual] disputes, NTE has presented evidence that Duke’s conduct was deliberate in that Duke consciously sought to exclude NTE from the relevant market because it was a more efficient rival and Duke’s efforts produced that effect. NTE presented evidence addressing the mens rea of Duke’s conduct, suggesting that it amounted to anticompetitive malice. That evidence bolsters our conclusion that the case is trial worthy, as we have recognized that summary procedures should be used sparingly in complex antitrust litigation where motive and intent play leading roles.

[39] . . . [W]e vacate the district court’s summary judgment and remand for further proceedings.

* * *

Duke Energy suggests that there is some life in *Aspen Skiing* and the refusal-to-deal doctrine: at least in the Fourth Circuit!¹⁰⁵ Look back at *Aspen Skiing* in Chapter VII: notice that *Duke Energy* arguably goes further than *Aspen Skiing* did, including because in *Duke Energy* the defendant was not yet supplying the plaintiff, and because the provision of the service in *Duke Energy* was, as it had been in *Trinko*, a matter of regulatory compulsion.

One important subset of refusal-type cases—so-called “self-preferencing”—has received particular attention in debates about tech antitrust policy. In a self-preferencing case, a plaintiff alleges that it is being disfavored, by the defendant, by comparison with a more favored rival, and that the more favored rival is a division of the vertically integrated defendant itself. In other words, the plaintiff alleges that the defendant treats itself more favorably than it treats third parties (including the plaintiff), with the result that the plaintiff is hindered in competing against the defendant.

One reason this topic draws so much attention is that many major digital platforms are integrated into upstream, downstream, and complementary businesses. Self-preferencing might, for example, be observed (or alleged!) when a vertically integrated tech business of any kind—a search engine that also supplies mapping and navigation services; an e-commerce website that also manufactures consumer products; an app store owner that also develops

¹⁰⁵ See *supra* § VII.C.3 (reviewing the state of refusal-to-deal law after *Trinko*).

apps; a device manufacturer that also makes peripherals; etc.—gives, or seems to give, preferential treatment to its in-house options at the expense of third-party rivals.

Assuming that at least some amount of self-preferencing might be going on in some markets, it is easy to see why it can raise concerns. The core worry is that a vertically integrated business might be putting profit ahead of consumers’ interests. Consider, for example, the case of an internet search provider that bumps its own products and services up to the top of rankings, even if they are not otherwise the “best” or “most responsive” results. If that search engine is a particularly important point of distribution for the relevant type of product or service, one could imagine that the effect of self-preferencing might be to push users away from the highest-quality results! It is natural to suspect that integrated incumbent businesses might simply want to make sure that rivals—even rivals with a superior product that consumers would value—don’t get access to valuable inputs, distribution, customers, or complements, so that they stay at a lower scale or efficiency level. It might want to discourage competition, by forcing rivals that would be able to profitably enter at any *one* level of the market to enter simultaneously at *multiple* levels: a harder and riskier undertaking. Or it might just prefer not to do anything that would contribute to a direct competitor’s profits. A plaintiff may well be able to allege—just as in many other “forced sharing” or “refusal to deal” cases—that compelling some kind of favorable sharing would benefit consumers, at least in the short run and setting aside any chilling effect on innovation and investment that such a policy would have.

As a result, some writers have raised concerns about self-preferencing: for example, as a form of monopolization under Section 2 of the Sherman Act, if it contributes to monopoly power; as an unfair method of competition under Section 5 of the FTC Act, if it satisfies whatever criteria we might think that provision imposes; or as an appropriate target for legislation or some other kind of policy intervention.¹⁰⁶ (Why is self-preferencing unlikely to raise issues under Section 1?)

Pure self-preferencing (*i.e.*, in the absence of conduct that is illegal on other grounds, such as an unlawful refusal to deal, tie, exclusivity, etc.) seems unlikely to result in monopolization liability. A central obstacle is the *linkLine* decision, which you may remember from Chapter VII.¹⁰⁷ That case held that there is no Section 2 liability for a “price squeeze” in which a vertically integrated defendant supplies its own division at a more favorable price than that at which it supplies third parties, with the result that third parties are disadvantaged in competing against the vertically integrated defendant.¹⁰⁸ That strongly implies that self-preferencing without more is not a Section 2 violation: at least unless the Court is willing to distinguish between “pricing preferencing” (*i.e.*, a price squeeze) and other forms of preferencing. But this may not be the end of the story: including because Section 5 of the FTC Act is not necessarily limited by *linkLine*!¹⁰⁹ And other jurisdictions, including the European Union, seem to regard self-preferencing as a violation of competition law in at least some cases.¹¹⁰

But any policy effort—whether through antitrust or otherwise—to prohibit or limit self-preferencing must reckon with another side of the story. For one thing, the practice of self-preferencing is very common in the economy.

¹⁰⁶ See, e.g., Herbert Hovenkamp, *Antitrust and Self-Preferencing*, 38 *Antitrust* 5, 6 (2023) (arguing that “current United States antitrust law has many prohibitions on self-preferencing,” but that “they apply only when the firm in question has market power in the dominant good and competitive harm results from the refusal to give equal treatment”); Daniel A. Hanley, *How Self-Preferencing Can Violate Section 2 of the Sherman Act*, Comp. Pol’y Int’l (June 2021) (arguing that “self-preferencing can constitute a form of monopolization”); House of Representatives Subcommittee on Antitrust, Commercial and Administrative Law of the Committee on the Judiciary, INVESTIGATION OF COMPETITION IN DIGITAL MARKETS: MAJORITY STAFF REPORT AND RECOMMENDATIONS (2020) 382 (“[T]he Subcommittee recommends that Congress consider establishing nondiscrimination rules to ensure fair competition and to promote innovation online.”); David J. Balan, *Too Many Economists Are Using a Flawed Theory To Defend Dominant Platforms’ Self-Preferencing Practices*, ProMarket (Nov. 18, 2022); Fiona Scott Morton, Monika Schnitzer, Paul Heidhues, Amelia Fletcher, David Dinielli & Jacques Crémer, *The Digital Markets Act: An Economic Perspective on the Final Negotiations*, VOXEU (Feb. 11, 2022) (stating that “any sort of self-preferencing can be highly anti-competitive”).

¹⁰⁷ See *supra* § VII.D.3 (discussing price squeezes).

¹⁰⁸ *Pac. Bell Telephone Co. v. linkLine Commc’ns, Inc.*, 555 U.S. 438, 452 (2009).

¹⁰⁹ See *supra* § XI.B.2(a) (discussing Section 5).

¹¹⁰ See, e.g., E.U. General Court, Case T-612/17, *Google LLC v. European Commission* (decision of Nov. 10, 2021) ¶¶ 167–75 (“The Commission considered that, through leveraging, Google was relying on its dominant position on the market for general search services in order to favour its own comparison shopping service on the market for specialised comparison shopping search services by promoting the positioning and display of that comparison shopping service and of its results on its general results pages, as compared to competing comparison shopping services, whose results, given their inherent characteristics, were prone to being demoted on those pages by adjustment algorithms.”); “[T]he Commission will have been fully entitled to take the view that that favouring was a departure from competition on the merits.”).

Virtually every business is vertically integrated at least to some extent: that is, it does more than one thing in-house. And such businesses commonly “favor” or “prefer” in some way their own internal divisions over third parties. For example, many businesses favor their full-time employees over spot-market labor, or deal more favorably with in-house accounting, sales, production, or marketing functions than with external alternatives. Many retailers manufacture their own products, and may choose to carry, display, or price some of those products more favorably than some similarly situated third parties. (Supermarket “own brand” products are a good example.) And many businesses share competitive information, strategic plans, and other valuable materials more freely with internal partners than with those outside the business. For example, a business that makes devices and apps might coordinate the development of new hardware and software features that work uniquely well together: for example, a smartphone camera along with specialized image-processing software, or new games-console hardware along with new games that take advantage of the extra features.

In fact, many businesses don’t stop at preferential treatment, but choose to deal *only* with in-house trading partners for certain needs. By doing so, they are not just preferencing internal trading partners over external ones but actually cutting the latter out altogether.¹¹¹ For example, a retail superstore chain might advertise its own products on the front of its stores: thus refusing to allow any rivals to buy its advertising space. Or a device manufacturer might install only its own products and components in its devices—its own flashlights or cameras in a smartphone, or its own operating system on a tablet, or its own calculator or media player software with an operating system—thus completely refusing to deal with third-party component manufacturers at all. Or a cinema or other venue might be the exclusive supplier of popcorn, soda, and snacks as well as of the movie showings. A restaurant might insist on not only supplying food but also being the exclusive seller of wine and other drinks. A car manufacturer might insist on supplying cars only with its own steering wheels, seats, or engines fitted, cutting out third-party component manufacturers altogether.

Crucially, there are many explanations for self-preferencing that are benign or beneficial.¹¹² It may be cheaper and easier, in a variety of ways, for a division of an integrated business to interact with an internal partner; the division may have higher confidence that it will not fall victim to opportunistic behavior or that its competitively sensitive information or plans will not be shared with competitors; the division may have higher confidence in the security, quality, accuracy, or transparency of the internal partner’s activities; the division may have greater faith that the internal partner will be committed for the long term; and so on. And the possibilities for “special compatibility” with internal trading partners, including better features, superior interoperability, and so on, may be considerable. Conversely, depending on the context, the costs and burdens of dealing with third parties, let alone *all* third parties, on similar terms might be sky-high, particularly if dealings must be individualized or negotiated in some way.

In addition—apart from the benefits of dealing with an internal partner—sometimes the internal product or service itself may have a fair claim “on the merits” to be treated more favorably. For example, if the in-house

¹¹¹ In the terms we offered earlier in the Chapter, businesses engaged in such practices may be fully open, fully closed, or partly closed systems. Recall that in a fully closed system, third parties cannot feasibly supply at all (*e.g.*, internal components for a smartphone made by a vertically integrated manufacturer, or own-brand devices in an operating system that only allows such devices). In a partly closed system, there are limits on how they may do so (*e.g.*, through control of intellectual property or non-public knowhow that is necessary to interoperate with the system). And even in an open system, in which third parties can feasibly and independently supply, the system owner may nevertheless decline to affirmatively support rivals (*e.g.*, a cinema may allow customers to bring in third-party food but decline to allow third-party food vendors to sell on-site).

¹¹² See generally, *e.g.*, D. Bruce Hoffman & Garrett D. Shinn, *Self-Preferencing and Antitrust: Harmful Solutions for an Improbable Problem*, CPI Antitrust Chronicle (June 2021); Michael A. Salinger, *Self-Preferencing*, in Joshua D. Wright & Douglas H. Ginsburg (eds.), *THE GLOBAL ANTITRUST INSTITUTE REPORT ON THE DIGITAL ECONOMY* (2020) 363 (“Google’s universal search results were simply its search results for queries that it perceived with some probability to fit a particular theme, and allegations that Google search results were biased toward Google “properties” were, in effect, allegations that Google search results were biased toward Google search results.”); Pablo Ibáñez Colomo, *Self-Preferencing: Yet Another Epithet in Need of Limiting Principles*, 43 *WORLD COMPETITION* 417 (2020) (arguing that “self-preferencing is a manifestation of competition on the merits and often inseparable from the pro-competitive benefits that come with product integration”); Jonathan Jacobson & Ada Wang, *Competition or Competitors? The Case of Self-Preferencing*, 38 *ANTITRUST* 13 (2023); Testimony of Daniel Francis, U.S. Senate, Committee on the Judiciary, Subcommittee on Competition Policy, Antitrust, and Consumer Rights, Hearing on Reining in Dominant Digital Platforms: Restoring Competition to Digital Markets (March 2023); see also Daniel Francis, *Making Sense of Monopolization*, 84 *Antitrust L.J.* 779, 829 (2022) (“Virtually every vertically integrated enterprise in the economy treats its own divisions better than third parties, for an array of obvious theory-of-the-firm reasons as well as the fact that an integrated business is aiming to optimize overall profit, not the separate profit of each division.”).

supply is known to be more reliable (or, at least, can more easily be monitored for reliability); higher quality; more likely to process or provide refunds, returns, complaints, service requests, or other services in a desirable way; or otherwise better or cheaper from the point of view of the preferring business, then what seems to be self-preferencing may simply reflect those advantages. So, despite the concerns, at least some self-preferencing seems desirable. But that is certainly *not* to say that *all* self-preferencing is good, or even that it should all be permitted.

Self-preferencing seems just as common in digital markets as it is in the rest of the economy. For example, a device manufacturer might choose to preinstall a package of its own apps, when it could not or would not install all the available third-party apps. Likewise, an operating system manufacturer might decide to include a set of applications, in addition to the basic operating system, or a games console manufacturer might decide to include some of its own games along with the console, rather than those made by third parties. And the operator of a mobile device ecosystem might choose to make that system compatible only with smartphones and devices that it manufactured itself, rather than open the ecosystem to third-party devices. Or—to return to internet search—the supplier of an internet search engine might decide to feature its own products, apps, services, or widgets more prominently than it features the offerings of others. Do you have any intuitions about whether these practices are harmful or beneficial? What do you predict would happen in these cases if the relevant self-preferencing were prohibited?

The following two extracts showcase different perspectives on the relationship between self-preferencing and monopolization. On one view, self-preferencing raises all the classic concerns that animate monopolization law: the use of power to foreclose rivals and harm consumers. On another view, self-preferencing is a ubiquitous and typically desirable aspect of life in a vertically integrated world. Which perspective do you prefer? Is there a third way?

Daniel A. Hanley, How Self-Preferencing Can Violate Section 2 of the Sherman Act

CPI Antitrust Chronicle (June 2021)

[1] By unfairly modifying its operations to privilege its, another firm's, or a set of firms' products or services, self-preferencing enables a firm to unilaterally distort the relationships between dependent firms and customers to monopolize a market, fortify its dominance, destroy a competitor, or leverage into a new market. Self-preferencing can thus violate the Sherman Act and violate the principles of fair competition embedded in it. [. . .]

[2] Self-preferencing causes two primary harms to market participants and consumers. First, since self-preferencing artificially weakens a rival firm's competitive position (who is often dependent on the provided service), it allows the perpetrator to unfairly maintain and extend its market power. When this happens, barriers to entry in an industry can increase, leading to less consumer choice, increased bargaining leverage of incumbent firms to extract or impose more favorable terms of service and conduct on dependent firms, and increased costs to dependent firms.

[3] Second, self-preferencing causes significant exclusion and foreclosure effects, which can lessen consumer choice for alternative services. The exclusion of a firm can also cause consumers to lose out on the benefits of increased firm rivalry and potential innovation derived from it.

[4] The foreclosure effects caused by self-preferencing can also deprive a firm of the necessary scale to be a viable market participant. Moreover, even the threat of foreclosure can cause harm to consumers by deterring the entry of potential competitors since they will likely not risk entering a market that they can be unilaterally excluded from if they start challenging the dominant incumbent firm. [. . .]

[5] [Examples of alleged demotion, by Google, of rival shopping sites and image results in search results] provide an adequate basis for a violation of Section 2 of the Sherman Act. In both examples, Google used self-preferencing derived from its "dominant economic power" to "foreclose competition, to gain a competitive advantage, or to destroy a competitor" and harm the competitive process, — as opposed to succeeding on account of "superior service, lower costs, and improved efficiency." Since Google is indispensable to third parties, an artificially lower search ranking from self-preferencing can be devastating for a firm's competitive position. As such, self-

preferencing not only leads to substantial foreclosure of a rival site, but it also can raise the costs to dependent firms because a firm may have to either enter into a special deal with Google or pay for advertising on Google's search platform to ensure they are at a higher search position. All of this has the effect of raising a rival's costs or forcing a dependent firm to operate in a significantly weaker bargaining position as a direct result of the firm's market power and self-preferencing.

**D. Bruce Hoffman & Garrett D. Shinn, Self-Preferencing and Antitrust:
Harmful Solutions for an Improbable Problem**

CPI Antitrust Chronicle (June 2021)

[1] [M]odern political and popular discourse treats self-preferencing as nearly a per se evil. But, is there any reason to think that is right? Consider the example of that most quotidian of platforms: the shopping mall.

[2] A shopping mall is a platform. Its value is as a gathering place for stores on the one hand and shoppers on the other. It is compensated for this role by rent collected from its tenants. Let's suppose that a particular mall decides to open its own pretzel store in its food court. [. . .]

[3] . . . [Could a desire to hurt other pretzel stores] explain self-preferencing [by the mall to favor its own store]? It should be obvious that the answer is probably not, for a simple reason: the mall owner has much better tools for that purpose. It could, for example, just kick the competing snack stores out of the mall, or raise their rents to unsustainable levels. Making its own pretzel offering particularly compelling for customers is a costly and roundabout way to drive out rivals, if that's what the mall owner really wants to do.

[4] More importantly, consider what will happen if the mall owner's actions hurt other snack stores and the net result . . . is bad for customers. . . . [T]he other snack stores close, or raise prices or cut the quality of their offerings because they're being squeezed on rent, and whatever the mall owner's own pretzel store offers isn't good enough to outweigh the negative effects of the degradation of the other snack stores. So now there are long lines at the pretzel store, and shoppers are upset because they don't have the options they appreciated before. If that happens, the mall will become less attractive to shoppers. . . . As shopper spending declines, the mall becomes less attractive to merchants; some close, or cut quality, or reduce hours, and total sales fall, which in turn makes the mall even less attractive to shoppers, and so on. And as all of this happens, the mall owner gets less rent and is worse off, which plainly wasn't its goal.

[5] . . . [T]he most likely reason for a mall to [self-preference] is because it thinks the net result of its actions will benefit shoppers and make the mall more attractive (both to shoppers and merchants). In other words, our little thought experiment demonstrates that the most likely explanation for platform self-preferencing is procompetitive, benefiting both buyers and sellers on the platform and increasing overall output. [. . .]

[6] [T]he basic intuition we describe above should generally hold even where the platform has market or monopoly power. This is the case for two reasons.

[7] First, if the platform's vertical integration and self-preferencing is actually bad for consumers, the result is simply that the monopoly platform makes more profit in the short run, but undermines its monopoly in the long run. The effects are no different than a monopolist charging a monopoly price (using our mall example, raising rents sky-high because no other malls are around)

[8] Second, in the U.S. at least, it's not illegal for a monopolist to reap the rewards of its monopoly, because those rewards help drive innovation and competition. Section 2 of the Sherman Act doesn't prohibit monopolies; it assumes that a competitive economy can result in monopolies, because some competitor might just do things better than all of its rivals. Rather, Section 2 prohibits anticompetitive conduct—conduct that harms the competitive process—that results in a monopoly. As the Supreme Court has explained, even so-called monopoly leveraging (using a monopoly in one market to gain an advantage in another) does not violate the antitrust laws so long as this leveraging does not create or maintain monopoly power in a second market. Antitrust law isn't price regulation.

[9] What all this means is that (1) because the platform has other, easier ways to make more money than by vertically integrating, and (2) because the platform’s motivation is to make both sellers and buyers happier, the most likely reason a platform would vertically integrate is to make buyers happier. That will make them more likely to come to the mall, spend more time there, and spend more money in all the stores at the mall. In turn, this will make sellers more likely to want to be in the mall, and able and willing to pay higher rent because of the higher sales they’ll make. In more technical antitrust terms, the most likely reason for platform vertical integration is to increase output and consumer (and overall) welfare.

* * *

➔ The modern limits of refusal to deal law, and the antitrust analysis of self-preferencing, are front and center in the ongoing blockbuster *Apple* litigation. The case was launched by a 2024 antitrust complaint against Apple filed by the Justice Department and a coalition of states, and it adds up to a dramatic effort to test the limits of Section 2 in this area.¹¹³ The complaint alleged a monopolization scheme with multiple components, aimed at contributing to monopoly in markets for smartphones and performance smartphones. Importantly, much of the conduct amounts to denying unintegrated third parties various kinds of interoperability and other benefits, while in some cases providing the relevant interoperability or benefits to Apple’s own competing products. The core story is that, by so doing, Apple is failing to support third-party complementary products that could in turn make entry and expansion more enticing for Apple’s smartphone rivals. Apple moved to dismiss the complaint in light of *Trinko* and refusal-to-deal law; but the district court took a different view. At the time of writing (Summer 2026), the litigation continues.

United States v. Apple Inc.

No. 24-CV-4055, 2025 WL 1829127 (D.N.J. June 30, 2025)

Judge Neals.

[1] This matter comes before the Court on Defendant Apple, Inc.’s (“Apple”) motion to dismiss Plaintiffs United States of America and the [Attorneys General] of twenty States’ . . . Amended Complaint for failure to state a claim[.]

[2] . . . According to the Amended Complaint, Apple maintains a market share of 65 percent in the smartphone market and 70 percent in the performance smartphone market. [. . .]

[3] According to Plaintiffs, Apple harms competition by restricting certain cross-platform technologies that would make it easier for consumers and developers to purchase and develop products for devices outside of the Apple ecosystem. Plaintiffs allege these restrictions affect five key categories: super apps, cloud-streaming apps, text messaging, smartwatches, and digital wallets.

[4] **Super Apps.** A super app is middleware that runs multiple, smaller “mini programs” in one app, effectively consolidating access to different apps, experiences, content and services. By using a super app, consumers do not have to find an app in an app store, download the app, set up the app, and continually log into the app for each specific activity or function that they need. Rather, consumers can simply find, download, set up, and log into one app that hosts all the activities and functions that would otherwise require multiple, separate apps. . . . [B]ecause the same app can be accessed on different devices with low switching costs, super apps may decrease a user’s dependence on a specific device’s operating system. For example, a user has more choices when purchasing a new smartphone if the super app they rely on can be run just the same on any smartphone.

[5] Plaintiffs allege Apple limits super apps through its App Store Guidelines. Specifically, Plaintiffs allege that Apple has “effectively blocked” developers from creating apps that host mini programs by (1) requiring apps to

¹¹³ The FTC’s 2023 case against Amazon had previously alleged that self-preferencing was *evidence of harm* from the practices that were the focus of the complaint, but did not allege that self-preferencing was itself unlawful. Specifically, the FTC alleged that because Amazon had increased its monopoly power through the challenged conduct, it had gained the ability to reduce quality, including through self-preferencing. *See* Complaint, FTC v. Amazon.com, Inc., No. 2:23-CV-01495 (W.D. Wash., filed Sept. 26, 2023) ¶¶ 241–48.

display mini programs using text-only lists, (2) preventing apps from categorizing mini programs, and (3) blocking mini programs from accessing Apple’s in-app payment system and using other payment systems.

[6] **Cloud Streaming Apps.** Cloud streaming apps allow users to run a computationally intensive program without having to process or store the program on the smartphone itself. Rather, the smartphone utilizes the computing power of a remote server, which runs the program and streams the results back to the phone. This allows developers to bring cutting-edge technologies and services to smartphone consumers—including gaming and interactive artificial intelligence services—even if their smartphone includes hardware that is less powerful than an iPhone. . . . Plaintiffs allege that if Apple permitted cloud streaming apps, it could be forced to compete more vigorously against rivals and reduce users’ need to purchase expensive phones with advanced hardware.

[7] According to the Amended Complaint, Apple has prevented third-party developers from offering cloud gaming subscription services as a native app on the iPhone. Rather, Apple has imposed upon developers the onerous requirement whereby any cloud streaming game or update thereto must be submitted as a stand-alone app for approval by Apple, which has increased the cost of releasing games on the iPhone and limited the number of games developers can make available to users. Apple also requires developers to expend considerable time and resources re-engineering apps to meet its rules and restrictions for cloud games.

[8] **Text Messaging.** . . . [M]obile phones allow the exchange of Short Message Service (“SMS”) text messages between other mobile phones, including smartphones. Apple Messages (“iMessage”) is a native app that allows SMS messages to be exchanged between iPhones and other mobile phones. SMS, though, does not support modern messaging features or over the top protocols (“OTT”), like sending large files, editing messages, and reacting with icons, and encryption, typing indicators, read receipts, and disappearing messages. With respect to iMessage, Plaintiffs allege Apple designates the APIs needed to implement SMS as “private,” which prevents third-party developers from combining the “text-to-anyone” functionality of SMS with the advanced features of OTT messaging. Thus, iMessage does not allow text messages to be received by or sent to cross-platform messaging alternatives. Rather, text messages from cross-platform messaging apps can only be received by or sent from iPhones if all the parties to the text exchange have downloaded the respective cross-platform messaging app. In contrast, iMessage allows users to send messages to anyone by entering their phone number

[9] Plaintiffs allege Apple inhibits developers’ ability to provide a quality cross-platform messaging app, as compared to iMessage, by (1) preventing developers from combining SMS with OTT, (2) stopping third-party messaging apps from operating in the background, (3) preventing access to video previews before answering a video call, and (4) preventing the use of modern features on text messages sent from other smartphones. Plaintiffs further allege that Apple has created barriers in communication between iPhones and other smartphones to drive consumers towards the iPhone and to make it harder for current iPhone users to switch smartphones.

[10] **Smartwatches.** Smartwatches are wrist-worn devices that allow users to access apps and perform other functions like responding to notifications, making mobile payments, and tracking health data. A smartwatch must be paired with a smartphone to optimize its functionality, so it is imperative when buying a smartwatch that the user’s smartphone is capable of pairing. Third-party smartwatches are compatible with smartphones by requiring users to download an app to their smartphone and then connect the app and watch via Bluetooth. Apple Watch, Apple’s smart watch, does not have this functionality and can only be paired with an iPhone. However, third-party smartwatches . . . can pair to the iPhone.

[11] Plaintiffs allege that once consumers purchase an Apple Watch, they are less inclined to switch to a different smartphone because the Apple Watch is not compatible with other smartphones. According to the Amended Complaint, Apple degrades third-party smartwatches’ functionality through its technical and contractual control of critical APIs by (1) depriving iPhone users with third-party smartwatches of the ability to respond to notifications, (2) inhibiting third-party smartwatches from maintaining reliable connection to the iPhone, and (3) undermining the performance of third-party smartwatches that connect directly with a cellular network

[12] **Digital Wallets.** Digital wallets are apps that allow a user to store and use passes and credentials, including credit cards, personal identification, movie tickets, and car keys, in a single app and can be used for transactions in mobile apps and websites. According to the Amended Complaint, if developers could create cross-digital

platforms {*Eds.: this seems to be a typo for “cross-platform payment solutions” or similar.*}, users would be able to “use the same wallet, with the same cards, IDs, payment histories, peer-to-peer payment contacts, and other information” among different devices, thereby making it easier for users to switch smartphones.

[13] Apple Wallet, Apple’s proprietary digital wallet, is on the iPhone and it incorporates Apple Pay, Apple’s proprietary payment system, to process digital payments on the web, in apps, and at merchant points of sale. It utilizes near-field communication (“NFC”) hardware to provide tap-to-pay. However, Plaintiffs contend that Apple exerts its smartphone monopoly by precluding banks, merchants, and other parties from using NFC to facilitate tap-to-pay and the ability to develop better payment products and services for iPhone users.

[14] Beyond not allowing others to utilize NFC, Apple impedes and undermines the capabilities of digital wallets by restricting others from offering the ability to authenticate digital payment options during online checkouts, thereby limiting third-party wallets’ ability to provide a simple, fast, and comprehensive solution to purchasing. Further, Apple blocks other digital wallets from serving as an alternative in-app payment, which prevents these wallets from improving users’ experiences by including use of rewards points in purchasing, digital receipts, returns, loyalty programs, and digital coupons for purchases of relevant subscriptions and digital goods. [. . .]

[*]

[15] Apple moves to dismiss the Amended Complaint . . . [including] because the Amended Complaint fails to allege exclusionary conduct and instead only challenges Apple’s lawful refusals to deal[.] [. . .]

[16] As a general rule, businesses are free to choose the parties with whom they will deal, as well as the prices, terms, and conditions of that dealing. . . .

[17] Nevertheless, the *Trinko* Court recognized [that] the high value . . . placed on the right to refuse to deal with other firms does not mean that the right is unqualified. The *Trinko* Court identified *Aspen Skiing* as the leading case for § 2 liability based on refusal to cooperate with a rival, which upheld a jury verdict for the plaintiff, reasoning that the jury may well have concluded that the defendant elected to forgo these short-run benefits because it was more interested in reducing competition over the long run by harming its smaller competitor. Notably, however, the *Trinko* Court delineated *Aspen Skiing* as being at or near the outer boundary of § 2 liability. . . .

[18] The Court finds the refusal to deal doctrine does not apply to Apple’s alleged conduct in this case because Plaintiffs do not allege Apple is failing to deal with its smartphone rivals, but rather that Apple’s conduct is imposing restrictions on developers and smartphone users. Courts across the country have refused to extend the refusal to deal doctrine to such conduct. *See, e.g., Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 463 n.8 (1992) (holding that “sale of parts to third parties on condition that they buy service from Kodak” is not a unilateral refusal to deal); *Lorain J. Co. v. United States*, 342 U.S. 143, 152 (1951) (holding newspaper that prevented advertisers from dealing with competing radio stations violated Section 2); *Host Int’l Inc. v. Marketplace, PHL, LLC*, 32 F.4th 242, 250 n.7 (3d Cir. 2022) (acknowledging that “refusing to deal can sometimes establish a Section 2 claim[.]” but “only among competitors, and only if the parties have a history of dealing paired with facts suggesting a willingness to forsake short-term profits to achieve an anticompetitive end”)

[19] Affording all reasonable inferences to Plaintiffs, the Court denies Apple’s motion to dismiss the Amended Complaint on this basis.

[20] The “willful acquisition or maintenance” element invokes a burden-shifting framework to determine whether there is anticompetitive conduct. In *Mylan Pharms. Inc. v. Warner Chilcott Pub. Ltd. Co.*, 838 F.3d 421, 438 (3d Cir. 2016), the Third Circuit described the burden-shifting framework as follows;

[T]he party seeking to impose liability must initially provide evidence of the anticompetitive nature of a defendant’s conduct. Once established, the defendant then has the burden of proffering nonpretextual procompetitive justifications for its conduct, and the plaintiff may then either rebut those justifications or demonstrate that the anticompetitive harm outweighs the procompetitive benefit.

However, to survive dismissal, Plaintiffs are required only to establish a *prima facie* case.

[21] Courts have found technological barriers to constitute anticompetitive conduct. In *United States v. Microsoft Corp.*, 253 F.3d 34, 64–65 (D.C. Cir. 2001), Microsoft imposed contractual restrictions and technological shackles on developers and others that stopped them from distributing internet browsers that competed with Internet Explorer, Microsoft’s browser. The restrictions included prohibiting removal of desktop icons, restricting modifications of the initial boot sequence of Windows, and preventing manufacturers from altering the desktop in certain ways. Because Microsoft’s conduct, through something other than competition on the merits, has the effect of significantly reducing usage of rivals’ products and hence protecting its own operating system monopoly, it was deemed anticompetitive. [. . .]

[22] The Amended Complaint sets forth several allegations of technological barricades that constitute anticompetitive conduct. With respect to super apps, the Amended Complaint alleges Apple imposes exclusionary requirements, such as requiring apps in the United States to display mini programs using a flat, text-only list of mini programs and banning apps from categorizing mini programs, which discourages developers from creating apps. Apple also prevents developers from collecting payments. For cloud streaming apps, Apple effectively prevents third-party developers from offering cloud gaming subscription services as a native app on the iPhone, as it requires any cloud streaming game or update thereto to be submitted as a stand-alone app for approval by Apple, which has increased the cost of releasing games on the iPhone and limiting the number of games developers can make available to users.

[23] The Amended Complaint also alleges Apple imposes technological limitations to prevent developers from offering key features to iPhone users that are accessible on iMessage, Apple Watch, and Apple Wallet. With respect to iMessage, Plaintiffs allege Apple designates the APIs needed to implement SMS as private, which prevents third-party developers from combining the “text-to-anyone” functionality of SMS with the advanced features of OTT messaging. In contrast, iMessage allows users to send messages to anyone by entering their phone number because it incorporates SMS and OTT messaging.

[24] Additionally, Plaintiffs allege Apple Watches are only compatible with the iPhone. Plaintiffs assert that Apple degrades the functionality of third-party cross-platform smartwatches through its technical and contractual control of critical APIs by preventing iPhone users from being able to respond to notifications on their third-party smartwatches, obstructing iPhone users from maintaining a reliable connection with the iPhone, and undermining third-party smartwatches’ performance that connect directly with a cellular network.

[25] Moreover, Apple maintains the Apple Wallet on iPhones and utilizes Apple Pay to process digital payments on the web, in apps, and at merchant points of sale. Apple Wallet utilizes NFC hardware to provide tap-to-pay but prohibits developers from accessing NFC hardware to incorporate tap-to-pay in cross-platform digital wallets. Further, Apple Wallet is the only app that can use NFC to facilitate tap-to-pay, thereby precluding banks, merchants, and other parties, from developing better payment products and services for iPhone users. Plaintiffs also allege Apple’s restrictions undermine other digital wallets from (i) offering the ability to authenticate digital payment options during online checkouts, thereby limiting third-party wallets’ ability to provide a simple, fast, and comprehensive solution to purchasing; and (ii) serving as an alternative in-app payment, which prevents these wallets from enhancing users’ experiences by including use of rewards points in purchasing, digital receipts, returns, loyalty programs, and digital coupons for purchases of relevant subscriptions and digital goods.

[26] At the pleadings stage, allegations of this nature, which indicate that Apple acts in a manner to protect its monopoly power in the smartphone and performance smartphone market, are sufficient to establish a *prima facie* case under the burden-shifting framework.

[27] To the extent Apple argues it can limit access to its own propriet[ar]y technology available to third parties, the Court finds this contention is a factual dispute that must be resolved through discovery, not this stage of the litigation where factual disputes are construed in favor of Plaintiffs.

[28] Accordingly, the Court denies Apple’s motion to dismiss the monopolization claims.

NOTES

- 1) Drawing on your knowledge of monopolization law (see Chapter VII), do you find the plaintiff wins in *Duke Energy* or *Apple* surprising? In what respects, if any? Assuming the correctness of both decisions, when is a refusal to deal illegal?
- 2) Thinking about *Duke Energy*: is it plausible that a refusal to deal might be lawful *unless* done at the same time as other practices that are themselves illegal, in which case the refusal becomes illegal? What is appealing and what is difficult about that view?
- 3) Thinking about *Apple*: what is the difference between a refusal and a technological limitation? Could a defendant switch from one to the other if their legal treatment were different? Did the *Trinko* defendant engage in a refusal to deal or did it impose a technological limitation? How could we tell?
- 4) *Apple* arguably suggests that if a defendant is refusing to deal with X for fear that X will support Y—where Y is the defendant’s competitor—then different Section 2 standards should apply depending on whether X and Y are related or integrated by ownership or contract. Is that a fair reading? Is it a good rule?
- 5) What do you make of the comment at the end of the *Apple* excerpt about proprietary technology? Is there a difference for antitrust purposes between proprietary technology and proprietary property (!) of any other kind?
- 6) Under what circumstances does—or should—antitrust impose an obligation on a dominant platform to interoperate with third-party complements like apps and devices? What is the content of that duty and who are the beneficiaries?
- 7) Suppose we agree on two things: (a) an app store has no general background obligation to carry third-party apps, and (b) an app developer may not bribe—with cash or with valuable services, including product distribution—another app developer to remove competing features from the other developer’s app. What does this mean for an integrated business, that both operated an app store *and* developed its own apps, that wanted to refuse to carry (some or all) competing apps in the store? Is such a refusal legal because of (a) or illegal because of (b)? Is it possible that either (a) or (b) is not correct?
- 8) Could a refusal to deal claim be maintained on the ground that a search engine has ranked a particular website too low? What kinds of facts would or could ground such a claim?

2. Should Congress Ban (Some?) Self-Preferencing or Discrimination?

We have seen that self-preferencing has an uncertain relationship with monopolization law. But competition policy is about more than just antitrust law! So some writers and advocates have argued that, even if antitrust doesn’t prohibit (some? all? any?) self-preferencing, Congress should intervene to impose some limits. From 2024 onward, the European Union’s Digital Markets Act has limited the ability of platforms to engage in self-preferencing, and some American commenters favor similar legislation in the United States.¹¹⁴

➔ At the time of writing (Summer 2026), the leading U.S. proposal in this direction is the bill known as the American Innovation and Choice Online Act (“AICOA”), most recently re-introduced in the Senate in June 2026, but not yet enacted. The following extract gives a sense of the bill’s intended scope and content. It is followed by two excerpts from written Congressional testimony from a 2023 hearing on an earlier but similar version of the bill: one critical, one supportive. As you will see, AICOA does more than just limit self-preferencing and discrimination; at the same time, it does not create a flat ban on either practice. How would you characterize its substantive provisions? What problems do you think it aims to solve or address?

[Proposed] American Innovation and Choice Online Act

S. 4746, 119th Cong. (2026)

SEC. 2 DEFINITIONS

¹¹⁴ See generally Alexandre de Streel, Marc Bourreau, Amelia Fletcher, Jan Kraemer & Giorgio Monti, IMPLEMENTING THE DMA: SUBSTANTIVE AND PROCEDURAL PRINCIPLES, CERRE Issue Paper (Jan. 2024); European Commission, *Digital Markets Act (DMA) Legislation*, https://digital-markets-act.ec.europa.eu/legislation_en (web page with resources); Martin Peitz, THE PROHIBITION OF SELF-PREFERENCING IN THE DMA, CERRE Issue Paper (Nov. 2022).

[. .] BUSINESS USER.—The term “business user”—

(A) means a person that uses or is likely to use a systemically important platform to advertise, sell, provide products or services, or access users and customers, including such persons that are operating a systemically important platform or are controlled by a systemically important platform operator; and

(B) does not include a person that—

(i) is a clear national security risk; or

(ii) is organized under the laws of or controlled by the Government of the People’s Republic of China or the government of another foreign adversary.

[. .] MATERIALLY HARMS COMPETITION.—The term “materially harms competition” means any actual or reasonable risk of lessening of competition or impairing the competitive process that is more than a de minimis amount.

[. .] ONLINE PLATFORM.—The term “online platform”—

(A) means a website, online or mobile application, operating system, digital assistant, or online service that—

(i) enables a user to generate or share content that can be viewed by other users on the platform or to interact with other content on or through the platform;

(ii) facilitates the offering, advertising, sale, purchase, payment, or shipping of products or services, including software applications, between and among consumers or businesses not controlled by the systemically important platform operator; or

(iii) enables user searches or queries that access or display a large volume of information; and

(B) does not include a service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service.

[. .] SYSTEMICALLY IMPORTANT PLATFORM.—

(A) IN GENERAL.—The term “systemically important platform” means an online platform that—

(i) is controlled by a person with average annual gross revenues of not less than \$175,000,000,000, as adjusted under subsection (c); and

(ii)(I) during a period of not fewer than 3 consecutive calendar months in each of the 2 consecutive 12-month periods preceding the filing of an action under this Act, has monthly active users in the United States equal to not less than 34 percent of the population of the United States over the age of 12, as determined by the most recent decennial census of population conducted by the Bureau of the Census; or (II) during a period of not fewer than 3 consecutive calendar months in each of the 2 consecutive 12-month periods preceding the filing of an action under this Act, has subscriber households in the United States equal to not less than 34 percent of households in the United States, as determined by the most recent decennial census of population conducted by the Bureau of the Census. [. .]

SEC. 3. UNLAWFUL CONDUCT.

(a) PROHIBITIONS.—

(1) PROHIBITION ON PREFERENCING, LIMITING, AND DISCRIMINATION.—It shall be unlawful for a person operating a systemically important platform in or affecting commerce to—

(A) preference the products, services, or lines of business of the systemically important platform over those of another business user in a manner that would materially harm competition;

(B) limit the ability of the products, services, or lines of business of another business user to compete on the systemically important platform relative to the products, services, or lines of business of the systemically important platform operator in a manner that would materially harm competition; or

(C) apply or enforce the terms of service of the systemically important platform among similarly situated business users in a discriminatory manner that would materially harm competition.

(2) **PROHIBITION ON ACCESS TO PLATFORM FEATURES.**—It shall be unlawful for a person operating a systemically important platform in or affecting commerce to restrict, impede, or unreasonably delay the capacity of a business user to access or interoperate with the same platform, operating system, or hardware or software features that are available to the products, services, or lines of business of the systemically important platform operator that compete or would compete with products or services offered by business users on the systemically important platform.

(3) **PROHIBITION ON TYING.**—It shall be unlawful for a person operating a systemically important platform in or affecting commerce to condition access to the systemically important platform, any part of the systemically important platform, or preferred status or placement on the systemically important platform on the purchase or use of other products or services offered by the systemically important platform operator that are not part of or intrinsic to the systemically important platform.

(4) **PROHIBITION ON ACCESS TO PLATFORM DATA.**—It shall be unlawful for a person operating a systemically important platform in or affecting commerce to— (A) use nonpublic data that are obtained from or generated on the systemically important platform by the activities of a business user or by the interaction of a platform user with the products or services of a business user to offer, or support the offering of, the products or services of the systemically important platform operator that compete or would compete with products or services offered by business users on the platform; or (B) restrict or impede a business user from accessing data generated on the systemically important platform by the activities of the business user, or through an interaction of a user with the products or services of the business user, such as by establishing contractual or technical restrictions that prevent the portability by the business user to other systems or applications of the data of the business user.

(5) **PROHIBITION ON USER LOCK-IN.**—It shall be unlawful for a person operating a systemically important platform in or affecting commerce to restrict or impede users from changing default settings or selecting an alternative default product or service, if the default directs or steers users to products or services offered by the systemically important platform operator, unless necessary— (A) for the security or functioning of the platform; or (B) to prevent data from the systemically important platform operator or another business user from being transferred to the Government of the People’s Republic of China or the government of another foreign adversary.

(6) **PROHIBITION ON RANKING AND PRESENTATION.**—It shall be unlawful for a person operating a systemically important platform in or affecting commerce to treat the products, services, or lines of business of the systemically important platform operator more favorably relative to those of another business user in connection with any user interface, including search or ranking functionality offered by the platform, except pursuant to standards that are neutral, nondiscriminatory, and fairly applied to all similarly situated business users.

(7) **PROHIBITION ON RETALIATION.**—It shall be unlawful for a person operating a systemically important platform in or affecting commerce to retaliate against any user or business user that raises concerns with any law enforcement authority about actual or potential violations of State or Federal law.

(b) **AFFIRMATIVE DEFENSES.**—

(1) **COMPLIANCE WITH LAW; PROTECTION OF SAFETY, PRIVACY, AND SECURITY; PREVENTION OF FRAUD.**—It shall be an affirmative defense to an action under this section if the defendant establishes by clear and convincing evidence that the conduct at issue was—

(A) necessary to— (i) comply with Federal or State law; or (ii) protect safety, user privacy, the security of nonpublic data or of the platform, or any other significant cybersecurity risk, or to prevent fraud or spam; and (B)(i) applied on a consistent basis; (ii) not used as a pretext to exclude or disadvantage competitors; (iii) narrowly tailored in scope; and (iv) could not be achieved through less anticompetitive means.

(2) **NO HARM TO COMPETITION.**—It shall be an affirmative defense to an action under paragraphs (2) through (6) of subsection (a) if the defendant establishes by a preponderance of the evidence that the conduct has not materially harmed and would not materially harm competition. [. . .]

(c) **ENFORCEMENT.**— [. . .]

(3) **ENFORCEMENT IN FEDERAL DISTRICT COURT.**—The Commission, the Attorney General, or any attorney general of a State may enforce this Act only through a civil action brought before a district court of the United States.

(4) **REMEDIES.**—

(A) **CIVIL PENALTIES.**—In an action brought by the Commission, the Attorney General, or a State attorney general under this Act, the court may impose a civil penalty on a person that violates this Act.

(B) **CIVIL PENALTY AMOUNT.**—Any person who violates this Act shall be liable to the United States for a civil penalty, to be deposited in the Treasury of the United States, in an amount not greater than 10 percent, and not less than 1 percent, of the total United States revenue of the person for the period during which the violation occurred.

(C) **INJUNCTIVE AND OTHER EQUITABLE RELIEF.**—

(i) **IN GENERAL.**—The Attorney General, the Commission, or the attorney general of any State may seek, and the court may order, equitable relief as necessary to prevent, restrain, or prohibit violations of this Act. [. . .]

(D) **FORFEITURE FOR REPEAT OFFENDERS.**—

(i) **IN GENERAL.**—In addition to any other remedy provided in this Act, if a court finds that a person engaged in a pattern or practice of conduct that violates this Act, the court shall consider requiring, and may order, the forfeiture by the chief executive officer, and any other corporate officer as appropriate to deter violations of this Act, of any compensation received during the 12-month period preceding or following the filing of a complaint for an alleged violation of this Act. [. . .]

(6) **RULES OF CONSTRUCTION.**—

(A) IN GENERAL.—Nothing in subsection (a) may be construed—

- (i) to require a systemically important platform operator to divulge or license any intellectual property, including any trade secrets, business secrets, or other confidential proprietary business processes, owned by or licensed to the systemically important platform operator;
- (ii) to prevent a systemically important platform operator from asserting its preexisting rights under intellectual property law to prevent the unauthorized use of any intellectual property owned by or duly licensed to the systemically important platform operator;
- (iii) to require a systemically important platform operator to interoperate or share data with persons or business users that are on any list maintained by the Federal Government by which entities are identified as limited or prohibited from engaging in economic transactions as part of United States sanctions or export control regimes, or have been identified as national security, intelligence, or law enforcement risks;
- (iv) to prohibit a systemically important platform operator from promptly requesting and obtaining the consent of a user prior to providing access to the nonpublic, personally identifiable information of the user to another user;
- (v) in a manner that would likely result in data on the systemically important platform or data from another business user being transferred to the Government of the People’s Republic of China or the government of another foreign adversary; or
- (vi) to impose liability on a systemically important platform operator solely for offering— (I) full end-to-end encrypted messaging or communication products or services; or (II) a fee-for-service subscription that provides benefits to users on the platform.

(B) COPYRIGHT AND TRADEMARK VIOLATIONS.—An action taken by a systemically important platform operator that is reasonably tailored to protect the rights of third parties under section 106, 1101, 1201, or 1401 of title 17, United States Code, or rights actionable under section 32 or 43 of the Act entitled “An Act to provide for the registration and protection of trademarks used in commerce, to carry out the provisions of certain international conventions, and for other purposes”, approved July 5, 1946 (commonly known as the “Lanham Act” or the “Trademark Act of 1946”) (15 U.S.C. 1114, 1125), or corollary State law, shall not be considered unlawful conduct under subsection (a).

**Daniel Francis, Testimony before the U.S. Senate Committee on the Judiciary,
Subcommittee on Competition Policy, Antitrust, and Consumer Rights**

March 7, 2023

[1] The strongest case for AICOA, as I understand it, depends on two related claims. The first claim is that *platform self-preferencing is generally bad for consumers*. The second claim is that *a ban on self-preferencing would be better for consumers than the status quo*. I do not recommend enacting AICOA because I believe each of those claims is wrong. And I expect that enacting AICOA would harm consumers overall, not help them.

[2] I believe that the first claim is wrong because “self-preferencing” includes a vast array of product improvements, feature innovations, and other practices (including those supporting new entry) that American consumers value enormously. Platform self-preferencing includes many familiar and beneficial practices, including for example: the integration of Google Maps information into Google Search results; the preinstallation of Apple

apps on iOS devices; the preinstallation of Microsoft software on Windows computers; the special promotion on the Amazon and Apple+ platforms of their own in-house content; and the closer integration of in-house virtual assistants with platforms or in-house apps with virtual assistants.

[3] These and similar practices are good for consumers, even if the platform in question has market or monopoly power. Sometimes these practices will help to improve the interoperation of two existing products, services, or businesses; sometimes they will involve giving consumers additional benefits; sometimes they will play an important role in incentivizing and supporting entry by platform businesses into new markets. (For example, Apple’s incentive to invest in creating and supporting Apple+ content, or Amazon’s incentive to invest in creating and supporting Amazon Studios content, was clearly augmented by the opportunities for promotion on their respective platforms.) Indeed, any practice by an integrated business that makes products and services work better together is “self-preferencing” unless the business also makes the same improvement available to every other third-party business. It is routine throughout our economy, and I do not think Congress should legislate from the premise that it is a presumptive problem, either in general or in digital markets.

[4] And I believe that the second claim is wrong because a ban on self-preferencing would actively harm consumers, in addition to whatever good it might do. I predict at least five separate kinds of harm. First, I expect that the ban would deter improvements and other practices that consumers value, including the practices described above. By telling platforms that they may not implement a product improvement unless they are able and willing to extend it to a limitless class of third parties seeking equal treatment, AICOA would lead to fewer new improvements, withdrawal of existing ones, and resulting consumer harm.

[5] Second, I expect that the ban would deter platforms from protecting consumers, businesses, platforms, and even national security, in close or borderline cases. Under AICOA, denying third-party demands for equal treatment (preinstallation, high search ranking, access to consumer data, etc.) threatens complaints, investigations, litigations, penalties, injunctions, and the personal forfeiture of compensation. At the very least this means significant costs, delays, and uncertainty. Platforms will therefore face an incentive to give in to third-party demands, and grant third parties access on equal terms, even in cases where there are genuine grounds for concern, if the platform fears that it may not ultimately be able to prove those grounds, or where the burdens and costs of trying to do so may be significant. . . . As a result, more bad actors will get access to platforms, consumers, and data. At a time when there is no shortage of hostile and malicious actors in the world seeking to harm the United States and its citizens, it is an odd time to encourage our most important platforms to lower their guard.

[6] Third, I expect that the ban would threaten the provision of ad-supported business models, many of which involve providing free or low-cost services to millions of Americans through a business model that promotes a platform’s own advertising channel. Prohibiting platforms from [promoting] apps and functions that support those ad services . . . strikes at the heart of the underlying business model that makes such free service possible. And if the result is to drive digital businesses to migrate from free-to-use, ad-supported business models to fee-based models, I fear that millions of Americans will pay more, and get less, than they do today. Free access to digital services is a critical tool for giving American families access to knowledge and opportunity. I think it would be unwise to make that model a losing proposition for our most critical digital businesses.

[7] Fourth, on the most natural reading, I expect that the bill would be read to prohibit or deter “closed systems” in which a business opts to run its system, in whole or part, without third-party participation. Closed systems, or parts of systems, are common in the digital economy. For example, Apple does not allow third-party device manufacturers to participate in its iOS system, and Amazon does not allow third-party music streaming platforms to participate in its Amazon Prime ecosystem. (Outside the world of the covered platforms, it is also common: for example Disney does not generally allow third party content creators to participate in its Disney+ platform, and so on.) Closed systems are overwhelmingly associated with a more secure and more seamless experience for users. Banning that business model seems unwise and harmful.

[8] Fifth, I expect that AICOA would perversely suppress interplatform competition—that is, competition against covered platforms in the market in which the “main” platform itself competes—in an effort to support competition on covered platforms. Trading partners that are given special benefits on a covered platform have less incentive to create, invest in, or sponsor, competitors of the platform. Instead, they become comfortable stakeholders in the

status quo. I appreciate that some might conclude that the current generation of covered platforms will never be displaced, and are therefore happy to make that trade. I do not share that confidence. I think entrenching and perpetuating existing incumbency, and hoping to manage the results, is a mistake.

[9] To be sure, there will be some benefits. AICOA would have some effect in favoring third parties over incumbent platforms in “secondary” markets where platforms also compete, and some third parties will do better as a result. Consumers may or may not benefit from that effect. But I fear that this uncertain benefit would come at much too high a cost. Moreover, to the extent that Congress’s concern is really with intentional, targeted, and unjustified discrimination by dominant platforms against actual or potential rivals (e.g., an effort to deny rivals access to complementary markets as a means of protecting the platform monopoly), a narrow rule could address that concern with much less collateral harm.

[10] The “harm to competition” test in the current draft of AICOA does not much reduce my concerns. For one thing, it is not clear whether it contemplates a “consumer welfare” test drawn from traditional antitrust, or an “injury to rivals” test reflecting AICOA’s separate nature and purpose. It cannot be both. This point is too important to leave intentionally unresolved. [. . .]

[11] Nor do the affirmative defenses allay my concerns. Some important policy justifications are omitted entirely. For example: AICOA does not allow platforms to deny equal treatment to third parties, or their products and services, because they: are buggy or badly interoperable with the platform; are of low quality; contain objectionable content (e.g., sexually explicit content, promotion of terrorism or violence); contain false or inaccurate information; promote spam; constitute or facilitate fraud; are subject to control or influence by, or are vulnerable to, a hostile or malicious entity; or because integration would present unusual technological or other commercial difficulties, or costs.

[12] Remarkably, even product improvements are allowed only if they relate to “core” functions (an undefined term!) and, further, only if the platform can show that it “could not” achieve the improvement in a less discriminatory way. A platform does not seem to have the option of saying: “OK, it would be technically possible, but no rational platform would go to the trouble and expense of sharing this improvement with all third parties. We would rather not implement it at all than take on that burden, which would wipe out the profit case for doing it in the first place. The whole point of our investment was to make our product more valuable, not to subsidize competitors.”

[13] Finally: the difficulties and burdens of proving up a fact-heavy defense, with an array of burdens and penalties hanging overhead, will seriously erode the utility of the defense in practice.

[14] To be sure: anticompetitive practices and transactions present a serious threat in digital markets, just as they do in other markets that matter to American consumers and workers. But to deter digital platforms from engaging—not in improper collusion, anticompetitive acquisitions, and so on, but product improvements, feature innovations, and entry—has it entirely backwards. This kind of thing is exactly what we are spending millions of antitrust enforcement dollars with our left hand in an effort to get platforms to do: compete on the merits by providing valuable combinations of high-quality products and services to consumers for low prices. We should not bash them for it with our right hand when they do so.

[15] Three final general comments. First, the scope of AICOA is exceedingly puzzling. There are serious and profound differences between the business models of the covered platforms, and each covered platform is active in a wide variety of markets. Competitive conditions, and competitive concerns, differ widely across those countless markets. I cannot discern any neutral rationale for including these businesses with respect to all their business lines and excluding other businesses, including other large monopolists, in a single regulatory measure like this one. This approach may give rise to the appearance that these businesses are being singled out not because of any distinctive competition-policy problem (there is plenty of monopoly power, network effects, data, and vertical integration throughout the rest of the economy) but because of political unpopularity. . . .

[16] Second, antitrust enforcement experience teaches us to be exceptionally wary of vague behavioral tools like non-discrimination obligations. They are often, and notoriously, a nightmare to design, to interpret, and to enforce. I do not think anyone should feel enthusiastic about the prospect of agency staff, or a court, trying to

figure out whether someone’s app isn’t prominent enough in the app store, whether an algorithm is producing a search ranking that is “too low,” or whether a delay in integration is lasting “too long.” [. . .]

[17] Third, it may be worth remembering that the rest of the world is . . . watching the United States very closely in matters of digital competition policy. Obligations like non-discrimination, forced access to platforms and consumer data, and so on may well inspire other jurisdictions to enact similar, or more intrusive, versions of the same programs. There is no guarantee that such measures will contain robust protections for consumer privacy, intellectual property, or the integrity of commercial data. Congress may have some pause about giving political cover for such legislation elsewhere.

**Fiona Scott Morton, Testimony before the U.S. Senate Committee on the
Judiciary, Subcommittee on Competition Policy, Antitrust, and Consumer
Rights**

March 7, 2023

[1] The modern interpretation and application of U.S. antitrust laws has failed to preserve competition in today’s digital platform markets. While there are numerous problems with judicial interpretations of antitrust laws that deserve legislative attention, there are also unique problems involving digital platforms that would require special attention even if judicial decisions in recent decades had not been so cramped. Digital platform markets suffer from a lack of new entry and expansion for a variety of reasons. Economies of scale and scope and network effects make it difficult for new entrants to reach the scale necessary to compete. Large digital platforms are also in a unique position to combine their unprecedented access to user data with sophisticated algorithms in order to exploit consumers and exclude competitors. Barriers to entry can be especially high when platforms take advantage of the behavioral biases of consumers, or when platforms modify [APIs] or degrade interoperability in other ways in order to handicap rivals. These techniques often favor the status quo, or can be taken advantage of by the platform to make it difficult for entrants with superior offers to attract new consumers and achieve scale. Incumbent digital platforms are able to exploit structural characteristics of their markets, consumer behavior, and lax antitrust enforcement to acquire, maintain, and expand their market power.

[2] More aggressive antitrust enforcement focused on digital market abuses should have started up a decade ago, but lack of understanding of the new technologies, lack of experience in matching the resulting strategies to established jurisprudence, as well as an increasingly hostile litigation environment, discouraged action. The antitrust enforcement agencies, state attorneys general, and private litigants are now working valiantly to dislodge the monopolies that have taken root in digital platform markets. But the success of their efforts is uncertain. Under modern antitrust jurisprudence, it may be difficult for the government to prevail. Even if the cases are successful, the litigation may take years to resolve, at which point it will be difficult for the courts to fashion remedies that are effective in restoring the lost competition. Consider that the Department of Justice’s case against Google alleging anticompetitive behavior in general search, which was filed in October 2020, is not scheduled to go to trial until September of 2023. The government’s cases generally will be tried to judges rather than juries, and so there will be additional time after trial briefing and for the judge to write an opinion, after which (we hope) there will be proceedings on remedies. And after all that, there will be appeals and possible remand of issues back to the district court. Even in the most optimistic of scenarios, the harmed consumers are unlikely to experience competition in these platform markets for many years after investigations are opened and complaints filed.

[3] In addition, there is the vexing problem of how to restore competition in the face of entrenched market power and many years of technological change deployed by the platform for its own benefit. In the absence of prompt and effective remedies that create competition in platform markets, a good alternative is a set of rules that stimulates competition on a dominant platform. For example, until there is entry of additional mobile operating systems that offer developers choice, neither of the two vertically integrated app stores available to US consumers has much reason to compete for developers on price or quality. However, when regulation requires that rival app stores have equal access to the mobile OS platform, then a developer can choose to distribute its app through a rival store with a more favorable curation policy, installed base, or fee level. Competition on the platform will benefit developers, and through lower prices and more innovation, will benefit end consumers as well.

[4] I understand that this hearing will focus on two bills this committee advanced in the prior Congress: the American Innovation and Choice Online Act (AICOA), and the Open App Markets Act (OAMA) {*Eds.: OAMA is discussed later in this chapter*}. Both bills made it out of committee last year and so I will not provide a detailed analysis of their provisions. But, taking them as a whole, I am convinced the two bills give enforcers many of the tools they need to effectively and promptly increase competition to digital markets. These bills control the damaging behavior of dominant digital platforms by opening up markets and allowing for entry and innovation. The American Innovation and Choice Online Act forbids harmful self-preferencing, anti-competitive contractual limitations, abuse of data, impeding interoperability, and unfair discrimination in search and rankings. By limiting that conduct, the law can be expected to create opportunities for entry and expansion, new innovations and lower prices for consumers. Similarly, by allowing competition for app store payment and curation options, the Open App Markets Act will open the door for app store competition and innovation.

[5] I have read a number of opinion pieces expressing concern about the significance of the behavioral changes these bills mandate. Many of the critiques seem to presume that laws that require significant changes are bound to generate a set of equally significant negative consequences, both predicted and unforeseen. I believe this is an over-reaction. The bills are carefully crafted to target a narrow range of activity while at the same time containing significant protections for platforms. Any new enforcement will occur within existing conceptual and legal frameworks which militate against extreme outcomes.

[6] For example, AICOA is at heart a competition policy bill; it aims to restore competition to digital markets that are concentrated or monopolized. The bill is fit to its purpose, and makes actionable only those violations that *injure competition*. For some prohibitions enforcers must prove harm to competition, and for others the platforms can defend by showing their conduct *has not* harmed competition. Companies that will be subject to the prohibitions are large and sophisticated. They understand what sorts of behaviors might injure competition and which sorts would not. They therefore will make the investments necessary to avoid actions that could harm competition (this is what we want platforms to do) but are unlikely to eliminate popular products or features simply due to the risk of misinterpretation of the law.

[7] Another concern commonly voiced is that some prohibitions will expose user data to hacking or force platforms to change their architecture in ways that make them more vulnerable to hostile foreign interests. AICOA has a built-in safeguard against this sort of risk in the form of an affirmative defense: conduct that violates one of the prohibitions nonetheless cannot support liability if it was reasonably necessary to protect user privacy, data or platform security, or, importantly, user safety.

[8] I am not a lawyer. However, I have worked with lawyers to develop cases and then advised them as the cases proceed, most notably when I served as chief economist in the Antitrust Division. I have also served as a testifying witness, including in matters where plaintiffs have shown harm to competition and those where defendants have demonstrated affirmative defenses. These experiences bolster my confidence that the harm to competition requirements will screen out actions that are not likely to benefit competition or consumers. The deference generally given to affirmative defenses in our current system indicates that the law is very unlikely to penalize reasonable actions platforms take to protect themselves and their users. By achieving this balance, AICOA ensures that platforms as well as businesses dependent on platforms have a full opportunity to flourish and meet consumers' needs.

[9] Another concern is that the language of the prohibition is new, or varies slightly from language used to describe similar concepts in other laws. This is a feature, not a bug. The whole idea is to set up new rules for platforms that will generate more competition. If there was nothing new in the law, it would not be doing its job. Novelty will generate some uncertainty, but this is inevitable if the goal is change. Moreover, the bill has provisions that directly address this concern as well. AICOA requires that the Department of Justice and the FTC work together to generate, develop, and issue joint enforcement guidance. Because the process for developing the guidance will include an opportunity for public comment, firms with concerns about the clarity of particular provisions can help bring about the needed clarity by explaining the ambiguities and suggesting solutions. Moreover, each agency will bring to the process its own experience, perspective, and expertise. Importantly, by requiring that the DOJ and FTC jointly develop enforcement guidance, any legitimate concerns about how the balancing of factors called for

in this legislation will reflect the statutory goals will be worked out by officials who already have the duty to protect security, privacy, and consumers alongside their antitrust enforcement roles.

[10] I am one of many academics, advocates, and policy makers who contend that a specialist regulator, instructed by Congress to issue guidelines that implement specific goals, would be a more effective and lower cost solution to regulating digital platforms. Such a regulator could respond more quickly than courts and be more nimble in responding to new technologies. Such a regulator could employ or consult with technological specialists and take into account issues such as national security, safety, and privacy, as well as competition. Senators Bennet and Welch have proposed legislation that would create such an agency. Their proposal is an excellent starting point and should be seriously considered. I expect it will take many years until we have a digital regulator, just as it took much human suffering before Congress chose to create regulators for industries like pharmaceuticals and railroads. Until we have such a regulator, the laws being proposed today are the best route to immediate improvements in the welfare of consumers. [. . .]

[11] The pair of bills we are discussing today come at a time when the rest of the world is already moving ahead on reforming competition law in digital markets. The European Union has already passed the Digital Markets Act regulating the conduct of digital gatekeepers. The British Parliament has also announced its intention to create a Digital Markets Unit, housed within the British competition authority, which will be endowed with broad powers to regulate digital markets.

[12] [Under the DMA,] the largest tech platforms are already obligated to adjust their business practices across Europe—with compliance required by January 2024—to meet many of the requirements proposed in the legislation under discussion today. [. . .]

[13] . . . [T]he DMA prohibits many of the anticompetitive practices addressed in the U.S. bills we are discussing today (perhaps because they are trying to fix the same problems). The DMA is more detailed than the text of AICOA and OAMA, and does not include any efficiency defense. Note particularly, that DMA does not require that the regulator show that each instance of prohibited conduct harms competition. Instead, the rules were chosen to be those that, in the view of the European Parliament, would generally protect and increase competition.

NOTES

- 1) Could self-preferencing be an appropriate target for enforcement of Section 5 of the FTC Act?¹¹⁵ Write a short policy statement on behalf of the FTC, explaining which cases of self-preferencing should be investigated and challenged under that provision.
- 2) Is self-preferencing better or worse for competition or society than paid promotion of third-party products in search results? Is it better or worse for competition or society than search engine optimization services?
- 3) Suppose that self-preferencing in internet search has been banned: by enacting AICOA or a similar statute. Who would complain about violations, and how should a court or agency go about investigating and adjudicating those complaints?
- 4) What is the most plausible case for creating a duty to carry search results, or to treat search results in a non-discriminatory fashion? What is the most plausible case on the other side of the debate?
- 5) What do you make of AICOA's scope: that is, the rules about what businesses are covered?
- 6) What practices do you think AICOA would limit or ban that would not be antitrust violations? List as many as you can.
- 7) Read AICOA's defenses, carveouts, and exceptions carefully. How, if at all, would you amend them?
- 8) To what extent (if at all) would concerns about self-preferencing recede if a search engine posted a notice at the top of the screen saying: "Search results and rankings may reflect a variety of factors, including our business and profit objectives and our agreements with preferred partners." Would that matter?
- 9) Where, concretely, do the two testifying witnesses disagree about AICOA? Could we figure out who is right?
- 10) The testimony excerpted above is aimed at an earlier version of AICOA. Do any of the criticisms in the Francis excerpt now miss the mark, in light of the 2026 revisions to AICOA?
- 11) How if at all does the prospect of platform regulation in other jurisdictions affect the case for AICOA?

¹¹⁵ See *supra* § XI.B.2(a).

E. Tech Merger Policy: The FTC’s *Meta Platforms* Cases

Few topics in “digital markets antitrust” have a higher profile than merger policy. Are mergers in “tech sectors” (and what *are* those exactly?) more harmful or risky than those in other sectors? Have the antitrust agencies been asleep at the wheel in their handling of tech mergers—and, if so, which deals should have been challenged? Do we need special rules, presumptions, enforcement policies, or merger-notification laws for acquisitions by Big Tech firms? When a major digital platform acquires a complementary business with a view to integrating it into the platform, should we be alarmed? Should enforcers hesitate before challenging a consummated deal that was reviewed, and not challenged, by the agencies when originally concluded? These and countless other questions have been the subject of lively debate among enforcers, scholars, practitioners, and legislators for some years.¹¹⁶

Several themes combine to make tech merger policy a particularly tricky area. One is the prominence of concerns about Big Tech buying up businesses that are not yet important rivals but which might become so in the future. These acquisitions might involve nascent competitors (*i.e.*, new or emerging businesses that are already in, or entering, the relevant market) or potential competitors (*i.e.*, businesses that are not yet active in the relevant market but which could or will become so in future) of the acquirer.¹¹⁷ Analyzing such deals can require peering into an uncertain future: it may not even be clear what the target’s product or service will look like, nor whether it will really turn out to be a competitive success or a genuine threat. This uncertainty can make antitrust analysis hard for businesses, enforcement agencies, and courts. As you might imagine, views differ regarding the right level of risk aversion in digital merger policy, and the right way to execute Section 7’s “prophylactic” function of prohibiting mergers for which the effect “may be” substantially to lessen competition or to tend to create a monopoly.¹¹⁸

Another challenge arises from the fact that some deals in this category—particularly those involving the acquisition of a new or startup business—may fall beneath the HSR Act’s merger notification thresholds, perhaps denying the agencies an opportunity to examine the deal before it closes.¹¹⁹ By the time such a deal is on the agencies’ radar, enforcers may face tremendous difficulties in unwinding it or devising an effective remedy for any harms.

A third difficulty, in at least some tech merger cases, lies in measuring and predicting effects when digital products and services are provided for free and therefore lack a money price. It’s one thing to say that welfarist antitrust analysis cares about quality and innovation of a social network or other tech product, but quite another to figure out what “quality” or “innovation” effects look like, or how they should be measured in a specific case.¹²⁰

And yet more puzzles can arise from market definition in an economy of differentiated, partly-substitutable online products and services.¹²¹ Many digital offerings are provided by integrated platforms or other businesses that furnish multiple services at once, many of which may be able to add new features and services by rolling out updates and tweaks. In such circumstances, it can be difficult to figure out who is a competitor, entrant, or out-of-market player.

So, for these and other reasons, tech merger policy is hard! Some writers propose that an elevated standard of scrutiny should apply to such deals, citing the risks that an incumbent tech monopolist might simply buy up

¹¹⁶ See, e.g., Babette Boliek, *Antitrust and High Tech: A Tale of Two Mergers*, 71 Emory L.J. 933 (2022); Robert W. Crandall & Thomas W. Hazlett, *Antitrust in the Information Economy: Digital Platform Mergers*, 65 J.L. & Econ. S499 (2022); Geoffrey Parker, Georgios Petropoulos & Marshall Van Alstyne, *Platform Mergers and Antitrust*, 30 Indus. & Corp. Change 1307 (2021); Kevin A. Bryan & Erik Hovenkamp, *Startup Acquisitions, Error Costs, and Antitrust Policy*, 87 U. Chi. L. Rev. 331 (2020); C. Scott Hemphill & Tim Wu, *Nascent Competitors*, 168 U. Pa. L. Rev. 1879 (2020); Anne C. Witt, *Big Tech Acquisitions: The Return of Conglomerate Merger Control?* Concurrences (2020); Carl Shapiro, *Protecting Competition in the American Economy: Merger Control, Tech Titans, Labor Markets*, 33 J. Econ. Persp. 69 (2019); Wilson C. Freeman & Jay B. Sykes, Congressional Research Service, ANTITRUST AND “BIG TECH” (Sept. 11, 2019); Ilene Knable Gotts, Scott Sher & Michele Lee, *Antitrust Merger Analysis in High-Technology Markets*, 4 Eur. Comp. J. 463 (2008).

¹¹⁷ See *supra* § VIII.B.2(c) (merger analysis in nascent and potential competition cases).

¹¹⁸ See, e.g., Herbert Hovenkamp, *Prophylactic Merger Policy*, 70 Hastings L.J. 43 (2018); see *supra* § VIII.A (Section 7 overview).

¹¹⁹ For more information about the HSR Act and the practice of merger review, see *supra* § XI.E.

¹²⁰ See generally, e.g., John M. Newman, *Antitrust in Zero-Price Markets: Applications*, 94 Wash. U. L. Rev. 49 (2016).

¹²¹ See, e.g., Sarah Oxenham Allen, Brian Christensen, Joseph Conrad, Nicholas Grimmer & Jennifer Pratt, *Market Definition in the Digital Economy: Considerations for How to Properly Identify Relevant Markets*, AAI White Paper (June 17, 2020); Geoffrey A. Manne, *Error Costs in Digital Markets*, in Joshua D. Wright & Douglas H. Ginsburg (eds.), THE GLOBAL ANTITRUST INSTITUTE REPORT ON THE DIGITAL ECONOMY (2020) 103–08.

promising competitors rather than compete against them.¹²² In a related vein, some suggest that market features like network effects and “ecosystem lock-in” make it particularly important to maintain a vigilant guard against harmful acquisitions: particularly acquisitions of targets that are well placed to exploit a change in demand or technology that might weaken an incumbent’s grip on the market.¹²³ Some writers have emphasized the risk of “killer acquisitions,” in which a target business is purchased only to be effectively destroyed rather than utilized; others suggest that such acquisitions are rare.¹²⁴ And some have charged a generational failure by enforcers to scrutinize tech deals.¹²⁵ Indeed, some legislators have proposed specific statutory curbs on the ability of Big Tech companies to merge with, or acquire, other businesses.¹²⁶

On the other side of the debate, others emphasize the benefits of integrating innovative new technologies with the largest platforms where they can reach the most users. They warn that the possibility of being acquired by a Big Tech firm is a crucial driver of the incentive to innovate and invest in the first place, so cracking down too heavily on acquisitions might result in less innovation and entry.¹²⁷ And some writers suggest that if we’re looking for sectors of the economy that seem to have stagnated and stultified, the tech sector should be nowhere near the top of our list!¹²⁸ Sounding a similar note, some suggest that the idea that there is a long string of notorious tech mergers that should clearly have been challenged when they were announced is overblown, emphasizing the difficulties in showing that many high-profile tech deals were or are actually harmful; the modest odds of success before (generally skeptical) courts; the opportunity costs of litigating a novel, complex case; and the complicated relationship between acquisitions and innovation.¹²⁹

The following two extracts showcase some prominent scholarly perspectives on the direction of tech merger policy. Scott Hemphill and Tim Wu put the spotlight on antitrust’s treatment of nascent (*i.e.*, emerging) rivals, while Danny Sokol emphasizes the relationship between merger policy and entrepreneurial incentives, particularly in the context of vertical deals. Are these two perspectives contrasting? Complementary? What does the Hemphill-Wu perspective featured here imply for our analysis of vertical deals? How might the argument of the Sokol extract apply to horizontal deals? And to what extent are these authors’ themes and arguments specific—or applicable with special force—to tech markets, rather than to all mergers?

C. Scott Hemphill & Tim Wu, Nascent Competitors

168 U. Pa. L. Rev. 1879 (2020)

[1] Government enforcers have expressed interest in protecting nascent competition, particularly in the context of acquisitions made by leading online platforms. However, enforcers face a dilemma. While nascent competitors often pose a uniquely potent threat to an entrenched incumbent, the firm’s eventual significance is uncertain, given

¹²² See, e.g., Tommaso Valletti, *How to Tame the Tech Giants: Reverse the Burden of Proof in Merger Reviews*, PROMARKET (June 28, 2021) (“The solution is to reverse the burden of proof with what we call a ‘rebuttable structural presumption.’ Instead of making the regulator prove that a merger will cause harm, make the merging parties prove that it won’t. Start with a list of firms that are super-big in size, systemic importance, or economic power (that’s the structural bit) and revise the list every five years.”); Diana L. Moss, *The Record of Weak U.S. Merger Enforcement in Big Tech*, American Antitrust Institute White Paper (July 8, 2019) (calling for “stronger presumptions” for Big Tech deals).

¹²³ A concern of this kind is arguably discernible in the 2023 Merger Guidelines’ introduction of a Guideline focused on the entrenchment or extension of a dominant position. See U.S. Dept. of Justice & FTC, MERGER GUIDELINES (2023) § 2.6.

¹²⁴ Colleen Cunningham, Florian Ederer & Song Ma, *Killer Acquisitions*, 129 J. Pol. Econ. 649 (2021); Oliver Latham, Isabel Tecu & Nitika Bagaria, *Beyond Killer Acquisitions: Are There More Common Potential Competition Issues in Tech Deals and How Can These Be Assessed?* CPI Antitrust Chronicle (May 2020); Marc Ivaldi, Nicolas Petit & Selçukhan Ünekbaş, *Killer Acquisitions in Digital Markets May Be More Hype Than Reality*, VoxEU (Sept. 15, 2023).

¹²⁵ See, e.g., AI Now Institute, *Antitrust and Competition: It’s Time for Structural Reforms to Big Tech* (Apr. 11, 2023) (“Over the past two decades, a handful of tech firms have adopted policies and infrastructural designs that enabled them to grow their power massively. They were enabled by conservative and hands-off enforcement of antitrust laws[.]”).

¹²⁶ See, e.g., Sen. Amy Klobuchar, Press Release, *Klobuchar, Cotton Introduce Bipartisan Legislation to Protect Competition and Consumer Choice Online* (Nov. 5, 2021) (describing the proposed “Platform Competition and Opportunity Act”).

¹²⁷ See, e.g., D. Daniel Sokol, *Vertical Mergers and Entrepreneurial Exit*, 70 Fla. L. Rev. 1357 (2018).

¹²⁸ See, e.g., Herbert Hovenkamp, *Gatekeeper Competition Policy*, 30 Mich. Tech. L. Rev. 1 (2023) (“Whenever enforcement resources are limited, as they typically are, it is important that they be spent in the right place. For antitrust policy, the right places are markets and products that exhibit stagnant growth, stable market shares, lack of new entry, signs of oligopoly or widespread price fixing, or lack of innovation. Focusing on the internet economy is a bad choice on every score.”).

¹²⁹ See, e.g., Joe Kennedy, *Monopoly Myths: Is Big Tech Creating “Kill Zones”?* ITIF WHITE PAPER (Nov. 2020).

the environment of rapid technological change in which such threats tend to arise. That uncertainty, along with a lack of present, direct competition, may make enforcers and courts hesitant or unwilling to prevent an incumbent from acquiring or excluding a nascent threat. A hesitant enforcer might insist on strong proof that the competitor, if left alone, probably would have grown into a full-fledged rival, yet in so doing, neglect an important category of anticompetitive behavior. [. . .]

[2] Enforcers have several options for protecting nascent competition, including Section 7 of the Clayton Act, Section 2 of the Sherman Act, and, for the FTC, Section 5 of the FTC Act. Section 7 applies to acquisitions and is the standard antitrust tool for drawing the line between dangerous and benign mergers, prohibiting deals whose effect may be substantially to lessen competition, or to tend to create a monopoly. [. . .]

[3] When an incumbent acquires a nascent competitor, the government, to build a *prima facie* case, will be required to make some demonstration that the acquisition is anticompetitive. In that undertaking, several forms of evidence may be relevant, including the beginnings of direct competition, or the existence of competition in markets adjacent to the incumbent's primary market, which would be lost if the deal is permitted. [. . .]

[4] If the plaintiff presents evidence sufficient to build a *prima facie* case that the acquisition is anticompetitive, the parties will have the opportunity to offer a procompetitive justification for the transaction. . . .

[5] One particularly important justification is "incubation": that the acquirer improves the targeted business in a fashion that would otherwise never occur. However, credit for incubating a startup is subject to the caveat, common to all merger analysis, that the benefit must be a merger specific efficiency. Consider, for example, Facebook's acquisition of Instagram. Facebook has argued that the purpose of this acquisition was to incubate a promising company, not to cabin a future threat, and that Instagram only proved a success because of the care, attention, and engineering talent that it supplied.

[6] Incubation claims merit careful consideration. To make the case that its acquisition was a merger-specific efficiency, an acquirer would need to present evidence that similar benefits could not have been achieved if the target had been allowed to grow on a standalone basis or in the hands of an alternative acquirer. Such a case would need to contend with contrary evidence, where present, of the funding and support offered (or available) from alternative acquirers or independent investors. When one or more alternatives are similarly well positioned to fuel the firm's growth, a claim of merger-specific efficiencies is likely to fail.

[7] As this suggests, in the evaluation of the competitive effects, the difficult challenge is to distinguish an anticompetitive acquisition from a harmless or procompetitive deal. Given the uncertainties and faced with a lack of clear economic evidence of effects, we suggest that strong evidence of anticompetitive intent is a fruitful way to draw the line. The relevant intent that we have in mind is that the incumbent sought to eliminate a competitive threat, and that the acquisition was designed to accomplish that goal. Intent evidence of this kind is useful as a way to shed light on the acquisition's effects. It helps the court to interpret facts and to predict consequences. An enforcer should look for, and the court should weigh, such evidence in its various forms.

[8] Intent evidence in antitrust cases is frequently criticized, and we agree with some of the criticism. To be clear, we do not favor liability simply because an investigation uncovers a sales manager's expressed wish "to destroy the competition." Such evidence lacks probative value. What agencies and courts should care about, as always, is evidence of an anticompetitive plan, design, or program. We do not attempt to enumerate all the types of evidence that might be relevant to an evaluation of intent, but focus on several that are particularly important in practice.

[9] The simplest form of intent evidence is documents showing a specific concern with future threats, coupled with conduct that eliminates the threat. When the parties say something specific and detailed about their anticompetitive plan, we should believe them. . . .

[10] Beyond documentary evidence, an anticompetitive design might also be shown by conduct. For example, a firm's broader pattern of acquiring nascent competitors sheds light on its intent in making each acquisition. Such evidence might be reinforced by proof of an internal program to identify rising competitors that matches the firm's completed and attempted acquisitions.

[11] Economic evidence of sacrifice, though not an essential identifying feature, would buttress the proof of intent. For example, an overpayment to acquire the firm, compared to the benchmark offers of other would-be acquirers, may suggest an anticompetitive purpose, though consideration must be given to benign explanations for the premium, including an incumbent's superior information about the standalone value of the firm. Moreover, a firm pursuing a defensive acquisition strategy may be willing to repeatedly overpay to acquire relative longshots in order to preserve its position, as opposed to developing the business. A track record of multiple acquisitions of nascent competitors that turned out in retrospect to be duds is a further indication of such sacrifice.

D. Daniel Sokol, Vertical Mergers and Entrepreneurial Exit

70 Fla. L. Rev. 1357 (2018)

[1] Antitrust populism is on the rise. This populism has taken on a “big is bad” emphasis, particularly against tech companies. Under such an approach, large firms are to be feared and vertical mergers by such firms . . . are to be treated with particular suspicion, both in the United States and Europe. In the United States, even the traditionally mainstream press, with its own business model threatened, has at times shown bias against vertical mergers and has even asked for antitrust immunity in its own vertical relations with online platforms. This backlash against tech—and the use of antitrust as a tool against large tech companies—has attracted support from left and right wing populist forces. [. . .]

[2] The current set of policy presumptions on vertical mergers, for both opponents and proponents of the current system, is often based on the same handful of empirical industrial organization studies. Yet, the debate has overlooked important empirical contributions regarding innovation-related mergers in the strategy literature. This strategy literature identifies a procompetitive basis that supports vertical mergers as efficiency enhancing. Such a literature solidifies the current vertical merger presumption that agencies undertake in their analysis, which favors a procompetitive vertical merger policy for purposes of enforcement.

[3] The procompetitive benefit of a presumption of merger approval for vertical mergers does not end with the synthesis of an under-explored literature. Rather, the broader implications of vertical mergers and presumptions of legality have another overlooked implication—a change of policy may dampen entrepreneurial investment and innovation.

[4] Entrepreneurial exit is critical to a well-functioning entrepreneurial ecosystem, as the possibility of entrepreneurial exit via vertical merger is now the most usual form of liquidity event/exit for founders and venture capitalists. Vertical merger policy that would unduly restrict large tech firms from undertaking acquisitions in industries as diverse as finance, pharmaceuticals, medical devices, hardware, and internet platforms would hurt incentives for innovation in the economy by chilling business formation in start-ups. Increased difficulty in the exit for founders and venture capitalists makes investment in such ventures less likely, since the purpose of such investment is to reap the rewards of scaling a venture to exit. Thus, a general inference that makes vertical acquisitions, particularly in tech, more difficult to approve leads to direct contravention of antitrust's role in promoting competition and innovation. [. . .]

[5] Antitrust has not effectively integrated knowledge about the start-up ecosystem. Such knowledge is critical to understand vertical mergers and acquisitions that impact questions of competitive effects dealing with nascent acquisitions. Investment by incumbent firms to acquire nascent firms implicates issues of corporate venture capital; non-financial investments in nascent firms via contract such as strategic alliances and joint ventures; and the entrepreneurial ecosystem, that includes, among other components, venture capitalists, and angel investors. This study of ecosystems is critical as one strategy of established tech firms is to push R&D in new products or services down to startups as a way to decrease or shift risk. The more successful startups are then acquired by larger technology firms. [. . .]

[6] One aspect that is missing in the antitrust discussion is the broader structural shift that a change of merger policy would mean to how the innovation ecosystem is structured, based on the ability for entrepreneurs and venture capitalists to exit their investments. This discussion is beyond antitrust doctrine. However, this implication of entrepreneurial exit (fewer initial public offerings (“IPOs”) and more vertical mergers) impacts competition policy, market structure, and innovation.

[7] Traditionally, the goal of entrepreneurial exit was an IPO. Today, there are far fewer IPOs in the United States than in prior years. Indeed, between few new listings and an increase in delistings, the number of publicly traded companies is much smaller than it has been historically. [. . .]

[8] The lack of IPOs has implications for entrepreneurial exit. An IPO allows exit for the early investors in a firm through a public offering of securities. The nature of the securities regime shapes the opportunities for firms to exit through IPOs, but with IPOs now scarce, vertical mergers are the default for entrepreneurial exit. Given that many businesses are built for exit via vertical merger, to close off this form of entrepreneurial exit at a time when the IPO market is at a significant low would chill innovation.

* * *

➔ Let's turn now from scholarly theory to enforcement practice. There has been plenty of action on the Big Tech merger front in recent years, although as of the time of writing (Summer 2026) the results have not been very encouraging for the government plaintiffs:

- **Meta/Instagram/WhatsApp.** In 2020, the FTC filed a suit challenging Meta's earlier acquisitions of Instagram (in 2012) and WhatsApp (in 2014) as elements of an ongoing practice of monopolization, on the ground that Instagram constituted a particularly promising nascent competitor in the personal social networking market, while WhatsApp constituted an important potential competitive threat given its position in the mobile messaging market. The FTC lost at trial; an appeal is pending.¹³⁰
- **Meta/Within.** Meta's attempt in 2021 to acquire the VR app company Within provided another opportunity for enforcers to test the bounds of potential-competition merger law: in rejecting the FTC's challenge to that deal, the district court took the opportunity to provide an extended discussion of the law that governs potential-competitor acquisitions.¹³¹
- **Microsoft/Activision.** The FTC's 2022 challenge to Microsoft's acquisition of the video game developer Activision was also knocked back by the district court, on the ground that the FTC had not established a sufficient basis for its concerns about anticompetitive foreclosure of rivals.¹³² The Ninth Circuit affirmed.¹³³
- **Google/DoubleClick/Admeld.** The Justice Department's 2023 ad-tech-focused monopolization complaint against Google (not to be confused with its 2020 search foreclosure monopolization case, excerpted above!¹³⁴) included a challenge to several consummated Google acquisitions which were alleged to form part of a multi-year practice of monopolization,¹³⁵ but the district court rejected those claims while finding for the plaintiff on other grounds.¹³⁶

The agencies' tech merger efforts have not been limited to litigation. In February 2020, the FTC launched a market study into non-reportable acquisitions by a selected set of technology companies—Alphabet/Google, Amazon, Apple, Facebook, and Microsoft—using its investigational powers under Section 6(b) of the FTC Act.¹³⁷ The announcement explained that the study was intended to “help the FTC deepen its understanding of large technology firms' acquisition activity, including how these firms report their transactions to the federal antitrust agencies, and whether large tech companies are making potentially anticompetitive acquisitions of nascent or potential competitors that fall below HSR filing thresholds and therefore do not need to be reported to the antitrust agencies.”¹³⁸ In September 2021, the FTC published a 40-page report, which did not identify any anticompetitive transactions or categories of transactions, but instead contained observations about the number and nature of the

¹³⁰ *FTC v. Meta Platforms, Inc.*, 811 F. Supp. 3d 67 (D.D.C. 2025); FTC, Press Release, *FTC Appeals Ruling in Meta Monopolization Case* (Jan. 20, 2026).

¹³¹ *FTC v. Meta Platforms, Inc.*, 654 F. Supp. 3d 892 (N.D. Cal. 2023).

¹³² *FTC v. Microsoft Corp.*, 681 F. Supp. 3d 1069 (N.D. Cal. 2023).

¹³³ *FTC v. Microsoft Corp.*, 136 F.4th 954 (9th Cir. 2025).

¹³⁴ See *supra* § XIV.C.

¹³⁵ See Complaint, *United States v. Google LLC*, No. 1:23-CV-108 (E.D. Va. filed Jan. 24, 2023) ¶ 319.

¹³⁶ *United States v. Google LLC*, 778 F. Supp. 3d 797 (E.D. Va. 2025).

¹³⁷ See *supra* § XI.B.2(b).

¹³⁸ FTC Press Release, *FTC to Examine Past Acquisitions by Large Technology Companies* (Feb. 11, 2020).

tech giants' acquisitions.¹³⁹ (Do you think this implies that no anticompetitive transactions were found? Or that the FTC chose not to tackle that topic in the report?)

➔ Let's take a look at how courts analyze these cases in practice. The next two extracts present two district court perspectives on tech merger analysis: both involving FTC cases against Meta, and both resulting in losses for the agency! In the first extract, the U.S. District Court for the District of Columbia considers the FTC's challenge to the acquisition by Facebook, now Meta, of Instagram (on the ground that it was an important nascent personal social networking rival) and WhatsApp (on the ground that it was an important potential entrant into personal social networking). At the time of writing (Summer 2026), this decision is currently being appealed to the D.C. Circuit. In the second extract, the U.S. District Court for the Northern District of California considers the FTC's motion for a preliminary injunction to halt Meta's intended acquisition of Within, the developer of the virtual reality fitness app Supernatural, on the ground that the acquisition eliminated the prospect that Meta would itself have entered the VR fitness-app market but for the acquisition.

Note the different legal provisions at issue in these two cases. How did it matter that the Instagram-WhatsApp case was brought under Section 2, while the Within case was brought under Section 7? And note also that the Instagram and WhatsApp deals were long consummated, while the Within acquisition was merely proposed. What are the advantages and disadvantages, for an enforcer, of waiting until post-consummation to challenge a deal? How do you think consummation might affect the court's analysis of liability or remedy? Should agencies hesitate before challenging a consummated deal? What are the advantages, and disadvantages, of waiting a few years to see if prices rise or quality falls? And how do you think the D.C. Circuit will resolve the appeal of the social networking case?

FTC v. Meta Platforms, Inc. ("Meta / Instagram / WhatsApp")

811 F. Supp. 3d 67 (D.D.C. 2025)

Chief Judge Boasberg.

[1] The mighty Meta of today was once a scrappy dorm-room startup called The Facebook. This upstart website—a threadbare tool to add friends and see their posts—launched for Harvard students in 2004, fanned out to other college campuses, and then opened up to the general public in 2006. It kept growing at a dizzying pace: by the end of 2011, almost 850 million people a month were using Facebook. Today, more than 3 billion people do.

[2] If you are one of them, you can open Facebook's app and see your News Feed. This feed contains a mix of content from your friends, from accounts you follow, and from people who you do not know but who have posted something that Facebook thinks you will be interested in. Just a tap away lie other features. These include Stories: disappearing posts from your friends and accounts you follow that are visible for only 24 hours. Or Facebook Reels, which Meta added in 2021. Reels are short videos that have been created by other users. They are made and posted by people whom a user does not know. Instead, they are recommended by an AI algorithm based on the user's interests. Facebook also offers a separate app called Facebook Messenger, which lets users exchange private messages.

[3] Facebook was not the only platform to sweep across the globe on the surging wave of social media. In 2010, Kevin Systrom and Mike Krieger launched an app called Instagram. This app combined a photo-editing tool with a social network. If you downloaded the original Instagram, you could edit photos and upload them, follow other accounts, scroll through a feed of photos uploaded by accounts you followed, and like and comment on those photos.

[4] Facebook bought Instagram in 2012, and has been adding new features ever since. Instagram today looks a lot like Facebook. It has a Feed, containing posts from accounts that you follow and content from strangers that an AI algorithm recommends. It also has Stories. Embedded throughout the app is Instagram Reels. And it lets you send private messages to other users.

¹³⁹ FTC, NON-HSR REPORTED ACQUISITIONS BY SELECT TECHNOLOGY PLATFORMS, 2010–2019: AN FTC STUDY (Sept. 2021).

[5] Meta’s other relevant platform is WhatsApp, an internet-based messaging app that launched as an independent company in 2009. Facebook bought WhatsApp in 2014. The FTC theorizes that Facebook feared WhatsApp would build its own social network and bought the service to keep it out of Facebook’s lane. WhatsApp is therefore relevant to whether Meta maintained its monopoly through an anticompetitive acquisition, but both sides agree that it does not belong in the relevant market. Because the Court decides this case on that market’s boundaries alone, WhatsApp is not relevant to what follows and will now disappear from the case. [. . .]

[6] Two other social-media apps are relevant here: TikTok and YouTube. The former lets users watch and upload short videos. Like Facebook and Instagram, it has some social features: users can like videos, comment on them, repost them, search for specific accounts, follow accounts, exchange messages, and share videos with others — either in a TikTok message or via text message. Yet the app’s breakthrough innovation and central feature opened a new path that traditional social networks had not yet explored: an AI algorithm that shows users content based not on their friends, but on their interests. This is TikTok’s For You page, a scrollable feed that the algorithm assembles by trawling through the app’s videos, analyzing the user’s behavior, and predicting which video she will most want to see next. More than 70% of time on TikTok is spent on this feed. TikTok is a recent import to the United States, having arrived only in 2018. It has since spread furiously. As of the start of this year, more than 170 million Americans per month were using the app.

[7] Finally, YouTube. This platform lets users upload videos and watch the billions of videos uploaded by others. It also recommends videos based on each user’s interests and what others are watching. Users can like videos and comment on them. If watching a video on the YouTube app, they can tap a button to send it to others — say, by texting it to a friend. Many videos on YouTube are longer than what you will find on TikTok or Instagram. But the platform has also added YouTube Shorts, short videos that are virtually identical to a TikTok video or a Facebook or Instagram Reel.

[8] The Facebook and Instagram that exist today bear little resemblance to the versions that readers might remember from the 2010s. Time was, both apps primarily showed content from users’ friends—you might log on to Facebook and see a friend’s post on your wall, then open up Instagram to a feed full of pictures from your friends’ weekends. Those versions of Meta’s apps are gone.

[9] Americans now spend only 17% of their time on Facebook viewing content from their friends. On Instagram, that number is 7%. What has replaced content from friends? For the most part, short videos posted by strangers and recommended by AI. [. . .]

[*]

[10] Section 2 of the Sherman Act forbids monopolizing trade. But just because a firm holds a monopoly does not mean that it has committed the offense of monopolization. Instead, monopolization requires (1) holding monopoly power in some market and (2) acquiring or maintaining that power through anticompetitive conduct — that is, through means other than outcompeting one’s rivals. [. . .]

[11] Before turning to the methods of proof, [a] preliminary [issue] remains: when must the FTC show that Meta had monopoly power? Throughout this case, the Court has held that the agency must prove that Meta is violating the law now. In its post-trial brief, the FTC nonetheless tries another angle, arguing that if Meta broke the law in the past and this violation is still harming competition, then the agency may seek an injunction to redress the lingering harm.

[12] That might be a sensible statutory scheme, but it is not the one that Congress passed. The FTC’s authority to seek injunctions comes from Section 13(b) of the FTC Act: “Whenever the Commission has reason to believe that any . . . corporation is violating, or is about to violate, any provision of law enforced by the Federal Trade Commission”—including the antitrust laws—then “the Commission . . . may bring suit in a district court of the United States to enjoin any such act or practice.” 15 U.S.C. § 53(b) (emphasis added). . . . The FTC can therefore seek to enjoin only conduct that currently violates the law or imminently will.

[13] To win the permanent injunction that it seeks here, the FTC must prove a current or imminent legal violation. While Section 13(b) is always forward facing, the burden it sets for the agency rises as a case progresses. To have

a cause of action, the FTC needs only “reason to believe” that a defendant is currently breaking the law or is about to. To secure a preliminary injunction, it must make a “proper showing.” And to win a permanent injunction, the relevant standard here, the FTC must provide “proper proof”—that is, proof that the “act or practice” that it seeks to enjoin is an ongoing or imminent violation of the law.

[14] What does that mean for this case? Recall that Meta is violating Section 2 only if it (1) has monopoly power and (2) is maintaining that power through anticompetitive conduct. As both elements must be met, the FTC must prove that Meta has monopoly power now. [. . .]

[15] The FTC claims that three pieces of evidence prove Meta’s monopoly power: the company’s lavish profits, the jacking up of its apps’ quality-adjusted price, and price discrimination. [. . .]

{Eds.: as you may remember from Chapter VII, the court rejected this evidence: lavish profits could reflect successful technologies or a reward for risky investments; the argument that product quality had declined failed in light of evidence that “Meta’s apps have continuously improved”; and price discrimination—in the form of a higher advertising load targeted at the least elastic users—“shows only that a firm is not the undifferentiated fiction earning zero profits that scarcely exists outside the pages of an Econ 101 textbook.” And, as you may remember from Chapter III, the court then went on to conclude that, today, TikTok and YouTube compete against Facebook and Instagram. It relied on “observational evidence” of substitution, combined with evidence from various natural and field experiments (including, for example, an experiment run by Meta’s expert in which users were paid to reduce their Facebook / Instagram use, and then tracked the apps to which they turned instead, as well as natural experiments involving service bans or outages).}

[16] The FTC contends that Facebook, Instagram, and Snapchat form a distinct market that can be identified by those apps’ unique features. While those apps certainly show some distinct markings, they mostly resemble two other social-media apps that the FTC insists must be excluded: TikTok and YouTube. Their dominant features are identical, people mostly use all four to watch unconnected content that they can send in direct messages, industry participants agree that the apps belong in the same competitive market, they use similar resources and technologies, and they charge the same price to the same customers. [. . .]

[17] When companies sell a product for a price, calculating their market share is straightforward. Because the apps in this case are free, however, measuring their market share is trickier. The obvious candidates are total time spent on each app or total users, which in turn can be measured as daily or monthly active users.

[18] In the Court’s view, the best single measure of market share is total time spent. For one, that statistic makes the most analytic sense. Because Facebook, Instagram, Snapchat, TikTok, and YouTube are all free, people often use all five apps, which pulls each one’s market share toward an uninformative tie. Measuring the market by number of users, then, would ensnare the Court in a mess of double counting. Time spent avoids this problem. It also captures the intensity of use: if someone spends two minutes on Instagram and two hours on TikTok, she should not count as an equal user of each.

[19] Plus, time spent is the best proxy for what drives these apps’ revenue: ads. The more time someone spends on an app, the more ads it can show him, and the more money it will make.

[20] It also matches how the companies themselves think about competition. Their executives’ testimony and ordinary-course documents reveal that they understand themselves to be competing for users’ time, not competing to get people to use their app at all.

[21] In addition, time spent reflects how users themselves experience the relevant choice: they typically have multiple free apps, so the choice they face—when they are bored in line, sitting on their couch, or early to a date—is which app they will pop open and how long they will use it before switching to another.

[22] Unsurprisingly, then, the companies themselves most often measure their market share using total time spent.

[23] Yet time spent is an imperfect yardstick. Most obviously, it takes longer to watch a video than to scroll through a picture, so measuring market shares using time spent overestimates the competitive importance of video apps like YouTube. While these apps predominantly measure their market share using time spent, they all also consider other measures, most often daily and monthly average users. *{Eds.: this may be a typo for “active users.”}*

[24] The Court follows their lead, using time spent as the most informative measure of market share but also checking it against daily and monthly average users to take a holistic view of these apps' size.

[*]

[25] As established above, the FTC must prove that Meta is a monopoly now. So where it can, the Court calculates market share using the latest available data from 2025.

[26] The FTC concedes that [third-party apps] Snapchat and MeWe belong in a product market with Facebook and Instagram. Adding in TikTok and YouTube, Meta's share of that market comes out to around 30% of time spent. As a matter of law, that modest share cannot establish monopoly power.

[27] To be fair, while the case for including TikTok in the product market is overwhelming, YouTube's inclusion, which the Court finds appropriate, is concededly more debatable. Yet even if YouTube is excluded, Meta still would not hold a monopoly. That would leave Facebook, Instagram, Snapchat, MeWe, and TikTok. As measured by [the FTC's expert], as of 2025, Meta's share of time spent in that market is only 54%. Its share of monthly average users is 59%, while its share of daily average users is 62%. When measured using third-party data that Meta ordinarily relies on in its business, Meta's share of time spent falls to 42%, and its share of daily active users dips to 56%.

[28] . . . There is no threshold that a firm must cross to hold a monopoly. But courts that have surveyed the caselaw have found helpful guideposts. For instance, the Supreme Court has never found a party with less than 75% market share to have monopoly power. Lower courts have not lowered the bar much. [. . .]

[29] Nothing . . . suggests that a market share of 54% produces monopoly power, even if the Court nudges the figure upward in light of Meta's roughly 60% share of active users. Indeed, many cases expressly hold the contrary.

[30] . . . [And the] context weighs even further against finding monopoly power.

[31] First, Meta's market share is falling. In evaluating monopoly power, it is not market share that counts, but the ability to maintain market share. A given market share is thus less likely to add up to a monopoly if it is eroding. [. . .]

[32] Plus, Meta's true share of this market is almost certainly below 54%. . . . [E]ven if YouTube should be excluded from the market, it remains a behemoth that offers some alternative to Meta's apps. A market share calculated by entirely excluding it thus overestimates Meta's power.

[33] The Court ultimately finds that YouTube and TikTok belong in the product market, and they prevent Meta from holding a monopoly. Even if YouTube is out, including TikTok alone defeats the FTC's case.

[34] Like Heraclitus's river, the rapids of social media rush along so fast that the Court has never even stepped into the same case twice. It considered motions to dismiss in 2021 and 2022, motions for summary judgment in 2024, and a full merits trial this year [*i.e.*, 2025]. Each time it examined Meta's apps, they had changed. The competitors had, too. The Court's two Opinions on motions to dismiss did not even mention the word "TikTok." Today, that app holds center stage as Meta's fiercest rival.

[35] With apps surging and receding, chasing one craze and moving on from others, and adding new features with each passing year, the FTC has understandably struggled to fix the boundaries of Meta's product market. Even so, it continues to insist that Meta competes with the same old rivals it has for the last decade, that the company holds a monopoly among that small set, and that it maintained that monopoly through anticompetitive acquisitions. Whether or not Meta enjoyed monopoly power in the past, though, the agency must show that it continues to hold such power now. The Court's verdict today determines that the FTC has not done so.

FTC v. Meta Platforms, Inc. ("Meta / Within")

654 F. Supp. 3d 892 (N.D. Cal. 2023)

Judge Davila.

[1] This action was brought by [the FTC] to block the merger between a virtual reality (“VR”) device provider and a VR software developer. Defendant Meta Platforms Inc. (“Meta”) has agreed to acquire all shares of Within Unlimited, Inc. (“Within,” collectively with Meta, “Defendants”). The FTC has come before the Court to seek preliminary injunctive relief . . . to enjoin Defendants from consummating their proposed merger . . . pending the outcome of ongoing administrative proceedings before the FTC. [. . .]

[2] Defendant . . . Meta operates a collection of social networking platforms referred to as its “Family of Apps,” which includes Facebook, Instagram, Messenger, and WhatsApp. Meta also manufactures VR devices, such as the Quest 2 and the Quest Pro headsets, through its Reality Labs division. [. . .]

[3] Defendant Within Unlimited, Inc. is a privately held corporation organized under the laws of Delaware with headquarters in Los Angeles, California. . . .

[4] Within’s flagship product is Supernatural, a subscription VR fitness service launched in April 2020 on the Quest Store. Supernatural releases new workouts daily and continues to add new modalities (e.g., aerobic boxing, meditation) to its lineup of workouts. Users access Supernatural’s workouts by paying a monthly subscription fee of \$18.99 or an annual subscription fee of \$179.99. Within has never changed Supernatural’s prices.

[5] The FTC alleges that the relevant market consists of VR dedicated fitness apps in the United States. The government defines “VR dedicated fitness apps” as VR apps that are designed so users can exercise through a structured physical workout in a virtual setting anywhere they choose to use their highly portable VR headset. [. . .]

[6] Within’s VR app Supernatural is a dedicated fitness app: it was designed specifically for fitness and offers daily personalized full-body workouts and expert coaching from real-world trainers. [. . .]

[7] The FTC proposes a relevant product market consisting of VR dedicated fitness apps, meaning VR apps designed so users can exercise through a structured physical workout in a virtual setting. [. . .]

[8] In this case, the Court finds the FTC has made a sufficient evidentiary showing that there exists a well-defined relevant product market consisting of VR dedicated fitness apps. [. . .]

[9] The FTC has challenged Meta’s acquisition of Within on the basis that the merger would substantially lessen potential competition. [. . .]

Actual Potential Competition

[10] The FTC first argues that the Acquisition would substantially lessen competition because it deprives the VR dedicated fitness app market of the competition that would have arisen from Meta’s independent entry into the market, a theory known as the “actual potential competition” or “actual potential entrant” doctrine. Although the Supreme Court has twice declined to resolve the doctrine’s validity when presented, it has nonetheless identified two essential preconditions before the theory can be applied: (1) the alleged potential entrant must have available feasible means for entering the relevant market other than by acquiring the target company; and (2) those means offer a substantial likelihood of ultimately producing deconcentration of that market or other significant procompetitive effects. [. . .]

[11] There is less consistency among courts as to the proper standard of proof by which the FTC must prove its case on actual potential competition, and it is an issue of first impression within the Ninth Circuit. The Fourth Circuit has held that the FTC must establish its case with “strict proof.” The Second Circuit has asked whether a defendant would likely have entered the market in the near future. The Fifth Circuit adopted the “reasonable probability” standard, which it remarked “signifies that an event has a better than fifty percent chance of occurring [with a] ‘reasonable’ probability represent[ing] an even greater likelihood of the event’s occurrence.” The Eighth Circuit also appeared to adopt the [“reasonable probability” test.] Finally, the FTC itself has unambiguously adopted a “clear proof” standard.

[12] In the absence of guiding Ninth Circuit law, the Court begins with *Brown Shoe’s* teaching that Section 7 deals with neither certainties nor ephemeral possibilities but rather “probabilities.” In the context of an actual potential

competition claim, however, the Court must not only consider the effects of future scenarios where the Acquisition occurs and where it is blocked, but it must also gauge the likelihood—in the second scenario—that the blocked would-be acquirer would enter the relevant market independently. Furthermore, the harm to competition the doctrine aims to prevent is not the loss of present competition but rather the potential loss of a future competitor (the acquiring company). Given the many a priori inferences required by the doctrine, the Court is wary of any inquiry that strays too close to the specters of ephemeral possibilities, yet it must nonetheless ensure the standard does not require the FTC to operate on certainties. The Court accordingly holds that the “reasonable probability” standard—as clarified by the Fifth Circuit to suggest a likelihood noticeably greater than fifty percent—is the standard of proof that the FTC must present. [. . .]

[13] [T]he Court now proceeds to apply the doctrine. The inquiry can be stated as follows: “Is it reasonably probable that Meta would have entered the VR dedicated fitness app market *de novo* if it was not able to acquire Within?” [. . .]

[14] There can be no serious dispute that Meta possesses the financial resources to undertake a *de novo* entry. Meta has spent over \$12.4 billion in the most recent fiscal year on its VR business, and it anticipates investing more in the VR space. Unsurprisingly, Meta also enjoys a deep and talented pool of engineers in its Reality Labs Division, who could provide the technical VR expertise to develop a VR dedicated fitness app should Meta so choose. . . .

[15] But financial and engineering capabilities alone are insufficient to conclude it was “reasonably probable” that Meta would enter the VR dedicated fitness app market. Indeed, Meta seems willing to concede—as is supported by the evidence—that it does not take a large team or substantial resources to make a successful VR app. [. . .]

[16] First and foremost, although Meta has an abundance of VR personnel on hand, it lacks the capability to create fitness and workout content, a necessity for any fitness product or market. As a comparison, Supernatural’s VR workouts are led by personal trainers and are optimized for VR activity through consultations with experts holding PhDs in kinesiology and biomechanics. Certainly, this absence is not an insurmountable obstacle; Meta could conceivably circumvent it by partnering with an established fitness brand to provide the fitness content, as [another business has done].¹⁰ Regardless of any potential workarounds, the objective fact that Meta presently lacks the capability to create fitness content is, at the very least, probative as to the reasonable probability that Meta would enter the VR dedicated fitness app market *de novo*.

[17] In addition to fitness content, the evidence also indicates that Meta lacked the necessary studio production capabilities to create and film VR workouts. . . . Within records daily workout classes in its Los Angeles studio, and its founders have directed several interactive music videos. When Meta employees were strategizing VR fitness investments, they recognized that “studio production (e.g. green screen ops, stereoscopic capture, post processing pipelines)” was a new function that was “not part of Facebook’s pipelines.” . . . [Meta’s] lack of production studio capabilities to film a VR fitness workout is a relevant—though less compelling—factor for the Court’s “reasonably probable” consideration.

[18] . . . [T]he Court also considers the objective evidence of Meta’s incentives and motivations for [entry].

[19] The record is replete with evidence supporting Meta’s interest in the VR fitness space. . . . [F]itness is a use for VR that appeals to a more diverse population, specifically consumers that are female and older. This demographic is notably distinct from the typical VR demographic, which tends to skew younger and more male. Fitness is also “retentive,” meaning that users will tend to regularly use the product or app. Meta’s internal data also indicated that “deliberate fitness apps” were the “fastest growing segment[.]” . . .

[20] Although they undergird Meta’s undisputed interest in VR fitness, the aforementioned factors provide limited probative value in assessing Meta’s likelihood to enter the VR dedicated fitness app market itself. As the Court established earlier in this section, the relevant inquiry is whether it is “reasonably probable” that Meta would have entered the VR dedicated fitness app market *de novo*, not whether Meta was excited about or interested in more generally investing in VR fitness. Meta’s interest in the promising VR fitness app metrics—diverse appeal, strong

¹⁰ The Court can imagine more scenarios, *e.g.*, where Meta contracts independent fitness instructors or employs a team of regular fitness instruct[ors], but they would require further speculation.

user retention, rapid growth—stems from the potential for broader VR adoption and market penetration. And Meta, as a competitor in the VR headset market, benefits from that growth so long as high-quality VR fitness apps exist in the VR ecosystem; Meta need not itself be a player in that ecosystem. . . .

[21] Apart from the incentives arising from the VR fitness market itself, the evidence also reflects one other incentive that arises from Meta’s direct participation in the relevant market. Specifically, entering the VR dedicated fitness app market with its own app would facilitate Meta’s subsequent development of fitness-related VR hardware. This is an incentive to “first-party” entry that is acknowledge[d] across multiple instances of internal contemporaneous correspondence at Meta. That said, the evidence also suggests that *de novo* entry is not strictly necessary to develop fitness hardware, though independent entry into the market could streamline that development. [. . .]

[22] Having reviewed and considered the objective evidence of Meta’s capabilities and incentives, the Court is not persuaded that this evidence establishes that it was reasonably probable Meta would enter the relevant market. Meta’s undisputed financial resources and engineering manpower are counterbalanced by its necessary reliance on external fitness companies or experts to provide the actual workout content and a production studio for filming and post-production. Furthermore, the record is inconclusive as to Meta’s incentives to enter the relevant market. There are certainly some incentives for Meta to enter the market *de novo*, such as a deeper integration between the VR fitness hardware and software. However, it is not clear that Meta’s readily apparent excitement about fitness as a core VR use case would necessarily translate to an intent to build its own dedicated fitness app market if it could enter by acquisition. [. . .]

[23] The evidence contained in [Meta’s] strategy documents is consistent—Meta’s subjective motivations to enter the relevant market were primarily to (1) better develop VR fitness hardware or (2) ensure the continued existence of a high-quality VR fitness app in the market. The Court notes that these incentives would apply to both entry by acquisition and entry *de novo*, though perhaps not with equal force. [. . .]

[24] Meta’s prior ventures into other VR app markets also do not support a subjective intention or proclivity to build its own apps as opposed to an acquisition. Courts have considered a potential entrant’s history of acquisitions and expansions in determining its likelihood of *de novo* entry. The evidence indicates that Meta has tended to build its own VR app where the experience did not call for specialized or substantive content Meanwhile, Meta has acquired other VR developers where the experience requires content creation from the developer, such as VR video games, as opposed to an app that hosts content created by others. With respect to fitness, the Court finds that VR dedicated fitness is more akin to a gaming app—where the emphasis is on the content created or provided by the developer—than a browser or world-building app, where the value is derived from the users’ own creativity rather than the developers’. Accordingly, based on Meta’s past entries into VR app markets, the evidence would suggest an interest in entry by acquisition instead of entry *de novo*.

[25] But even more pertinent than the record of Meta’s past entries into VR app markets is the evidence that Meta had consciously considered and appeared doubtful of the proposition to build its own independent VR fitness app. The pre-read strategy document prepared for [Meta’s head of VR technology] . . . [states that] “[i]t will be hard to build Fitness from scratch.” . . . The document also recognized that Meta would have to “build new kinds of expertise at the intersection of software, instructor-led fitness, music, media.” The decision not to build Meta’s own VR fitness app is corroborated by the lack of any other contemporaneous discussion on the topic. . . .

[26] In sum, the subjective evidence indicates that Meta was subjectively interested in entering the VR dedicated fitness app market itself, either for hardware development or defensive market purposes. However, the Court again notes that these incentives would support both market entry by acquisition and *de novo*, but the Court’s inquiry is only concerned with the feasibility of *de novo* entry. [. . .]

[27] [W]here the objective evidence is weak or inconclusive and does not strongly point to the feasibility of entry *de novo*, it is incumbent on the Court to consider the potential entrant’s actual plans of entry for the purposes of ensuring that Section 7 enforcement does not veer into the realm of ephemeral possibilities. As applied here, the Court holds that the FTC may not rest solely on evidence of Meta’s considerable resources and the company’s

clear zeal for the VR dedicated fitness app market as a whole; the evidence must show that Meta had some feasible and reasonably probable path to *de novo* entry. [. . .]

[28] This brings us to the final means—and the FTC’s main theory—by which Meta could have entered the VR dedicated fitness market: expanding its existing rhythm game app Beat Saber into dedicated fitness and partnering with a fitness brand [such as Peloton]. The FTC claims that Meta scrapped this Beat Saber proposal once it learned that Within was at risk of being acquired by Apple. However, this theory is neither supported by the contemporaneous remarks regarding the Beat Saber proposal nor the timing of the subsequent investigation into this proposal.

[29] First, the evidentiary record is unclear as to what exactly [the] Beat Saber-Peloton proposal would even look like. On some occasions, Stojavljevic—[Meta’s head of VR gaming studios and] the proposal’s primary advocate—refers to it as a “brand licensing w/ Peloton” or a “co-branding . . . Peloton mode inside Beat Saber.” On other occasions, Stojavljevic considers whether the proposal would be a separate Quest Store app. Michael Verdu—another proponent of expanding Beat Saber into fitness—also recalled that the proposal never reached a point of “understanding what that partnership would look like.” . . .

[30] Second, the Beat Saber-Peloton proposal did not enjoy uniform or even widespread support among the Meta personnel who were researching VR fitness opportunities. [. . .]

[31] . . . Although [some] Meta employees . . . were excited about Beat Saber’s potential as a vector into fitness, Meta has never been able to execute on that excitement in any of the years since they acquired Beat Saber. Verdu Dep. 178:12–20 (“[I]t was the perpetual white whale quest to get . . . Beat Games to build a fitness version of Beat Saber, which was like pushing on a string. We tried and tried and tried, and they never picked it up.”)[.] [. . .]

[32] For all these reasons, the Court finds that it was not reasonably probable that Meta would have repositioned their top-selling VR app, Beat Saber, into a dedicated fitness app, even assuming that it could have identified a partner willing to provide VR fitness content. [. . .]

[33] Accordingly, the Court finds that Meta did not have the “available feasible means” to enter the relevant market other than by acquisition. . . .

[34] In so finding, the Court concludes that the FTC has failed to establish a likelihood that it would ultimately succeed on the merits as to its Section 7 claim based on the actual potential competition theory.

Perceived Potential Competition

[35] . . . [T]he FTC also claims that the Acquisition violates Section 7 under the perceived potential competition theory. Under this theory, the FTC argues that the Acquisition would eliminate the competitive influence that Meta exerts on firms within the relevant market by virtue of its presence on the fringes of the market.

[36] To prevail on a claim that the Acquisition would have eliminated perceived potential competition, the FTC must establish—in addition to showing a highly concentrated market—the following: (1) Meta possessed the characteristics, capabilities, and economic incentive to render it a perceived potential *de novo* entrant; and (2) Meta’s premerger presence on the fringe of the target market in fact tempered oligopolistic behavior on the part of existing participants in that market. The same objective facts regarding Meta’s capability of entering the market under an actual potential competition theory are also probative of violation of § 7 through loss of a procompetitive on-the-fringe influence. However, whereas a claim for actual potential competition may consider the potential entrant’s intent to enter the market, a perceived potential competition claim ignores the potential entrant’s subjective intent to enter the market and instead focuses on the subjective perceptions of the in-market firms.

[37] . . . Unsurprisingly, and for the same reasons explained above, the objective evidence in the record is insufficient to support a finding that it was reasonably probable Meta would enter the relevant market for purposes of the perceived potential competition doctrine. [. . .]

[38] Under the second element of the perceived potential competition claim, the FTC must establish that Meta’s premerger presence on the fringe of the target market in fact tempered oligopolistic behavior on the part of existing

participants in that market. In other words, the FTC must present evidence that it was reasonably probable that Meta's presence as a potential competitor had a direct effect on the firms in the VR Dedicated Fitness market.

[39] In setting forth this standard, the Court rejects the FTC's suggestion that it need only provide probabilistic proof of likely influence on existing competitors. . . . The Court reads [applicable law] to mean the FTC need not provide direct evidence of Within adopting *{Eds.: possibly a typo for "adapting"}* its conduct to account for Meta's presence (e.g., a hypothetical internal email at Within expressly communicating fear of Meta's imminent entry and taking actions in anticipation). Direct evidence, however, is distinguishable from evidence of a direct effect experienced within the relevant market (e.g., circumstantial evidence that Within reduced prices shortly after Meta's hypothetical public announcement that it was looking into the VR Dedicated Fitness market). . . . Accordingly, the FTC must produce some evidence . . . that Meta's presence had a direct effect on the firms in the relevant market.

[40] Under this standard, the FTC's evidence on this element is insufficient. The only evidence that suggests any kind of effect in the relevant market is that Within cited *{Eds.: whatever Within cited is redacted from the opinion, but it seems to be something to do with Meta!}*, as reasons not to reduce headcount at Within shortly before launching Supernatural. As noted above, Within and Supernatural had not even entered the relevant market at the time of this presentation. Consequently, this cannot be evidence of a direct effect within the VR dedicated fitness app market; rather, they are the preemptive considerations of a firm contemplating entry into the market. [. . .]

[41] In summary, the Court finds that the objective evidence does not support a reasonable probability that firms in the relevant market perceived Meta as a potential entrant. Even if it did, the Court finds that there is no direct or circumstantial evidence to suggest that Meta's presence did in fact temper oligopolistic behavior or result in any other procompetitive benefits. Accordingly, the FTC has not demonstrated a likelihood of ultimate success as to its Section 7 claim arising from perceived potential competition.

* * *

The enforcement agencies paid particular attention to tech platform acquisitions in their 2023 Merger Guidelines. Some tech-specific concerns are visible in Guideline 6, which is aimed at mergers that entrench or extend a dominant position. And the new document dedicated a full Guideline—Guideline 9—to a specific discussion of platform acquisitions. This platform guideline combines some background-style discussion of platform businesses with some information about theories of harm that might apply in a platform case.

Much of the following material highlights ways in which a deal involving a dominant platform *can or might* raise competitive concerns. Do you read the language as noting an array of possibilities, or as suggesting that particular kinds of deals are *more likely* to be harmful or illegal if a dominant or platform business is involved?

On your reading of Guideline 6, what is the difference between valuable efficiency and harmful entrenchment? And, on your reading of Guideline 9, when is there a "conflict of interest" in a merger case, and how (if at all) might it be specific to platform cases? Do you read Guideline 9 as suggesting that self-preferencing should be a particular concern, or a ground of antitrust illegality, in platform mergers? Is this the same effect that we would call "foreclosure" in a traditional vertical merger analysis, or is it something different?

Merger Guidelines § 2.6

Guideline 6: Mergers Can Violate the Law When They Entrench or Extend a Dominant Position.

[1] The Agencies consider whether a merger may entrench or extend an already dominant position. The effect of such mergers "may be substantially to lessen competition" or "may be . . . to tend to create a monopoly" in violation of Section 7 of the Clayton Act. Indeed, the Supreme Court has explained that a merger involving an "already dominant[] firm may substantially reduce the competitive structure of the industry by raising entry barriers." The Agencies also evaluate whether the merger may extend that dominant position into new markets. Mergers that entrench or extend a dominant position can also violate Section 2 of the Sherman Act. At the same time, the Agencies distinguish anticompetitive entrenchment from growth or development as a consequence of increased competitive capabilities or incentives. The Agencies therefore seek to prevent those mergers that would

entrench or extend a dominant position through exclusionary conduct, weakening competitive constraints, or otherwise harming the competitive process. [. . .]

[2] . . . A merger may create or enhance barriers to entry or expansion by rivals that limit the capabilities or competitive incentives of other firms. Barriers to entry can entrench a dominant position even if the nature of future entry is uncertain, if the identities of future entrants are unknown, or if there is more than one mechanism through which the merged firm might create entry barriers. Some examples of ways in which a merger may raise barriers to entry or competition include:

- *Increasing Switching Costs.* The costs associated with changing suppliers (often referred to as switching costs) can be an important barrier to competition. A merger may increase switching costs if it makes it more difficult for customers to switch away from the dominant firm's product or service, or when it gives the dominant firm control of something customers use to switch providers or of something that lowers the overall cost to customers of switching providers. For example, if a dominant firm merges with a complementary product that interoperates with the dominant firm's competitors, it could reduce interoperability, harming competition for customers who value the complement.
- *Interfering With the Use of Competitive Alternatives.* A dominant position may be threatened by a service that customers use to work with multiple providers of similar or overlapping bundles of products and services. If a dominant firm acquires a service that supports the use of multiple providers, it could degrade its utility or availability or could modify the service to steer customers to its own products, entrenching its dominant position. For example, a closed messaging communication service might acquire a product that allowed users to send and receive messages over several competing services through a single user interface, which facilitates competition. The Agencies would examine whether the acquisition would entrench the messaging service's market power by leading the merged firm to degrade the product or otherwise reduce its effectiveness as a cross-service tool, thus reducing competition.
- *Depriving Rivals of Scale Economies or Network Effects.* Scale economies and network effects can serve as a barrier to entry and competition. Depriving rivals of access to scale economies and network effects can therefore entrench a dominant position. If a merger enables a dominant firm to reduce would-be rivals' access to additional scale or customers by acquiring a product that affects access such as a customer acquisition channel, the merged firm can limit the ability of rivals to improve their own products and compete more effectively.³⁶ Limiting access by rivals to customers in the short run can lead to long run entrenchment of a dominant position and tend to create monopoly power.

For example, if two firms operate in a market in which network effects are significant but in which rivals voluntarily interconnect, their merger can create an entity with a large enough user base that it may have the incentive to end voluntary interconnection. Such a strategy can lessen competition and harm trading partners by creating or entrenching dominance in this market. This can be the case even if the merging firms did not appear to have a dominant position prior to the merger because their interoperability practices strengthened rivals.

Eliminating a Nascent Competitive Threat. A merger may involve a dominant firm acquiring a nascent competitive threat—namely, a firm that could grow into a significant rival, facilitate other rivals' growth, or otherwise lead to a reduction in its power. In some cases, the nascent threat may be a firm that provides a product or service similar to the acquiring firm that does not substantially constrain the acquiring firm at the time of the merger but has the potential to grow into a more significant rival in the future. In other cases, factors such as network effects, scale economies, or switching costs may make it extremely difficult for a new entrant to offer all of the product features or services at comparable quality and terms that an incumbent offers. The most likely successful threats in these situations can be firms that initially avoid directly entering the dominant firm's market, instead specializing in (a) serving a narrow customer

³⁶ The Agencies' focus here is on the artificial acquisition of network participants that occurs directly as a result of the merger, as opposed to future network growth that may occur through competition on the merits.

segment, (b) offering services that only partially overlap with those of the incumbent, or (c) serving an overlapping customer segment with distinct products or services.

[3] Firms with niche or only partially overlapping products or customers can grow into longer-term threats to a dominant firm. Once established in its niche, a nascent threat may be able to add features or serve additional customer segments, growing into greater overlap of customer segments or features over time, thereby intensifying competition with the dominant firm. A nascent threat may also facilitate customers aggregating additional products and services from multiple providers that serve as a partial alternative to the incumbent's offering. Thus, the success and independence of the nascent threat may both provide for a direct threat of competition by the niche or nascent firm and may facilitate competition or encourage entry by other, potentially complementary providers that may provide a partial competitive constraint. In this way, the nascent threat supports what may be referred to as "ecosystem" competition. In this context, ecosystem competition refers to a situation where an incumbent firm that offers a wide array of products and services may be partially constrained by other combinations of products and services from one or more providers, even if the business model of those competing services is different.

[4] Nascent threats may be particularly likely to emerge during technological transitions. Technological transitions can render existing entry barriers less relevant, temporarily making incumbents susceptible to competitive threats. For example, technological transitions can create temporary opportunities for entrants to differentiate or expand their offerings based on their alignment with new technologies, enabling them to capture network effects that otherwise insulate incumbents from competition. A merger in this context may lessen competition by preventing or delaying any such beneficial shift or by shaping it so that the incumbent retains its dominant position. For example, a dominant firm might seek to acquire firms to help it reinforce or recreate entry barriers so that its dominance endures past the technological transition. Or it might seek to acquire nascent threats that might otherwise gain sufficient customers to overcome entry barriers. In evaluating the potential for entrenching dominance, the Agencies take particular care to preserve opportunities for more competitive markets to emerge during such technological shifts.

[5] Separate from and in addition to its Section 7 analysis, the Agencies will consider whether the merger violates Section 2 of the Sherman Act. For example, under Section 2 of the Sherman Act, a firm that may challenge a monopolist may be characterized as a "nascent threat" even if the impending threat is uncertain and may take several years to materialize. The Agencies assess whether the merger is reasonably capable of contributing significantly to the preservation of monopoly power in violation of Section 2, which turns on whether the acquired firm is a nascent competitive threat.

[6] The Agencies also examine the risk that a merger could enable the merged firm to extend a dominant position from one market into a related market, thereby substantially lessening competition or tending to create a monopoly in the related market. For example, the merger might lead the merged firm to leverage its position by tying, bundling, conditioning, or otherwise linking sales of two products. A merger may also raise barriers to entry or competition in the related market, or eliminate a nascent competitive threat, as described above. For example, prior to a merger, a related market may be characterized by scale economies but still experience moderate levels of competition. If the merged firm takes actions to induce customers of the dominant firm's product to also buy the related product from the merged firm, the merged firm may be able to gain dominance in the related market, which may be supported by increased barriers to entry or competition that result from the merger.

[7] These concerns can arise notwithstanding that the acquiring firm already enjoys the benefits associated with its dominant position. The prospect of market power in the related market may strongly affect the merged firm's incentives in a way that does not align with the interests of its trading partners, both in terms of strategies that create dominance for the related product and in the form of reduced incentives to invest in its products or provide attractive terms for them after dominance is attained. In some cases, the merger may also further entrench the firm's original dominant position, for example if future competition requires the provision of both products.

Merger Guidelines § 2.9

Guideline 9: When a Merger Involves a Multi-Sided Platform, the Agencies Examine Competition Between Platforms, on a Platform, or to Displace a Platform.

[1] Platforms provide different products or services to two or more different groups or “sides” who may benefit from each other’s participation. Mergers involving platforms can threaten competition, even when a platform merges with a firm that is neither a direct competitor nor in a traditional vertical relationship with the platform. When evaluating a merger involving a platform, the Agencies apply Guidelines 1-6 while accounting for market realities associated with platform competition. Specifically, the Agencies consider competition *between* platforms, competition *on* a platform, and competition to *displace* the platform.

[2] Multi-sided platforms generally have several attributes in common, though they can also vary in important ways. Some of these attributes include:

- Platforms have multiple sides. On each side of a platform, platform participants provide or use distinct products and services. Participants can provide or use different types of products or services on each side.
- A platform operator provides the core services that enable the platform to connect participant groups across multiple sides. The platform operator controls other participants’ access to the platform and can influence how interactions among platform participants play out.
- Each side of a platform includes platform participants. Their participation might be as simple as using the platform to find other participants, or as involved as building platform services that enable other participants to connect in new ways and allow new participants to join the platform.
- Network effects occur when platform participants contribute to the value of the platform for other participants and the operator. The value for groups of participants on one side may depend on the number of participants either on the same side (direct network effects) or on the other side(s) (indirect network effects). Network effects can create a tendency toward concentration in platform industries. Indirect network effects can be asymmetric and heterogeneous; for example, one side of the market or segment of participants may place relatively greater value on the other side(s).
- A conflict of interest can arise when a platform operator is also a platform participant. The Agencies refer to a “conflict of interest” as the divergence that can arise between the operator’s incentives to operate the platform as a forum for competition and its incentive to operate as a competitor on the platform itself. As discussed below, a conflict of interest sometimes exacerbates competitive concerns from mergers.

[3] Consistent with the Clayton Act’s protection of competition “in any line of commerce,” the Agencies will seek to prohibit a merger that harms competition within a relevant market for any product or service offered on a platform to any group of participants—i.e., around one side of the platform.

[4] The Agencies protect competition between platforms by preventing the acquisition or exclusion of other platform operators that may substantially lessen competition or tend to create a monopoly. This scenario can arise from various types of mergers:

A. Mergers involving two platform operators eliminate the competition between them. In a market with a platform, entry or growth by smaller competing platforms can be particularly challenging because of network effects. A common strategy for smaller platforms is to specialize, providing distinctive features. Thus, dominant platforms can lessen competition and entrench their position by systematically acquiring firms competing with one or more sides of a multi-sided platform while they are in their infancy. The Agencies seek to stop these trends in their incipency.

B. A platform operator may acquire a platform participant, which can entrench the operator’s position by depriving rivals of participants and, in turn, depriving them of network effects. For example, acquiring a major seller on a platform may make it harder for rival platforms to recruit buyers. The long-run benefits to a platform operator of denying network effects to rival platforms create a powerful incentive

to withhold or degrade those rivals' access to platform participants that the operator acquires. The more powerful the platform operator, the greater the threat to competition presented by mergers that may weaken rival operators or increase barriers to entry and expansion.

C. Acquisitions of firms that provide services that facilitate participation on multiple platforms can deprive rivals of platform participants. Many services can facilitate such participation, such as tools that help shoppers compare prices across platforms, applications that help sellers manage listings on multiple platforms, or software that helps users switch among platforms.

D. Mergers that involve firms that provide other important inputs to platform services can enable the platform operator to deny rivals the benefits of those inputs. For example, acquiring data that helps facilitate matching, sorting, or prediction services may enable the platform to weaken rival platforms by denying them that data.

[5] The Agencies protect competition *on* a platform in any markets that interact with the platform. When a merger involves a platform operator and platform participants, the Agencies carefully examine whether the merger would create conflicts of interest that would harm competition. A platform operator that is also a platform participant may have a conflict of interest whereby it has an incentive to give its own products and services an advantage over other participants competing on the platform. Platform operators must often choose between making it easy for users to access their preferred products and directing those users to products that instead provide greater benefit to the platform operator. Merging with a firm that makes a product offered on the platform may change how the platform operator balances these competing interests. For example, the platform operator may find it is more profitable to give its own product greater prominence even if that product is inferior or is offered on worse terms after the merger—and even if some participants leave the platform as a result. This can harm competition in the product market for the advantaged product, where the harm to competition may be experienced both on the platform and in other channels.

[6] The Agencies protect competition to *displace* the platform or any of its services. For example, new technologies or services may create an important opportunity for firms to replace one or more services the incumbent platform operator provides, shifting some participants to partially or fully meet their needs in different ways or through different channels. Similarly, a non-platform service can lessen dependence on the platform by providing an alternative to one or more functions provided by the platform operators. When platform owners are dominant, the Agencies seek to prevent even relatively small accretions of power from inhibiting the prospects for displacing the platform or for decreasing dependency on the platform.

[7] In addition, a platform operator that advantages its own products that compete *on* the platform can lessen competition *between* platforms and to *displace* the platform, as the operator may both advantage its own product or service, and also deprive rival platforms of access to it, limiting those rivals' network effects.

NOTES

- 1) Should agencies or courts treat “tech” mergers differently from “non-tech” mergers? In what ways?
- 2) Suppose that we decide that the courts are systematically getting tech mergers wrong in some respects. To what extent, and in what ways, can new Merger Guidelines influence the courts to change their minds? Are there any limits on their power to do so?
- 3) If the court in the *Meta/Instagram/WhatsApp* case was correct that the Facebook social network no longer holds a monopoly, does that mean that the FTC's desired relief has already been secured: that, in effect, there is nothing left to win because the market has solved the problem already?
- 4) Do the two *Meta Platforms* decisions suggest to you that the courts are getting tech mergers right or wrong?
- 5) What effect, if any, should the fact of prior HSR review have on the analysis of a tech merger? Do you think the risk of getting *ex ante* merger review wrong is any different for tech mergers compared to other deals?
- 6) Suppose that Congress is considering a simple ban on acquisitions of *any* kind by the largest Big Tech companies, on the ground that it is too difficult to spot the individual deals that would or could harm consumers. Would you support or oppose that measure? What costs and benefits would you highlight for a legislator who was undecided and wanted to understand both sides of the issue?

- 7) How would you figure out whether or not tech acquisitions were more likely to be harmful than acquisitions in other fields?
- 8) Look back at the extract from Merger Guideline 6, including footnote 36. When is it a good thing, and when is it a bad thing, for a merger to contribute to network effects?
- 9) Consider the following statement: “The best merger policy is prophylactic and risk-averse, because businesses should develop innovative products and services organically rather than buying them up. As a result, we will do better overall if we err in favor of blocking too many deals rather than too few: especially when it comes to huge and important businesses like the Big Tech platforms.” Do you agree?
- 10) Consider the following statement: “It is just as socially harmful to block a beneficial merger as it is to allow a harmful one. The bigger the merging businesses and their impact on society, the more important it is to get this right. As a result, we will do better overall if we weigh false positives and false negatives equally.” Do you agree?
- 11) Look back at the Hemphill and Wu extract. What are the advantages and disadvantages of focusing an antitrust case on the existence (or not) of an anticompetitive plan? Is that approach especially desirable or suitable for nascent-competitor cases?
- 12) Look back at the Sokol extract. When and how should agencies and courts consider the effects of merger enforcement on the incentives for businesses other than the merging parties to invest and innovate? In other words, should enforcers and adjudicators consider the broader “signaling effects” of their case-specific decisions?

F. Algorithmic Pricing: *RealPage* and *Amazon*

One of the most prominent features of the digital revolution is the growth of online retail businesses of all kinds. This includes massive integrated retailers like Amazon; auction sites like eBay; craft-focused platforms like Etsy; marketplaces for individual sellers like Craigslist and Facebook Marketplace; and of course online storefronts for countless individual retailers and manufacturers. The U.S. Census Bureau reports that in the first quarter of 2026, e-commerce sales accounted for 16.9% of total U.S. retail sales.¹⁴⁰

The growth of e-commerce has created plenty of puzzles for antitrust and competition policy. For one thing, many of these businesses are multisided platforms: that is, they deal with at least some “third-party” merchants as well as consumers. Some also supply their own “first party” goods and services. E-commerce therefore implicates all the usual questions of policy and doctrine that we associate with two-sided platform markets. For example: should antitrust permit the weighing of harms to one group against benefits to others?¹⁴¹ When, if at all, is a single “transaction market” definition, *à la AmEx*, appropriate in this setting?¹⁴²

For a second thing, some argue that some e-commerce businesses appear to have a level of market or monopoly power.¹⁴³ This raises some sharp market-definition questions. Do online businesses ever compete with brick-and-mortar ones? (When, if ever, do you comparison-shop between a brick-and-mortar store and an e-commerce site?) More generally, in what market should online retailers’ power be assessed? Is there an antitrust market for “general online retail” or are the relevant markets product-specific?¹⁴⁴ After all, we don’t generally define an “all retail” market in the brick-and-mortar context: but is there some reason to do so in the e-commerce space? Could this be

¹⁴⁰ See U.S. Census Bureau, Press Release, *Quarterly Retail E-Commerce Sales* (May 18, 2026).

¹⁴¹ See *supra* §§ IV.C.2 (discussing complexities in the formulation and application of the rule of reason, including the admissibility of “out of market” benefits), VIII.D.1 (discussing the role of “out of market” efficiencies in merger analysis).

¹⁴² See *supra* § III.C.4 (market definition issues in the context of two-sided platforms).

¹⁴³ See, e.g., Lina M. Khan, *Amazon’s Antitrust Paradox*, 126 Yale L.J. 710 (2017).

¹⁴⁴ Compare, e.g., Complaint, *FTC v. Amazon.com, Inc.*, No. 2:23-CV-01495 (W.D. Wash., filed Sept. 26, 2023) § V.A. (alleging among other things that “Amazon has durable monopoly power in the online superstore market” and that “[d]ocuments and data, both from Amazon and industry analysts, confirm that Amazon’s share of the overall value of goods sold by online superstores is well above 60%—and rising”) with Robert Armstrong & Ethan Wu, *What Big Tech Antitrust Gets Wrong: An Interview with Herbert Hovenkamp*, FINANCIAL TIMES (Jan. 19, 2024) (“One of the problems you’ve got with Amazon is that it is very, very big. However, it sells [12 million] products and does not have market-dominating shares in very many of those products. . . . [W]ith Amazon, you have to look product by product. And that means . . . you’re going to get very different outcomes depending on which product you’re looking at.”).

justified as a “bundle market” like office superstores or supermarkets? Does the ease of moving from one website to another reduce the need to “one-stop-shop”?

For a third thing, e-commerce also often implicates the self-preferencing debate described above. Some e-commerce websites, like Amazon.com and Walmart.com, offer one or more lines of “own brand” products (like Amazon’s “Amazon Basics” line or Walmart’s “George” line) in addition to those of third-party merchants. When such websites feature those products prominently in search results, or promote them in other ways, they may attract allegations of self-preferencing.¹⁴⁵ Some support restrictions or prohibitions on self-preferencing in e-commerce, such as the AICOA legislation described above.¹⁴⁶ Others argue that they should be completely prohibited from selling on their own platforms.¹⁴⁷ Others take a different view, arguing that society would be harmed, not benefited, if big e-retailers were prohibited from making desirable products available on their website and then specially promoting them, as other retailers do across the economy.¹⁴⁸

But the main focus of our discussion in this section will be a different topic: the use of algorithms, driven by data, to set and alter prices. An algorithm for this purpose is just a set of instructions or steps that a computer can follow to determine a price.¹⁴⁹ It often involves the use of data inputs collected from other sources, although it need not do so. For example, simple algorithms could be created to do any of the following:

- **Incremental experiments.** On day 1, charge a price of \$1.00, and on day 2, charge a price of \$1.10. On each subsequent day, choose a price according to the following rule: if the previous day’s change increased profits, then make the same change again today (*e.g.*, if yesterday’s price was a 10-cent increase and it increased profits, increase prices by a further 10 cents today); if the previous day’s change did not increase profits, then make the reverse change today (*e.g.*, if yesterday’s price was a 10-cent increase and it did not increase profits, decrease prices by 10 cents today).
- **Follow the crowd.** Each day, search the internet for any other supplier selling the same product or service, and charge the highest / lowest / average price detected.
- **Constant profit margin.** Using a feed of live data about product costs, charge whatever price maintains an X% profit margin.
- **Mirror high prices, punish discounting.** Each day, search for the price that competitors A, B, and C are charging. If those competitors are all charging a price above \$X, then charge the average of their prices. If any of those competitors charge a price below \$X, then immediately reduce price to cost, and keep price there for three days. After that time, resume the original behavior.

You get the idea. The point is that an “algorithm” can be designed to execute virtually any set of instructions that can be described. More sophisticated algorithms might experiment with different instructions and strategies, prefer those that turn out to maximize profits, and refine them to improve profitability. Advances in machine learning are pushing back the frontiers of automated decision-making all the time, and this seems likely to continue for the foreseeable future.¹⁵⁰

Algorithmic pricing online has been a blazing hot topic of tech antitrust for some years. It is certainly happening out in the world: many businesses do rely on partly or fully automated mechanisms to set their prices: including

¹⁴⁵ See Complaint, *FTC v. Amazon.com, Inc.*, No. 2:23-CV-01495 (W.D. Wash., filed Sept. 26, 2023) ¶¶ 241–48 (alleging that self-preferencing serves as evidence of monopoly power); Chiara Farronato, Andrey Fradkin & Alexander MacKay, *Self-Preferencing at Amazon: Evidence from Search Rankings*, NBER Working Paper 30,894 (Jan. 2023).

¹⁴⁶ See *supra* § XIV.D.2. See also, *e.g.*, Bill Baer, *Why Amazon is wrong about the American Innovation and Online Choice Act* [sic], BROOKINGS COMMENTARY (June 14, 2022).

¹⁴⁷ See, *e.g.*, Lina M. Khan, *The Separation of Platforms and Commerce*, 119 Colum. L. Rev. 973 (2019) (proposing renewed attention to line of business restrictions); OECD, *Lines of Business Restrictions—Background Note*, DAF/COMP/WP2(2020)1 (summarizing debates). See also Elizabeth Warren, *What’s Next for Big Tech* (remarks of Feb. 27, 2024) (“To restore competition in existing digital markets and to foster emerging markets like AI, Amazon’s e-commerce platform should be separated from its product lines.”).

¹⁴⁸ See, *e.g.*, *supra* note 112 (citing examples).

¹⁴⁹ See generally, *e.g.*, Kristian Lum & Rumman Chowdhury, *What is an “algorithm”?* It depends whom you ask, MIT Tech. Rev. Opinion (Feb. 26, 2021); see also *Algorithm* in MERRIAM-WEBSTER DICTIONARY (2024) (“a step-by-step procedure for solving a problem or accomplishing some end”).

¹⁵⁰ See generally, *e.g.*, Daniel A. Crane, *Antitrust After the Coming Wave*, 99 N.Y.U. L. Rev. 1187 (2024).

not just their online prices but their brick-and-mortar prices too.¹⁵¹ Those mechanisms may draw on a vast amount of data, including data about customer and competitor behavior, to do so. Like any other form of automation, algorithmic pricing can result in the saving of human time and energy: particularly when businesses sell many products. And it may reflect a faster and more accurate version of what a human sales employee would be trying to do anyway. Among other things, note that any of the algorithmic instructions above could simply be given to a human employee as a direction for setting prices! Nevertheless, the use of algorithms to set prices has prompted sustained criticism and concern from scholars, policy advocates, and market participants. Some of the most prominent worries can be sorted into two groups: concerns about collusion and concerns about personalized pricing.

1. Automated Price Surveillance and Price-Setting

Concerns about “algorithmic coordination” or “algorithmic collusion” have been bubbling for a long time and are now the subject of a vast literature.¹⁵² We have already seen that antitrust does not prohibit “tacit collusion”: that is, interdependent pricing that does not involve an agreement. For example, in a concentrated and transparent market it may be possible for competitors to monitor one another’s prices and sustain an equilibrium of supracompetitive pricing, even without seeking and receiving acquiescence in a manner traditionally associated with antitrust’s “agreement” criterion.¹⁵³ This is the kind of thing that we might see, for example, when two service stations in an isolated area successfully maintain prices significantly in excess of cost, because each recognizes that if it discounts its price, the other will follow suit, and each will end up worse off as a result of a price war. This kind of thing is not normally an antitrust violation: in the classic case there is no agreement, so Section 1 does not apply, and theories of concern under other provisions (like Section 5 of the FTC Act) have foundered on a persistent puzzle: what kind of rule could be imposed to force competitors *not* to take notice of what their rivals are doing?¹⁵⁴

The development of automated, data-driven pricing has sharpened policy concerns about this practice. If businesses are better able to monitor the behavior of their rivals, and better able to respond by swiftly and accurately following price increases or by punishing price reductions, the result may well be that tacit collusion becomes more widespread and more durable. Moreover, algorithms might themselves “learn” by experimentation to behave in ways that we might associate with tacit collusion: namely, monitoring rivals, mirroring price increases, and punishing price decreases.¹⁵⁵

This in turn raises a question for antitrust law and competition policy: does the advent of algorithmic technology change anything? Does the presence of superior decision-making technology affect either the analysis under existing antitrust law—including restraint-of-trade law under Section 1 of the Sherman Act or unfair-methods-of-competition law under Section 5 of the FTC Act—or the policy case for regulatory intervention? Should we care whether participants in tacit collusion are using an algorithm to monitor and react, rather than doing it manually?

¹⁵¹ See, e.g., Stephanie Assad, Robert Clark, Daniel Ershov & Lei Xu, *Algorithmic Pricing and Competition: Empirical Evidence from the German Retail Gasoline Market*, 132 J. Pol. Econ. 723 (2024); Heather Vogell, Haru Coryne & Ryan Little, *Rent Going Up? One Company’s Algorithm Could Be Why*, PROPUBLICA (Oct. 15, 2022); Le Chen, Alan Mislove & Christo Wilson, *An Empirical Analysis of Algorithmic Pricing on Amazon Marketplace*, in WWW ‘16: PROCEEDINGS OF THE 25TH INTERNATIONAL CONFERENCE ON WORLD WIDE WEB, 1339–49 (2016); Olivia Solon, *How a Book About Flies Came to be Priced \$24 Million on Amazon*, WIRED (Apr. 27, 2011).

¹⁵² See, e.g., Emilio Calvano, Giacomo Calzolari, Vincenzo Denicolò & Sergio Pastorello, *Artificial Intelligence, Algorithmic Pricing, and Collusion*, 110 Am. Econ. Rev. 3267 (2020); Jeanine Miklós-Thal & Catherine Tucker, *Collusion by Algorithm: Does Better Demand Prediction Facilitate Coordination Between Sellers?*, 65 Mgmt. Sci. 1552 (2019); Ulrich Schwalbe, *Algorithms, Machine Learning, and Collusion*, 14 J. Comp. L. & Econ. 568 (2018); Ai Deng, *What Do We Know About Algorithmic Tacit Collusion*, 33 Antitrust 88 (2018); Ariel Ezrachi & Maurice E. Stucke, *Artificial Intelligence & Collusion: When Computers Inhibit Competition*, U. Ill. L. Rev. 1775 (2017); Michal S. Gal, *Algorithmic-Facilitated Coordination: Market and Legal Solutions*, CPI Antitrust Chronicle (May 2017); Salil Mehra, *Antitrust and the Robo-Seller: Competition in the Time of Algorithms*, 100 Minn. L. Rev. 1323 (2016).

¹⁵³ See *supra* § II.I (economics of tacit collusion); see also *supra* § IV.B.2 (defining and proving agreement).

¹⁵⁴ As Scott Hemphill has put it: “If the court tells the sellers to knock it off, what are they supposed to do instead?” See Richard A. Posner, *Review of Kaplow, Competition Policy and Price Fixing*, 79 Antitrust L.J. 761, 767 (2014).

¹⁵⁵ See Emilio Calvano, Giacomo Calzolari, Vincenzo Denicolò & Sergio Pastorello, *Artificial Intelligence, Algorithmic Pricing, and Collusion*, 110 Am. Econ. Rev. 3267, 3268 (2020) (“[Our] results indicate that . . . relatively simple pricing algorithms systematically learn to play collusive strategies.”); see also Renato Nazzini & James Henderson, *Overcoming the Current Knowledge Gap of Algorithmic “Collusion” and the Role of Computational Antitrust*, 4 Stan. Comp. Antitrust 1 (2024); Emilio Calvano, Giacomo Calzolari, Vincenzo Denicolò & Sergio Pastorello, *Algorithmic Collusion: Genuine or Spurious?* 90 Int’l J. Ind. Org. 102973 (2023).

And, if we think that tacit collusion is likely to become increasingly feasible and robust, might that change our instincts about the right regulatory response to it?

Recall that antitrust’s definition of “agreement” is complex and elusive. The Supreme Court has emphasized the definitional role of tests like whether the parties have a “conscious commitment to a common scheme” and whether acquiescence has been sought and received.¹⁵⁶ And in searching for agreements in practice, courts have emphasized the importance of a varied list of “plus factors,” including the existence of a common motive to conspire, conduct that would be irrational absent a common understanding, extensive communications, and so on.¹⁵⁷

These tests are, at least, not easier to apply in the presence of algorithmic pricing. To illustrate, let’s take some hypotheticals. Assume that Business A is a leading competitor in a highly concentrated market, and Businesses B and C are its only significant rivals. Is there an agreement between Businesses A, B, and C in the following cases?

1. Business A instructs an algorithm to track the prices of Businesses B and C, and to set a price that is the average of their prices.
2. Business A instructs an algorithm to increase price by one cent at 9:00am every morning, to check to see whether B or C matches that price increase, and to keep the increase if they both do so before 10:00am, and to reverse the price increase if they do not.
3. Business A instructs an algorithm to increase price by 10% at 9:00am every morning, to check to see whether B or C matches that price increase, and to keep the increase if they both do so before 10:00am, and to reverse the price increase if they do not.
4. An executive at Business A calls her counterparts at Businesses B and C and proposes that they each commit to use the algorithm described in point number 3 above. This, she says to her counterparts, will ensure that each business is setting price unilaterally, while also helping to protect profits.
5. An executive at Business A instructs an algorithm as described in point number 3 above, and announces that fact publicly. She hopes that Businesses B and C will notice and do the same thing, but she does not express that hope publicly.
6. Business D advertises “price consultation services.” It does so by proposing prices to its clients that reflect the application of the algorithm described at point number 3 above. Business A buys these services from Business D, and sets its own prices accordingly. Businesses B and C learn about this, and immediately sign up with Business D to do the same.

There are plenty of reasonable views about the right treatment of algorithms in antitrust. In the following excerpt, FTC Acting Chair Maureen Ohlhausen offers one such perspective to guide analysts and courts. “If it isn’t ok for a guy named Bob to do it,” she argues, “then it probably isn’t ok for an algorithm to do it either.” Do you agree?

**Maureen K. Ohlhausen, Should We Fear the Things That Go Beep in the Night?
Some Initial Thoughts on the Intersection of Antitrust Law and Algorithmic
Pricing**

Remarks of May 23, 2017

[1] There are at least two key advantages to using computer algorithms to make certain kinds of decisions: speed and complexity. Computers can examine hundreds or even thousands of different variables in a fraction of a second, and react almost instantaneously to changes in any one of those variables. Certain algorithms can gain accuracy over time, by identifying patterns in data and adjusting to the patterns they identify.

¹⁵⁶ See *supra* § IV.B.2.

¹⁵⁷ See *supra* § IV.B.2; see also Christopher R. Leslie, *The Probative Synergy of Plus Factors in Price-Fixing Litigation*, 115 Nw. U. L. Rev. 1581 (2021); William E. Kovacic, Robert C. Marshall, Leslie M. Marx & Halbert L. White, *Plus Factors and Agreement in Antitrust Law*, 110 Mich. L. Rev. 393 (2011).

[2] Perhaps unsurprisingly, once people realized computers could be programmed to make decisions more quickly and accurately than humans in some narrow, clearly defined areas, they tried to gain a trading advantage using these new tools. Algorithmic trading is a ubiquitous phenomenon across the financial markets today.

[3] Eventually, people figured out that the useful applications for this kind of high-speed, rules-based approach to financial decision-making were not limited to trading stocks or bonds. As algorithms spread out from the financial markets and started to be used in the on-line pricing of consumer goods, voices have been raised in alarm. The inner workings of these tools are poorly understood by virtually everyone outside the narrow circle of technical experts that directly work in the field. But they raise a number of questions. Are there opportunities for mischief in the black box nature of all this? Will the use of pricing algorithms allow firms to collude or increase prices in ways that will ultimately go undetected by the enforcement agencies? Does antitrust doctrine need to change in important ways to reflect the greater use of automated decision-making across markets?

[4] I'd like to suggest tonight that although antitrust enforcers should always remain vigilant for new forms of anticompetitive behavior, some of the concerns about algorithms are a bit alarmist. From an antitrust perspective, the expanding use of algorithms raises familiar issues that are well within the existing canon. An algorithm is a tool, and like any other tool, it can be put to either useful purposes or nefarious ends. There is nothing inherently wrong with using mathematics and computers to engage more effectively in commercial activity, regardless of whether that activity is participation in the financial markets or the selling of goods and services.

[5] I will start with the easiest question, the use of a complex algorithm by a single firm to observe and respond to various market conditions and set prices nearly instantaneously in response to changes in the market.

[6] [Consider two gas stations engaged in tacit collusion.] If the market participants cannot see their competitors' posted prices easily with their naked eyes, they might decide to buy a pair of binoculars to read their competitors' signs better from the comfort of their offices. The binoculars make it easier for the market participants to understand market conditions more quickly and respond accordingly. It is certainly true that the binoculars increase transparency in the market and thereby make it easier for informal, tacit coordination to take place. But we don't use the antitrust laws to police firms' abilities to understand the markets they operate in or to optimize prices.

[7] We may recognize that the binoculars make it easier to understand the behavior of competitors and that fact, in turn, becomes part of the calculus in evaluating future mergers in this space. But we don't ban the use of binoculars just because they can be used to assist in conscious parallelism. Unilateral efforts to understand market conditions better and respond to them are a critical part of a well-functioning economy. This is just not a place where antitrust needs to impose new rules in response to new tools. [. . .]

[8] At least facially, things get a bit more interesting when multiple firms competing with each other employ algorithms to determine prices. In theory, these systems can allow competitors to communicate with each other in ways that may be difficult for enforcers to detect.

[9] In this scenario, the algorithms are programmed to produce some sort of signal to the market, a signal that only the other market participants, similarly armed with algorithms of their own, will be able to detect. Through those signals, competitors reach an agreement on prices or output levels. The executives are still communicating with each other, but now they are using algorithms essentially to fly under the radar, so their unlawful agreements can escape detection by the enforcement agencies.

[10] Although this might sound pretty exotic and scary at first, it is actually pretty familiar ground for antitrust law. Way back in 1993, a group of airlines got in a lot of trouble with the U.S. Department of Justice for using the common, on-line reservation system to signal each other on airline fares.⁴ Both the enforcers and the court had little trouble understanding the legal implications of the airlines' conduct. This is because the type of technology used to communicate with competitors is wholly irrelevant to the legal analysis. Whether it is phone calls, text

⁴ United States v. Airline Tariff Publishing Co., 836 F. Supp. 9 (D.D.C. 1993).

messages, algorithms or Morse code, the underlying legal rule is the same—agreements to set prices among competitors are always unlawful.

[11] But wait a minute, won't it be extremely hard to detect the use of algorithms to fix prices? Won't the technology make it impossible for enforcers to easily detect unlawful price-fixing agreements?

[12] Unfortunately, this is really not a new problem either. It is often difficult to detect a determined group of people who are both aware of the illegality of their conduct and actively trying to conceal it. This is one of the many reasons why cartel behavior is punished criminally in this country. Communicating through algorithms is just one of a myriad of different ways that conspirators could conceal their illegal behavior.

[13] Recognizing the difficulty in detecting cartels, the leniency program at the Department of Justice explicitly doesn't depend on external detection of any kind. Instead, it works to turn the members of a cartel on each other, by incentivizing early cooperation with the agency, coupled with stiff penalties for the conspirators who don't come forward early. Since 1997, the Department of Justice has imposed fines for criminal price fixing of approximately \$11 billion, and the average criminal sentence for an executive accused of price fixing in recent years is 22 months. I'd say that suggests a program that is already working pretty well and likely to continue to function well when faced with any nefarious use of algorithms.

[14] What if algorithms are not used in such a clearly illegal way, but instead effectively become a clearing house for confidential pricing information? Imagine a group of competitors sub-contracting their pricing decisions to a common, outside agent that provides algorithmic pricing services. Each firm communicates its pricing strategy to the vendor, and the vendor then programs its algorithm to reflect the firm's pricing strategy. But because the same outside vendor now has confidential price strategy information from multiple competitors, it can program its algorithm to maximize industry-wide pricing. In effect, the firms themselves don't directly share their pricing strategies, but that information still ends up in common hands, and that shared information is then used to maximize market-wide prices.

[15] Again, this is fairly familiar territory for antitrust lawyers, and we even have an old-fashioned term for it, the hub-and-spoke conspiracy. Just as the antitrust laws do not allow competitors to exchange competitively sensitive information directly in an effort to stabilize or control industry pricing, they also prohibit using an intermediary to facilitate the exchange of confidential business information.

[16] Let's just change the terms of the hypothetical slightly to understand why. Everywhere the word "algorithm" appears, please just insert the words "a guy named Bob". Is it ok for a guy named Bob to collect confidential price strategy information from all the participants in a market, and then tell everybody how they should price? If it isn't ok for a guy named Bob to do it, then it probably isn't ok for an algorithm to do it either.

[17] It is certainly true that as markets move online, they can become much more transparent. . . . [T]ransparency can be either a good thing or a bad thing for consumers, depending on the broader market dynamics. But there is nothing inherently suspect about using computer algorithms to look carefully at the world around you before participating in markets.

[18] So, from my perspective, if conduct was unlawful before, using an algorithm to effectuate it will not magically transform it into lawful behavior. Likewise, using algorithms in ways that do not offend traditional antitrust norms is unlikely to create novel liability scenarios.

[19] The enforcement agencies should remain vigilant here, in the same way they need to remain vigilant about all new market dynamics. But I'm not yet afraid of the things that go beep in the night. . . .

* * *

Concerns about algorithmic collusion are starting to appear in litigation. In 2023, renters of multifamily units and renters of student accommodation alleged that a software company, RealPage, had used its "revenue management software" product to facilitate a conspiracy that included not only RealPage but also the landlords from which the plaintiffs had rented accommodation. The defendants moved to dismiss the complaint. The following extract focuses on the court's analysis of whether the multifamily lessee plaintiffs ("Multifamily Plaintiffs") had adequately

alleged an agreement. Assuming the truth of the allegations described in the extract, and in light of antitrust’s definition of an agreement (look back at Chapter IV for a reminder!), do you agree that a conspiracy was adequately alleged here? Since this decision was issued, government litigation has been filed against RealPage and subsequently settled.¹⁵⁸

In re RealPage, Inc., Rental Software Antitrust Litigation (No. II)

709 F. Supp. 3d 478 (M.D. Tenn. 2023)

Judge Crenshaw.

[1] [Plaintiffs’] allegations suggest that . . . multifamily rental housing markets throughout the United States have been tainted by an illegal price-fixing conspiracy. The conspiracy is facilitated by revenue management software that takes property owners’ and managers’ sensitive pricing and supply data, applies its algorithm across this data, and then spits out price recommendations for each rental unit. By co-mingling their sensitive pricing and supply data within this revenue management software, horizontal competitors conspire to fix prices in their respective rental housing markets.

[2] RealPage . . . is a software company that developed an integrated technology platform that provides software solutions for the multifamily and student housing markets. Only one of these types of software solutions is relevant to this case—RealPage’s revenue management software [“RMS”]. . . .

[3] RealPage solicits clients to use its Revenue Management Solutions by promising that they will “outperform the market” with software that uses a database of rental prices in each client’s area (including competitors’ prices) and provides the optimal price to charge prospective tenants, with both short- and long-term goals of increasing revenues by raising rents. To achieve this promised revenue outperformance, RealPage’s clients must allow RealPage to use their commercially sensitive pricing and supply data in its RMS algorithms, both to set each client’s own rent prices and to help set rent prices of its horizontal competitors. These clients must also be willing to outsource their daily pricing and ongoing revenue oversight to RealPage by accepting RealPage’s price recommendations upwards of 80–90% of the time and allowing RealPage to set prices for their properties as though RealPage owns them itself. RealPage’s RMS clients either accept oversight of their pricing activities by a RealPage pricing advisor or allow RealPage to train their internal revenue managers who perform similar oversight.

[4] Plaintiffs allege that RealPage and [its clients, including the “RMS Client Defendants,”] have formed an illegal price-fixing cartel by jointly using RealPage’s RMS software. As the cartel leader or the “hub” of the conspiracy, RealPage serves as an intermediary between horizontal competitors in the multifamily and student housing markets. It takes its clients’ commercially sensitive pricing and supply data, runs its RMS algorithm against that collective data pool, and then spits out rental pricing recommendations for each of its clients’ properties. RMS Client Defendants agree to set prices based on a pool of their horizontal competitors’ proprietary data and reasonably believe that their competitors are using the same data and methods to price their properties. [. . .]

[5] In addition to paying RealPage’s fees, RMS Client Defendants also provide RealPage their independent commercially sensitive pricing and supply data and allow RealPage to use this data to set prices for not only their own properties, but also the properties of their horizontal competitors who use RMS. RealPage then applies its RMS algorithm to this data pool of client information to determine the daily optimal rent prices for each of RealPage’s clients, which is then available for each RealPage client to apply to multifamily and student apartment units in each of the markets where those clients are located. By using RMS, RMS Client Defendants are able to price their units according to their collective goal of securing revenue lifts by increasing rents without regard for the typical market forces that drive supply and demand in a competitive environment. They do this by collectively agreeing to price their rental units in accordance with RealPage’s RMS pricing recommendations. RMS Client Defendants with multifamily properties also artificially control the supply of rental units by allowing a larger share

¹⁵⁸ See U.S. Dept. of Justice, Press Release, Justice Department Requires RealPage to End the Sharing of Competitively Sensitive Information and Alignment of Pricing Among Competitors (Nov. 24, 2025).

of their units to remain vacant, and staggering lease renewals to minimize naturally occurring periods of oversupply. [. . .]

[6] To [ensure that its clients actually set the prices that are recommended], RealPage has created a robust multi-layered monitoring system. RealPage’s clients are assigned pricing advisors or revenue managers, employed by RealPage, who closely monitor clients’ conformance with RealPage’s pricing recommendations, including through reviewing client pricing recommendations daily and issuing weekly reports. Some clients use their own in-house pricing advisors, but these individuals are trained by RealPage. When a client deviates from a pricing recommendation, pricing advisors challenge that deviation and impart the notion that a client’s explanation for a deviation has to provide acceptable reasons pertaining to property management operations to override a pricing recommendation. To ensure clients remain in the 80 to 85% acceptance rate target that RealPage seeks, Pricing Advisors often spend considerable time educating clients on the pricing methodology and associated benefits of accepting all, or almost all RealPage pricing recommendations, despite increasing vacancy rates. One former RealPage Pricing Advisor reported that RealPage recommended RMS clients accept RealPage’s pricing recommendations 100% of the time, other than in limited circumstances. [. . .]

[7] RealPage also conducts quarterly Performance to Market meetings with some client executives, designed to identify how compliant the client was with RealPage’s pricing recommendations during the prior quarter, and quantify any purported revenue loss that RealPage attributed to the client’s deviations from its pricing recommendations. In late 2019, RealPage improved upon its price-monitoring arsenal by tracking not only a client’s acceptance rate, but also the identity of the personnel within a client’s business that issued a price deviation request. When the obstinate employee is identified, RealPage aims to [rein] in that employee. . . .

[8] RMS Client Defendants acknowledge their strict alignment with the RMS pricing recommendations. Camden Property Trust “confirmed that once RealPage is engaged, there is not much to do beyond checking the software to ensure that it is continuing to push prices higher.” . . .

[9] This collective behavior, driven by RealPage’s pricing recommendations and monitoring procedures, has, according to Multifamily Plaintiffs, resulted in parallel pricing that cannot be explained by typical economic factors among RMS Client Defendants. Between March 2015 and March 2023, increased usage of RealPage’s RMS corresponded with increasing multifamily rents over the same period. [. . .]

[10] Defendants argue that Plaintiffs have not plausibly alleged any conspiracy between RMS Client Defendants. [. . .]

[11] Multifamily Plaintiffs allege that RMS Client Defendants used RealPage’s RMS to fix the prices of their rental properties above market and agreed to participate in the data co-operative and price their multifamily rental units according to RealPage’s RMS. They characterize this as a straightforward horizontal price-fixing agreement between competitors in the multifamily housing market, using RealPage as an intermediary to effectuate the conspiracy. Plaintiffs reject the characterization of the alleged agreement as a hub and spoke conspiracy because “RealPage is [not] in a true vertical relationship to these property defendants. They’re a facilitator. They’re not in the real estate business.”

[12] In contrast to Plaintiffs’ characterization, Defendants argue that Plaintiffs have alleged, at most, a hub and spoke conspiracy with no rim—i.e., a series of vertical agreements between RealPage and RMS Client Defendants, but no horizontal agreement between the competing . . . Defendants. [. . .]

[13] The Court agrees . . . that Plaintiffs have alleged vertical agreements between RealPage and each of RMS Client Defendants. RealPage is the developer of an integrated technology platform that provides software solutions for the multifamily rental housing markets. Its “software solutions” are products that RealPage provides to RMS Client Defendants, and RealPage also provides these Defendants ongoing services related to the pricing and price-monitoring of the multifamily rental properties. This is no different from a vertical relationship between a supplier of fish (fisherman) and a seller of fish (fish market). Therefore, the Court finds that Plaintiffs have alleged vertical relationships between RealPage and each of RMS Client Defendants. [. . .]

[14] [But the] heart and soul of [some of the] allegations is the alleged horizontal agreement between RMS Client Defendants to use RealPage to fix the prices of their multifamily rental properties above market rates. The [relevant plaintiffs] allege that this horizontal agreement had the following “overarching principles”:

(1) all members, who were otherwise horizontal competitors, would share the proprietary data necessary for RealPage’s RMS to generate rental price recommendations; (2) all members would delegate their rental price and supply decisions to a common decision maker, RealPage; and (3) knowing that cooperation was essential to the successful operation of the scheme, all members would abide by RealPage’s price and supply decisions generated by RMS.

Plaintiffs argue that they have alleged both direct and circumstantial evidence of this agreement, while Defendants argue that the allegations are too deficient to plausibly allege a horizontal conspiracy.

[15] Multifamily Plaintiffs argue that they have alleged direct evidence of a horizontal conspiracy through a statement made by an executive employee of one of Defendants, ECI Group, Inc. (“ECI”), which RealPage used in a case study posted to its website. In that case study, the ECI executive stated:

The design and functionality of RealPage’s [product] offers detailed insight into how actual competitors impact pricing strategies[.] With [it] we rarely make any overrides to the pricing recommendations[.] We are all technically competitors, [the product] helps us to work together to make us all more successful in our pricing[.] [It] is designed to work with a community in pricing strategies, not work separately.

... Plaintiffs argue that you can’t get any more direct than a competitor saying although we’re technically competitors, we work with our competitors on pricing strategy.

[16] The Court finds that the ECI executive’s statement is not, independently, direct evidence of a horizontal conspiracy. The statement requires the Court to infer that ECI and RealPage’s other LRO clients worked together as competitors to accomplish an unlawful purpose. [. . .]

[17] Multifamily Plaintiffs [also] allege circumstantial evidence, including allegations that RMS Client Defendants engaged in parallel conduct. The parallel conduct consists of a parallel change in pricing strategy once a critical level of RealPage RMS adoption had been reached around January 2016. The new pricing strategy prioritized raising rent prices even if doing so resulted in higher vacancy rates. Plaintiffs further allege that Defendants began raising their rent prices in parallel fashion upon adopting their new pricing strategies.

[18] Defendants argue that Plaintiffs’ allegations of parallel strategy and parallel pricing do not constitute uniform business conduct. They . . . [argue] that Plaintiffs must allege that Defendants all became clients of RealPage close-in-time to each other, used the same RMS software offered by RealPage, accepted RealPage’s price recommendations 100% of the time, and only received and accepted price increases from RealPage, to the exclusion of any price decreases. Because Plaintiffs have not alleged any of this parallel behavior, Defendants argue that Plaintiffs have not alleged any parallel conduct necessary to show circumstantial evidence of a horizontal conspiracy.

[19] . . . [C]ourts accept allegations of close-in-time agreements as evidence of a horizontal conspiracy, as Defendants argue Plaintiffs must do here. But temporal proximity of the parallel conduct is only one factor[.] . . . Parallel conduct can be any parallel behavior that would probably not result from chance, coincidence, independent responses to common stimuli, or mere interdependence unaided by an advance understanding among the parties. Courts accept allegations of parallel pricing and parallel changes in policies or strategies as evidence of parallel conduct. [. . .]

[20] Multifamily Plaintiffs allege that before the widespread adoption of RealPage’s RMS, competition in the multifamily rental housing market was driven by property owners’ and managers’ desire to keep “heads in beds”—in other words, maintain the highest possible occupancy levels and keep turnover among tenants to a minimum. By 2016, RealPage’s clients, including RMS Client Defendants, had adopted a different pricing strategy. This new strategy was to prioritize increasing prices regardless of apartment vacancies or market downturns. Previously, multifamily rental lessors, drawn by market forces, had prioritized increasing occupancy, which could require reducing rent prices from time to time to fill vacant rentals. This previous strategy is referred to as the “heads in

beds” strategy. The change in pricing strategy from “heads in beds” to “price over volume” is the meat of Plaintiffs’ parallel conduct allegations.

[21] Plaintiffs offer both statements from individual Defendants acknowledging this change in strategy and a regression analysis to support this strategy change. Examples of the statements include:

- In 2017, then-CEO of RealPage, Steve Winn, stated that one client, Morgan Communities, increased its profits by operating at a vacancy rate that would have made that property manager’s management uncomfortable before.” Specifically, after outsourcing rent prices and lease terms to RealPage, the company began targeting 3%-4% revenue growth while operating at a 95% occupancy rate (i.e., 5% vacancy rate).
- A senior vice president at Morgan Group, David Hannan, acknowledged in 2011: “My generation grew up worshipping the occupancy gods. We learned that if you were not 95 percent-plus occupied, the asset was failing. But that’s not necessarily true anymore . . . [RealPage] totally turns the industry upside down.” [. . .]

[22] Plaintiffs also offer regression analyses of four markets demonstrating that prior to 2016, rent prices were correlated with vacancy rates. Simply put, when vacancy rates increased, rent prices decreased, and vice versa. In contrast, the regression analyses show that after 2016, rent prices in these markets became far less correlated with vacancy rates. For instance, in Atlanta from 2011 to 2016 there was a negative relationship between effective rents and vacancy rates[,] showing that an increase in vacancy rates (supply) generally resulted in a decrease in rental price. During this 2011-2016 period, the regression analysis showed that 83% of rental price variations in the Atlanta Submarket can be explained by the operative vacancy rate. From 2016 to 2022, the previously strong relationship between vacancy rates and rental prices had been severed, with only 19.3% of rental price variations able to be explained by vacancy rates. The regression analyses tell similar stories in Orlando, Dallas, and Phoenix. . . . Plaintiffs argue that these regression analyses support their allegation that as of 2016, Defendants had adopted a seismic shift in pricing strategy from “heads in beds” to prioritizing rent increases over occupancy. [. . .]

[23] Multifamily Plaintiffs also allege parallel conduct in the form of parallel price increases in nine . . . alleged submarkets. To show these parallel price increases, Plaintiffs purchased Defendant-specific pricing data from an allegedly respected industry data source, CoStar. They allege that price graphs . . . depict perfectly coordinated price increases by [RMS Client] Defendants in each MSA [metropolitan statistical area] during and throughout the [alleged conspiracy period]. [. . .]

[24] Multifamily Plaintiffs allege several plus factors in addition to parallel conduct. The most important of these is the allegation that RMS Client Defendants’ price-raising during periods of high vacancy and/or market downturns is inconsistent with their individual economic self-interest. But, to be clear, there are additional plus factors, including Defendants’ exchange of competitively sensitive information, Defendants’ motive, opportunities, and invitations to collude, and characteristics of the multifamily housing market that make it more susceptible to price-fixing conspiracies. These market characteristics include that the market (i) is highly concentrated; (ii) has high barriers to entry for would-be competitors; (iii) has high switching costs for renters; (iv) has inelastic demand; and (v) offers a fungible product.

[25] Defendants separately attack each of Plaintiffs’ plus factors as deficient. Specifically, they contend Plaintiffs have not actually alleged that Defendants adopted price over volume strategies, instead alleging only that vacancy rates for some Lessors in some locations increased at some times. Next, they dispute that Plaintiffs have alleged no motive to conspire, as maximizing profits or optimizing rents based on supply and demand are simply individual motives to use RealPage’s RMS. Defendants also dismiss Plaintiffs’ contention that Defendants had opportunities to conspire through participation in trade associations. They further argue that Plaintiffs have not alleged that RMS Client Defendants shared their sensitive pricing and supply information with each other, and that any horizontal competitor data they did have access to was aggregated and anonymized. Finally, they believe that Plaintiffs’ allegations concerning the multifamily housing market structure do not imply collusion without more.

[26] At the outset, the Court notes that Defendants’ approach of separately evaluating and dissecting each plus factor is legally flawed. The Court must assess plus factors holistically. [. . .]

[27] Viewing all of the alleged circumstantial evidence holistically, including the parallel conduct discussed earlier, the Court finds that the . . . most persuasive evidence of horizontal agreement is the simple undisputed fact that each RMS Client Defendant provided RealPage its proprietary commercial data, knowing that RealPage would require the same from its horizontal competitors and use all of that data to recommend rental prices to its competitors. In doing so, RealPage would make true its vow to its RMS clients to “outperform the market,” primarily by increasing rent prices. It would clearly not be in any individual Defendant’s economic self-interest to contribute its data to RealPage without knowing that it would benefit from its horizontal competitors doing the same. Put another way, the contribution of sensitive pricing and supply data for use by RealPage to recommend prices for competitor units is in Defendants’ economic self-interest if and only if Defendants know they are receiving in return the benefit of their competitors’ data in pricing their own units. While Defendants may not have contracted with RealPage close-in-time to one another, their data contributions still constitute parallel behavior. These allegations are bolstered by other allegations:

- RealPage discloses to its RMS clients exactly whose non-public data is being used for pricing decisions. For each client . . . , RealPage maintains a “peer list” of that client’s competitors within a specific distance and whose transaction data will be used as an input in RealPage’s RMS for that client’s specific property. Peer lists explicitly state that the competitors listed will be used to determine the magnitude of a change in rent. In fact, clients . . . are able to review and comment on their peer list, and can even request that specific competitors are included on the list.
- Defendants paid RealPage substantial monthly fees of as much as \$1 to \$2 per unit for RealPage’s pricing recommendations, leading to the inference that Defendants’ intended to abide by those recommendations.
- Defendants used either RealPage-employed pricing advisors or RealPage-trained revenue managers to closely monitor their adherence to RealPage’s price recommendations. For those using pricing advisors, each pricing advisor oversaw multiple horizontal competitors.
- Defendants could determine who among their competitors were also RealPage clients because RealPage provided them with the property addresses using RealPage’s RMS.
- RealPage offered opportunities for horizontal competitors to engage directly with one another through webinars, screen-sharing training modules, frequent calls, in-person roundtables, hosted happy hours, and annual conferences. Competitors also interact with each other through trade associations.
- RealPage enforced adherence to its pricing recommendations through assigning pricing advisors to its clients, providing “lease compliance reports” listing the names of individual employees who overrode price recommendations, requiring employees to provide business justifications for price overrides, and offering some clients quarterly “performance to market” meetings designed to identify how compliant the client was with RealPage’s pricing recommendations during the prior quarter.
- The multifamily housing market is unique compared to other product markets because at any given time, the available inventory is much smaller than the total market inventory, and there are significant costs to moving that may make consumers more likely to renew their leases even if their rents are raised above market prices. This unique structure gives renters less power to choose alternative housing options than in a more traditional buyer/seller commodity structure.

[28] These allegations touch on multiple plus factors recognized by the Sixth Circuit, including the exchange of commercially sensitive information and the existence of a common motive to conspire. Taken together, they support a reasonable expectation that discovery will reveal evidence of an illegal agreement. Indeed, the allegations describe a conspiracy that a former Federal Trade Commission Chair, Maureen Ohlhausen, believes is unlawful under the antitrust laws:

Just as the antitrust laws do not allow competitors to exchange competitively sensitive information directly in an effort to stabilize or control industry pricing, they also prohibit using an intermediary to facilitate the exchange of confidential business information. Let’s just change the terms of the hypothetical slightly to understand why. Everywhere the word “algorithm” appears, please just insert the words “a guy named Bob.” Is it ok for a guy named Bob to collect

confidential price strategy information from all the participants in a market, and then tell everybody how they should price? If it isn't ok for a guy named Bob to do it, then it probably isn't ok for an algorithm to do it either.

[29] As Ohlhausen explained, whether Defendants shared their sensitive information with each other or through an intermediary, their knowledge that that information would be used to price each other's units is circumstantial evidence of a conspiracy. [. . .]

[30] . . . As [another court recently] acknowledged, a successful hub and spoke theory of Sherman Act liability based on the use of algorithmic pricing depends in part on the exchange of nonpublic information between competitors through the algorithm. That is what the Multifamily Plaintiffs have alleged here.

* * *

➔ Algorithms and pricing practices interact in a very different way in the FTC's ongoing lawsuit against Amazon. The following extract focuses on just two components of the alleged scheme, both involving tech-assisted price surveillance: first, an "anti-discounting" program with two sub-parts (first, monitoring to detect whether sellers are giving Amazon users the lowest price that they set anywhere online, and punishing them if they are not doing so, and, second, close price-following of online retail competitors); second, a so-called "Project Nessie" pricing algorithm that increases and decreases prices based on likely competitor reactions. The FTC alleged that the first practice violated Section 2, and that Project Nessie violated Section 5 of the FTC Act (which—as you may remember from Chapter XI—prohibits "unfair methods of competition," and in doing so reaches more broadly than Section 2 of the Sherman Act). In the following extract, the court refuses to dismiss either theory of liability. Why does the court conclude that Project Nessie might be illegal—and how does it differ from old-fashioned price following? Note that this decision is a denial of a motion to dismiss; at the time of writing (Summer 2026), the litigation continues.

FTC v. Amazon.com, Inc.

No. 2:23-CV-01495, 2024 WL 4448815 (W.D. Wash. Sept. 30, 2024)

Judge Chun.

[1] The Federal Trade Commission ("FTC") and [many states and territories] . . . sue Amazon.com, Inc. for allegedly violating Section 2 of the Sherman Act; [and] Section 5(a) of the Federal Trade Commission Act ("FTC Act")

[2] Amazon moves to dismiss the Amended Complaint. [. . .]

[3] In the Amended Complaint, Plaintiffs allege that Amazon possesses "monopoly power in two markets: (1) the online superstore market and (2) the market for online marketplace services. . . . They say, "Amazon deploys a series of anticompetitive practices that suppress price competition and push prices higher across much of the internet by creating an artificial price floor and penalizing sellers that offer lower prices off Amazon"—known as Amazon's "anti-discounting strategy." . . .

[4] Plaintiffs allege that, through its anti-discounting strategy, Amazon seeks to ensure that third-party retailers do not offer their products for lower prices elsewhere on the internet. They contend that Amazon executes its anti-discounting strategy through a variety of tactics. First, according to Plaintiffs, Amazon employs a "price-surveillance group" that monitors the internet for third-party Amazon Marketplace sellers who sell items on the Marketplace but offer the same items for lower prices at other online stores. They say that this price-surveillance group allows Amazon to identify such third-party Marketplace sellers who offer lower prices elsewhere and systematically punish sellers when Amazon detects a lower price on other online stores. And they say that Amazon

punishes the sellers by depriving them of access to the Amazon “Buy Box,”³ imposing detrimental contractual obligations, or even banishing the third-party seller from the Marketplace. [. . .]

[5] Plaintiffs also allege that, using the same “extensive surveillance network,” Amazon detects and deters discounting, artificially inflates prices on and off Amazon, and deprives rivals of the ability to gain scale by offering lower prices. They highlight that a former member of Amazon’s leadership team made comments that apparently show that the goal of this strategy is to deter rivals from discounting. Dkt. # 149 at 12 (citing Dkt. # 171 at 103) (former CEO of Amazon’s Worldwide Consumer business, Jeff Wilke, explained, the “anti-discounting algorithm enables Amazon to avoid a ‘perfectly competitive market’ in which rivals continually lower their prices, benefitting shoppers but competing away profits.” He added that “Amazon uses a ‘game theory approach’ where Amazon will ‘never move first’ when it comes to lowering prices. If Amazon detects a price change in either direction by a monitored online store or marketplace seller, Amazon will copy that change in price to the penny. The net effect, Mr. Wilke predicted, is that ‘prices will go up.’”).

[6] [And] Plaintiffs point to Amazon’s “Project Nessie” algorithm, allegedly designed to raise prices on and off Amazon by predicting the likelihood that the online store or stores offering the lowest price for a given product would follow an Amazon price increase. Plaintiffs allege that, with this information, Amazon increased its products’ prices when those price hikes were most likely to be followed and after successfully inducing the other online store to raise its price, Amazon continued to sell the product at the now-inflated price. Amazon began using this program in 2014 and has allegedly turned Project Nessie on and off at least eight times between 2015 and 2019 during periods of increased media focus and customer traffic. Further, Plaintiffs assert that Amazon paused Project Nessie in 2019 only when regulatory scrutiny, including the [FTC’s] initiation of the investigation that led to this Complaint, caused Amazon to superficially change or conceal many of its practices. Plaintiffs say that, although Project Nessie is currently paused, there are no technical barriers to Amazon resurrecting—or even expanding—its use of Project Nessie and, in fact, in January 2022, the CEO of Worldwide Amazon Stores, Doug Herrington, asked about turning on “our old friend Project Nessie . . .” to juice profits for Amazon’s Retail arm. [. . .]

[*]

[7] Plaintiffs adequately allege that Amazon’s anti-discounting practices stifle price competition. Specifically, they aver that Amazon’s actions that prevent third-party sellers from offering discounts on other sites are anticompetitive because they foreclose price competition from those sellers elsewhere. Plaintiffs assert that Amazon tells sellers that they will be punished if Amazon detects a lower price on any other online store. These penalties include, for example, taking away a seller’s access to Amazon’s Buy Box when Amazon finds a lower price on another online store for an item being sold by a seller on Amazon, or demoting them in search results. Plaintiffs say,

Amazon’s penalties effectively deter sellers from offering prices elsewhere that are lower than their prices on Amazon, even where their costs are lower through other online sales channels. That in turn limits the ability of other online superstores to offer prices lower than those on Amazon, hindering the growth of would-be rivals and denying them the scale necessary to compete.

The effect of these practices, Plaintiffs allege, is that the price on Amazon’s marketplace, which often includes Amazon’s bloated fees, effectively becomes the price floor market-wide.

[8] Plaintiffs also allege that, when Amazon acts as the seller [*i.e.*, sells products that it also manufactures], it uses its extensive surveillance network to block price competition by detecting and deterring discounting, artificially inflating prices on and off Amazon, and depriving rivals of the ability to gain scale by offering lower prices. Plaintiffs allege that,

³ The “Buy Box” is the display from which a shopper can “Add to Cart” or “Buy Now” an Amazon-selected offer for a product. Nearly 98% of Amazon sales are made through the Buy Box and, as Amazon internally recognizes, eliminating a seller from the Buy Box causes that seller’s sales to “tank.”

Amazon disciplines rivals by immediately copying—but never undercutting—prices. If and when the lowest price by a monitored online store or marketplace seller increases (or the product goes out of stock), Amazon automatically increases its Retail price to copy the new lowest price, whether that is a higher price offered by the same online store or marketplace seller it had been copying or a price offered on a different website. If Amazon detects a “lowest price” drop, Amazon automatically copies that move. And if the “lowest price” increases, Amazon automatically copies again without even considering whether it could earn more business by continuing to offer shoppers the lower price.

[9] . . . Plaintiffs also point to this statement by a former Amazon executive: “Amazon designed this system to deliberately avoid a ‘perfectly competitive market’ in which stores undercut each other to win customers.” . . .

[10] Taking Plaintiffs’ well-pleaded facts as true, and drawing all reasonable inferences in their favor, the Court concludes that the Amended Complaint adequately alleges that the challenged discounting practices are anticompetitive for purposes of their Section 2 Sherman Act claim. [. . .]

[11] As to the [other “anti-discounting” practices] . . . Amazon asserts,

. . . [B]y not featuring offers when it knows a competitor is offering a better price in another store, Amazon both builds trust with consumers and facilitates the comparison-shopping that the Complaint itself acknowledges is necessary for retailers to compete.

Amazon says [that its] policies are procompetitive practices aimed at encouraging third-party sellers, who are responsible for setting their own prices in Amazon’s store, to offer low prices.

[12] . . . Plaintiffs argue that, through its anti-discounting strategy, Amazon hides the best deals from customers when a seller offers the “best deal” for a product on Amazon but offers the same product for a lower price on another website. They contend that Amazon’s threats to “bury discounting sellers in its search results or conceal those sellers’ prices, even if a seller’s price is the best deal available on Amazon,” are anticompetitive. Plaintiffs say that . . . by actively deterring sellers from offering a lower price on another site, Amazon does not actually steer customers to good deals.

[13] The Court agrees with Plaintiffs. . . . Plaintiffs have not merely alleged that Amazon favors certain sellers over others. They have alleged that Amazon actively deters third-party sellers from offering lower prices for their products on sites other than Amazon’s. This suffices to state a claim under Section 2 of the Sherman Act, which requires a plaintiff to show that a defendant possessing monopoly power engaged in anticompetitive conduct with an intent to control prices or exclude competition in the relevant market. [. . .]

[14] Plaintiffs bring [Count] IV under Section 5 of the FTC Act [*i.e.*, and not under Section 2 of the Sherman Act]. . . . Count IV alleges that Amazon’s “Project Nessie” constitutes an unfair method of competition.

[15] Amazon asserts that settled precedent does not support a theory of liability based upon other firms’ uncoordinated conduct in response to Amazon’s unilateral setting of its own prices through Project Nessie, and thus the Complaint did not state a claim for “unfair methods of competition” under Section 5. Plaintiffs disagree, saying that the prohibition of unfair methods of competition in Section 5 of the FTC Act reaches beyond the prohibitions in the Sherman Act.

[16] The standard of “unfairness” under the FTC Act is, by necessity, an elusive one, encompassing not only practices that violate the . . . antitrust laws, but also practices that the Commission determines are against public policy for other reasons. Section 5 encompasses incipient violations of the Sherman Act, and conduct which, although not a violation of the letter of the antitrust laws, is close to a violation or is contrary to their spirit.

[17] Amazon says that parallel pricing, ubiquitous throughout the economy, is lawful in the absence of an anticompetitive agreement, which the Complaint nowhere alleges. Both sides rely on *E.I. du Pont de Nemours & Co. v. FTC*, 729 F.2d 128 (2d Cir. 1984) (“*Ethyl*”). In *Ethyl*, the Second Circuit laid out the standard for determining whether parallel pricing without conclusion {*Eds.: surely a typo for “collusion.”*} is unfair under Section 5. It explained that the mere existence of an oligopolistic market structure in which a small group of manufacturers

engage in consciously parallel pricing of an identical product does not violate the antitrust laws. But the court also explained that,

in our view, before business conduct in an oligopolistic industry may be labelled “unfair” within the meaning of § 5 a minimum standard demands that, absent a tacit agreement, at least some indicia of oppressiveness must exist such as (1) evidence of anticompetitive intent or purpose on the part of the producer charged, or (2) the absence of an independent legitimate business reason for its conduct . . . business practices are not “unfair” in violation of § 5 unless those practices either have an anticompetitive purpose or cannot be supported by an independent legitimate reason.

Thus, to state a claim for an “unfair method of competition” under Section 5, Plaintiffs must allege “evidence of anticompetitive intent or purpose” in Amazon’s execution of Project Nessie.

[18] Plaintiffs allege that when Amazon began testing Project Nessie, “these early experiments showed that ‘in many cases competitors match us at the higher price.’” Plaintiffs also allege Amazon realized that it could increase its prices while reducing the risk of shoppers finding a lower price off Amazon if Amazon focused its price increases on products sold by competitors that were matching Amazon’s prices. Armed with the knowledge that others would likely follow its price hikes, Amazon could charge shoppers higher prices while minimizing the chance that shoppers would catch on.

[19] Taking Plaintiffs’ factual allegations as true and construing them in the light most favorable to Plaintiffs, the Court determines that these allegations suffice to allege anticompetitive intent and purpose.

NOTES

- 1) What do you make of then-Acting-Chair Ohlhausen’s proposal to use the “guy called Bob” test to appraise the legality of algorithmic conduct? Where and in what ways do you think that approach is most, and least, persuasive?
- 2) Some writers, like Jon Baker, have examined the “political bargain” that underpins the antitrust laws (*i.e.*, the underlying set of political interests and demands for certain kinds of antitrust policy).¹⁵⁹ Suppose that the advent of algorithmic pricing means that tacit collusion will become much more common and much more effective, so prices will likely rise economy-wide. How do you think this will change the political acceptability of existing antitrust doctrine, and what specific changes to the law do you think could result?
- 3) What do you make of this statement? “Algorithmic collusion—whatever we might mean by that—might be a serious risk in settings where each firm charges a single nondiscriminatory price. But the advent of personalized pricing will be a helpful antidote to that concern. That’s because it will make it practically impossible for firms to monitor and enforce implicit terms of coordination, and will instead lead to aggressive competition for the business of each individual consumer. So if you’re worried about algorithmic coordination, you should welcome algorithmic discrimination!”
- 4) Look back at the *RealPage* decision. How much weight is the court putting on the fact of pure parallelism to infer an agreement among competing landlords? What is the court relying on beyond parallel conduct?
- 5) How, if at all, would the *RealPage* analysis be different if the pricing recommendations were coming from a guy called Bob rather than the RMS algorithm?
- 6) Suppose that, as the FTC alleged in the *Amazon* litigation, Amazon was specially promoting businesses that set their lowest available prices to Amazon users. Would the practice necessarily increase prices?
- 7) Why was Amazon’s Project Nessie capable of violating Section 5 of the FTC Act? Does the *Amazon* opinion imply that the same behavior would be unlawful if the prices were set without algorithmic help: perhaps by a team of human “Bobs”? Does the decision therefore imply that most or all tacit collusion violates Section 5?

2. Personalized Pricing

The massive collection of personalized data regarding the behavior and preferences of individual consumers raises an intriguing possibility: online retailers might be able to charge a different, “personalized,” price to each user. In

¹⁵⁹ Jonathan B. Baker, *Preserving a Political Bargain: The Political Economy of the Non-Interventionist Challenge to Monopolization Enforcement*, 76 Antitrust L.J. 605 (2010).

the most plausible version, a retailer would charge higher prices to inframarginal customers (*i.e.*, those least likely to switch away in response to a price increase) and lower prices to marginal customers (*i.e.*, those most likely to switch away in response to a price increase). And the collection of user-specific data would help the retailer figure out which users belong in each category.

We have already seen (back in Chapter II) why a business might want to do this. Price discrimination allows a seller with some market power to make more sales and extract more profit, compared to charging the profit-maximizing non-discriminatory price.¹⁶⁰ And we have also seen that the social consequences are ambiguous. As price discrimination becomes more complete, deadweight loss is reduced, so customers who value the product or service at more than its cost of production are able to purchase it. But as the price discrimination becomes more perfect, more of the surplus is extracted by the producer. Under perfect price discrimination by a monopolist, each customer pays exactly as much as they are willing to pay for the product or service. But different settings imply different outcomes.¹⁶¹ Notably, given *competing* price discriminators, the rivals might bid each other all the way down to the marginal cost of serving that particular customer.

We have also already seen that price discrimination, in various forms, is common across the economy. When businesses make offers in negotiation that reflect their assessment of the deal's value to the counterparty; when businesses shift margin from one product to another (*e.g.*, from printers to ink) in order to extract more profit from inelastic users; when businesses offer discounted tickets for specific classes of consumers like seniors or students—in these and many other cases, they are engaged in price discrimination. This kind of thing happens all the time in brick-and-mortar settings.

Despite plenty of speculation, it is not clear how much price personalization is actually going on online.¹⁶² Certainly it does occur to some extent: for example, through discounts and coupons that are targeted to individual consumers in light of their online behavior. And there have been some reports of digital retailers charging different prices to different consumers.¹⁶³ But many commentators agree that it is likely to become more common in future, as technology improves and as consumer expectations change.¹⁶⁴ Some states are moving ahead with legislation designed to ban at least some personalized pricing.¹⁶⁵

Courts do not treat price discrimination, without more, as a violation of the Sherman Act. As unilateral conduct, it can in principle be analyzed through the lens of the monopolization offense in Section 2, but no court has suggested that it is exclusionary, or otherwise unlawful, to charge a price that reflects a judgment about the customer's willingness to pay. On the contrary, courts and some commenters suggest that charging an unconditional above-cost price exemplifies the kind of thing that monopolization law does not and should not punish or prohibit.¹⁶⁶ The Robinson-Patman Act, by contrast, is centrally concerned with price discrimination.¹⁶⁷ But its application to digital discrimination is minimal as it generally does not apply to discrimination in prices charged to end-consumers, and as it is limited to sales of “commodities”: a term that does not appear to cover digital products or services.¹⁶⁸

¹⁶⁰ See *supra* § II.K. See generally, *e.g.*, Lars A. Stole, *Price Discrimination and Competition*, in M. Armstrong & R. Porter (eds.), 3 HANDBOOK OF INDUSTRIAL ORGANIZATION (2007) Ch. 34.

¹⁶¹ See, *e.g.*, James C. Cooper, Luke Froeb, Daniel P. O'Brien & Steven Tschantz, *Does Price Discrimination Intensify Competition? Implications for Antitrust*, 72 Antitrust L.J. 327 (2005) (considering effects of discriminatory price reductions in spatial models).

¹⁶² See, *e.g.*, Ben Unglesbee, *Why Dynamic and Personalized Pricing Strategies Haven't Taken Over Retail — Yet*, RETAILDIVE (July 22, 2019).

¹⁶³ See, *e.g.*, Rafi Mohammed, *How Retailers Use Personalized Prices to Test What You're Willing to Pay*, Harvard Business Review—Pricing Strategy (Oct. 20, 2017) (noting example from online travel agent); Kimia Heidary, *Personalised Pricing Is Happening: Here's What You Need to Know*, LEIDEN LAW BLOG (July 29, 2022) (noting example from European e-commerce platform).

¹⁶⁴ See, *e.g.*, Brian Wallheimer, *Are You Ready for Personalized Pricing?* CHICAGO BOOTH REV. (Feb. 26, 2018); Daniel A. Crane, *Antitrust After the Coming Wave*, 99 N.Y.U. L. Rev. 1187 (2024).

¹⁶⁵ See, *e.g.*, Tim Balk, *N.Y. Law Could Set Stage for A.I. Regulation's Next "Big Battleground"*, N.Y. TIMES (Nov. 29, 2025).

¹⁶⁶ See, *e.g.*, Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 223 (1993); Daniel Francis, *Making Sense of Monopolization*, 84 Antitrust L.J. 779, 813 (2022); Mark S. Popofsky, *Defining Exclusionary Conduct: Section 2, the Rule of Reason, and the Unifying Principle Underlying Antitrust Rules*, 73 Antitrust L.J. 435, 465 (2006).

¹⁶⁷ See *supra* Chapter XIII.

¹⁶⁸ See 15 U.S.C. § 13; but see, *e.g.*, Mark Klock, *Unconscionability and Price Discrimination*, 69 Tenn. L. Rev. 317, 358–60 (2002) (considering room for expansion in software cases).

Nevertheless, the possibility that price discrimination might become ubiquitous online might challenge some of our intuitions about the kind of antitrust system we might want: including, for example, by making the consequences of monopoly more burdensome for consumers and users. This might inform the case for legislative reform, or for new interpretations of the laws we have.

The following extracts present sharply different perspectives on the antitrust analysis of personalized pricing. The first, an academic article, makes a provocative argument that personalization of prices should itself be an antitrust violation in some cases, even though courts have not recognized it as such. The second, a policy paper submitted by the United States enforcers to the OECD, summarizes the traditional view that personalization as such is not an antitrust concern. What do you think?

Ramsi A. Woodcock, Personalized Pricing as Monopolization

51 Conn. L. Rev. 415 (2019)

[1] In order for a firm to engage in monopolization in violation of Section 2 of the Sherman Act, the firm must (1) engage in anticompetitive conduct, meaning behavior that both harms consumers and causes the market to deviate from the perfectly competitive ideal, and (2) have monopoly power, meaning that the firm must have the power profitably to raise its prices above some measure of its costs. A firm that engages in personalized pricing will usually meet both criteria.

[2] Personalized pricing satisfies the consumer harm requirement, because the charging of a price equal to the maximum that a consumer is willing to pay ensures that the consumer derives a vanishingly small benefit from the transaction. . . . When the price equals the maximum that the consumer is willing to pay, the consumer is technically indifferent between buying and not buying at all, because the price just equals the value the consumer places on the product. Firms set prices slightly below maximum willingness to pay in order to be sure that consumers will buy. But the infinitesimal gain to consumers from being induced to buy might as well be zero. Personalizing prices has the extraordinary characteristic of charging consumers prices so high that consumers are rendered no better off—more or less—than if they had made no purchases at all. [. . .]

[3] [The] underlying anticompetitive practice [for the purpose of monopolization analysis] is the prevention of arbitrage. In order for personalized pricing to work, the firm must be able to prevent low-willingness-to-pay consumers, to whom the firm charges low prices, from making profits by reselling the units they buy from the firm at low prices to consumers who are willing to pay high prices and who would otherwise buy at high personalized prices directly from the firm. By charging these “high-price consumers” only very slightly less than the high prices that the firm would personalize to them, the “low-price consumers” engaged in resale can induce high-price consumers to buy resold units, rather than units sold directly by the firm, while still earning a profit. If the firm fails to prevent this “arbitrage” of its personalized prices, then high-price consumers will not buy from the firm, but instead from low-price consumers acting as resellers. All consumer demand will be satisfied through sales of the firm’s product to low-price consumers, part of which product will be consumed by low-price consumers and part resold to high-price consumers. The firm will therefore effectively find itself selling its entire inventory at the lowest price the firm personalizes to consumers, and will therefore give up on personalized pricing and revert to uniform pricing, which will allow the firm to choose a higher uniform price at which to sell its product. . . . The only way for the firm to prevent arbitrage is to sell at the low price to low-price consumers only in an amount equal to the low-price consumers’ personal needs and to refuse to sell any additional units that low-price consumers might use for resale. This refusal of the firm to permit low-price consumers to buy for the purpose of resale is the anticompetitive conduct that brings personalized pricing within the ambit of the antitrust laws. [. . .]

[4] [But] personalized pricing might persist despite the absence of restraints on, and concomitant financial viability of, arbitrage [because] even when resale is unrestrained and financially viable, there is no guarantee that resellers will in fact fully exploit the opportunity to resell, and therefore no guarantee that personalized pricing will disappear. . . . It follows that, at least in some markets, personalized pricing will persist despite antitrust condemnation of arbitrage prevention, and consumers will therefore continue to be harmed. If antitrust wishes fully to protect consumers from personalized pricing, and antitrust’s consumer protection mission suggests that antitrust should wish to do that, then antitrust should go beyond treating arbitrage prevention as an antitrust

violation to treat the act of personalizing prices itself as a violation of the antitrust laws. Without directly condemning the act of personalizing prices, antitrust cannot hope fully to stamp out that act.

[5] The courts should treat the act of personalizing prices as a free-standing violation of Section 2 of the Sherman Act, tied perhaps to the general language of Section 2, which prohibits “monopoliz[ation]” without defining the term. The courts cannot take the alternative approach of tying the prohibition to the monopolization rules discussed in this article—the requirements of anticompetitive conduct and monopoly power that have been developed by the courts as interpretations of the language of Section 2—because of the difficulty associated with treating the act of personalizing prices itself as anticompetitive conduct. Unlike the act of limiting arbitrage, the act of personalizing prices does not itself stifle intrabrand competition, and so the requirement of harm to competition, an essential element of a traditional monopolization claim, is missing.

[6] Relying upon antitrust’s consumer protection goal to create a freestanding prohibition on personalized pricing out of whole cloth would not be altogether unprecedented, because antitrust has relied on the consumer welfare standard radically to alter antitrust rules in the past. Indeed, the Chicago School of antitrust analysis brought the consumer welfare standard into antitrust precisely for that purpose. The Chicago School believed that prevailing antitrust rules punished firms that dominated markets for the legitimate purpose of controlling the resources necessary to produce the best quality products at the lowest cost. The courts ultimately used the consumer welfare standard as the sole justification for altering the antitrust laws to tolerate salutary dominance, despite the lack of any other basis in statute or caselaw for doing so. The courts reversed longstanding prohibitions on exclusive dealing and tying arrangements, for example, replacing those prohibitions with case-by-case review for harm to consumers. And the courts stopped condemning mergers in concentrated industries out of hand. The courts made those and other changes without express authorization from Congress, or the aid of precedent, but simply because they concluded that antitrust’s mission is to protect consumers—the consumer welfare standard—and they believed that these changes to the law would be good for consumers. There is no reason for which the consumer welfare standard should only be used to restrict the ambit of antitrust rules, sparing some conduct for the sake of expanding consumer welfare, but should never be used to expand the ambit of antitrust rules, by extending them to condemn new categories of conduct, such as personalized pricing.

OECD Note by the United States, Personalized Pricing in the Digital Era

OECD Document No. DAF/COMP/WD(2018)140 (Nov. 21, 2018)

[1] Personalized pricing involves the use of data analytics to provide distinct prices to consumers based on personal characteristics and behaviors. For example, an online merchant may be able to use web browsing habits and other data sources to glean the likely gender, income, and age of an individual, and offer a personalized price based on this information.

[2] Personalized pricing has potential implications for both competition and consumer protection policy. From a competition standpoint, personalized pricing is a form of price discrimination, where each consumer receives an individual price based on the available information about the consumer. As such, the potential competitive effects of personalized pricing are similar to those spelled out in the U.S.’s 2016 submission on price discrimination. There, we concluded that:

Price discrimination is common in many markets. In many instances, price discrimination enhances market competition. In the United States, price discrimination is often viewed as efficient. In certain limited circumstances, price discrimination might feature as an aspect of an exclusionary strategy meant to enhance or protect market power. Intervention should be limited to preventing these exclusionary abuses.

[3] Nor does the mere fact that different consumers pay different prices raise consumer protection concerns. U.S. consumer protection laws are designed to assure that markets are free from fraud and deception so that consumers can make informed choices. Absent accompanying unfair or deceptive conduct, personalized pricing alone does not raise any of these concerns, and therefore provides no basis for intervention.

[4] In some circumstances, however, deception surrounding personalized pricing could raise consumer protection issues. For example, a firm might harm some consumers if it were to break a material promise not to engage in

personalized pricing. Similarly, the collection and use of personal data used in personalized pricing could implicate privacy concerns. For example, consumer harm could arise if a company collecting personal data that helps inform a personalized pricing algorithm violated material promises related to the collection and use of those data. Further, if personalized pricing were based on factors like race, religion, gender, or national origin, it could violate certain U.S. antidiscrimination laws.

[5] Personalized pricing occurs when firms tailor prices based on observed and inferred information about individuals. According to one definition, personalized pricing is a type of price discrimination in which:

businesses may use information that is observed, volunteered, inferred, or collected about individuals' conduct or characteristics, to set different prices to different consumers (whether on an individual or group basis), based on what the business thinks they are willing to pay.

[6] Theoretically, a personalized pricing regime by a monopolist seller with perfect information on consumer preferences would charge each customer his or her willingness to pay for the good or service in question. Personalized pricing should be distinguished from dynamic pricing where prices vary with market conditions. For example, ride-sharing apps, airlines, hotels, and event venues engage in yield management strategies that result in prices changing based on supply and demand conditions.

[7] The technology for some degree of personalized pricing appears to exist: even if they do not have perfect information, companies already collect and use large amounts of data based on online and offline consumer interactions to target advertisements. But there is little evidence of widespread use of data to tailor prices to individual consumers. Companies may be reluctant to engage in personalized pricing online because of competition from other sellers, or because consumers could learn to game the system, which may undercut a firm's ability to tailor prices. Some research also suggests that consumers may be uncomfortable with the general idea of personalized pricing.

[8] Of course, that some consumers do not receive the lowest price offered does not raise the type of consumer protection concerns that would merit market intervention. Nor does market intervention appear to be necessary to curb personalized pricing conduct.

[9] Antitrust laws seek to protect price competition, which is a tenet of the U.S. economy. However, antitrust laws do not condemn, absent harm to the competitive process, a firm's charging whatever price the market may bear. Accordingly, antitrust laws would likely not condemn a firm's use of personalized pricing unless it is part of a collusive agreement or some other arrangement that harms the competitive process.

[10] . . . The welfare effects of price discrimination are complicated and difficult to generalize. Third-degree price discrimination involves offering different prices to different consumer segments based on characteristics that may be correlated with willingness to pay. A common example is offering discount movie tickets for students or discounted "early-bird" dinners designed to attract seniors. Second-degree price discrimination uses techniques like metering and quantity discounts to segment consumers according to their preferences and willingness to pay. For example, a firm selling printers may extract more revenue from heavy users through sales of ink cartridges. Finally, first-degree or "perfect" price discrimination involves charging each consumer his or her exact willingness to pay.

[11] Although the welfare effects of second- and third-degree price discrimination are theoretically indeterminate, first-degree price discrimination unambiguously increases total welfare. By offering discounts to consumers whose marginal value of the good is greater than the good's marginal cost of production, a firm engaging in first-degree price discrimination expands output and eliminates the deadweight loss associated with market power. With price discrimination, more consumers are able to purchase the monopolist's product. Although perfect price discrimination expands total welfare, a monopolist employing it extracts all consumer surplus, leaving some consumers worse off than under simple monopoly pricing.

[12] It is important to note that in practice, personalized pricing is unlikely to arrive at prices that are equal to each individual's willingness to pay, like the theoretical perfect price discrimination. Instead, firms are likely to be able to use data to place consumers into increasingly narrower groups of consumers who exhibit similar traits and behaviors. The quality of the information about consumer preferences is a limiting factor in identifying consumers'

willingness to pay. Therefore, actual personalized pricing may be closer to third than to first-degree price discrimination.

[13] Nonetheless, to the extent that personalized pricing allows firms to engage in something resembling perfect first-degree price discrimination (with prices tailored to estimated willingness to pay), it will tend to improve total welfare as explained above. Further, personalized pricing may raise consumer welfare by enhancing competition.

[14] Personalized pricing could in some cases enhance competition, increasing both total and consumer welfare. In particular, personalized pricing may intensify competition by allowing firms to target prices to poach their rivals' customers. For example, if data show that a consumer prefers firm A to firm B, personalized pricing may allow firm A to charge this consumer a higher price. However, if firm B has similar knowledge about this consumer, it can target a discount to compensate them for their preference for firm A. This competitive pressure may force firm A to lower its price to win this consumer's purchase. In this manner, the competitive use of personalized pricing could lower prices for all consumers, increasing both total welfare and consumer welfare.

[15] Finally, U.S. antitrust laws do not prohibit a firm with market or monopoly power from charging any price that the market will bear. Such market prices are integral to well-functioning markets because they provide informative signals about market conditions. This prescription also applies to personalized pricing, which has the potential to ameliorate static welfare losses from monopoly and oligopoly pricing.

[16] Personalized pricing by itself does not raise consumer protection issues that require intervention because it does not impact the accuracy of marketplace information available to consumers. Instead, personalized pricing is redistributive—some consumers benefit, because they have access to products at lower prices than they otherwise would; while some consumers may lose, because they could pay higher prices than they would if the firm were to charge a single price. Further, unlike unfair or deceptive practices, personalized pricing generally has the potential to enhance total welfare. As discussed in more detail below, absent some indication of deception or discrimination, personalized pricing is not likely to raise consumer protection concerns.

[17] Although personalized pricing by itself does not appear to raise consumer protection issues under U.S. law, there are scenarios in which consumer protection concerns could arise. For example, if a firm were to break a promise or misrepresent that it would refrain from engaging in personalized pricing, it would harm . . . those consumers who found the promise material to their purchase decision. Further, although the use of consumer data to tailor prices alone would not violate the FTC Act in the absence of deception or unfairness, if the data feeding a pricing algorithm were collected or used in a manner that violated a material promise, it could cause consumer harm and implicate the FTC Act. For example, the FTC has charged digital advertising platforms with violations of the FTC Act for falsely representing the ability of consumers to restrict online or location tracking.

[18] Personalized pricing also could violate antidiscrimination law if pricing were based on certain protected consumer characteristics. For example, the FTC enforces the Equal Credit Opportunity Act ("ECOA"), which prohibits credit discrimination on the basis of race, color, religion, national origin, sex, marital status, age, or the receipt of public assistance. Offering prices for credit based on these protected characteristics could trigger the ECOA. Other equal opportunity laws, such as Title VII, the Age Discrimination in Employment Act, the Fair Housing Act, and the Genetic Information non-discrimination Act, protect consumers from "disparate treatment" or "disparate impact," based on protected characteristics, such as race, gender, religion, age, disability status, national origin, marital status, and genetic information. Personalized prices (or wages) based on some of these protected characteristics could implicate some of these laws.

[19] Finally, the FTC also enforces the Fair Credit Reporting Act ("FCRA"), which covers the reporting of consumer data by consumer reporting agencies, when the data are used for decisions about credit, employment, insurance, or similar eligibility requirements. In some circumstances, determining eligibility for access to certain price offers (e.g., interest rates, rent, or insurance rates) could trigger FCRA requirements.

[20] Antitrust and consumer protection law are complementary tools conceived to assure that markets function for consumers. Antitrust enforcement polices the market for behavior that unreasonably restricts the competitive process, while consumer protection enforcement is designed to remove deception and fraud from the marketplace. In the absence of accompanying anticompetitive, unfair, or deceptive conduct, personalized pricing, in and of

itself, provides no justification for intervention under either body of law, as the practice does not appear to hinder market function and, indeed, has the very real potential to increase welfare. In light of the theoretical ambiguities and with virtually no real-world experience on which to evaluate the practice, there is not a compelling case for banning personalized pricing.

NOTES

- 1) Imagine a long-term future in which essentially all prices were personalized. Would the modern antitrust system, or anything like it, be sustainable?
- 2) How would you summarize Ramsi Woodcock’s argument that personalized pricing should violate Section 2? What do you find most and least persuasive about that approach—and why do you think courts do not currently do this?
- 3) The OECD submission suggests that personalized pricing may be more of a consumer-protection concern than an antitrust one. Do you agree? And do you think there are any circumstances in which the presence of consumer protection concerns should affect the antitrust analysis of a practice?

G. App Store Rules: The *Epic Games* Cases

We live in an increasingly app-ified economy, with valuable products and services obtained through applications (“apps”) on our electronic devices.¹⁶⁹ In many cases, these apps may or must be bought by users through “app stores”: digital storefronts that are often owned and operated by the provider of the operating system, device, or platform. Apple’s App Store and Google’s Play Store are good examples. However, “third-party” app stores do exist. Steam, for example, is an app store owned by Valve, a video game developer that does not make PCs or PC operating systems. And the Android ecosystem does include some third-party app stores, including stores operated by Amazon, Samsung, and Huawei.

The importance of app stores as a point of distribution to consumers and business users has fueled a series of competition-policy concerns about their operation, some of which relate to themes we have already considered in this chapter. For example, some writers have raised concerns about self-preferencing by app store operators that also supply apps (*e.g.*, the iOS App Store, operated by Apple, offers Apple Maps as well as an array of competing mapping apps). Is an app store owner entitled to display its own apps more prominently than those of rivals?

A related but distinct worry is that the app-store owner might use its access to commercial data about rivals’ apps to give its own business an advantage of some kind. Some have expressed concerns that this would reduce incentives for third parties to innovate and invest in their own offerings.¹⁷⁰ Others suggest that app store owners may have been reluctant to make their own store a hostile environment for third parties, and emphasize the advantages of allowing app store owners to use accurate data to make better business decisions.¹⁷¹

Other commentators have focused on the power of an app store operator to keep certain apps out of the store altogether.¹⁷² Must an app-store owner carry rival offerings? May it decline to carry apps that do or might present security concerns? Apps that are low quality? Apps owned by an unknown developer? Apps for which the app store owner cannot be confident that users’ personal data will be safe? Apps that express a message the store owner opposes? Is there a right—in antitrust or otherwise—to some kind of due process before an app is excluded from the store?

¹⁶⁹ See generally, *e.g.*, Laura Ceci, *Size of the app economy worldwide from 2016 to 2021*, STATISTA (Aug. 25, 2023); Anindya Ghose, TAP: UNLOCKING THE MOBILE ECONOMY (2018); Ben Goldsmith, THE SMARTPHONE APP ECONOMY AND APP ECOSYSTEMS (2014).

¹⁷⁰ See, *e.g.*, Kif Leswing, *Why Apple’s App Store is under fire*, CNBC (June 18, 2020) (“Software makers . . . worry that Apple could use data about what is trending on the App Store to create competing Apple apps or features.”).

¹⁷¹ See, *e.g.*, Testimony of Daniel Francis, U.S. Senate, Committee on the Judiciary, Subcommittee on Competition Policy, Antitrust, and Consumer Rights, Hearing on Reining in Dominant Digital Platforms: Restoring Competition to Digital Markets (March 2023) (supporting limited restrictions only, given the consumer value of accurate decision-making).

¹⁷² See, *e.g.*, Damien Geradin & Dimitrios Katsifis, *The Antitrust Case Against the Apple App Store*, TILEC Discussion Paper (Apr. 2020) 62–66.

Still others have noted the possibility of algorithmic or personalized pricing for apps. In settings where there are few competing app stores, might we worry about the prospect of algorithmic collusion? If app store owners engage in personalized pricing, should we be concerned?

But other concerns seem to be specific to the app-store environment. Some of the most prominent of these are concerns about the practice of *surcharging* app developers that sell apps in a store, and concerns about *tying* additional products or services, like payment handling services, to carriage in an app store.

Most people seem to agree that carriage in an app store is a very valuable form of distribution for app developers. After all, inclusion in the Apple App Store, Google Play Store, or a similar storefront makes the app available to countless millions of users. And most antitrust lawyers and economists agree that—like any other business that has created a valuable ecosystem and generated an attractive distribution platform for third parties—the app store owner is entitled in principle to charge some kind of a price for that distribution service. Antitrust generally protects the right of a business, even a monopolist, to charge for providing a valuable product or service, even if that price is higher or lower than others might prefer.

And many app stores do indeed charge a price for carriage, or at least for transactions. Often this takes the form of a commission: that is, a percentage of the price of the app. One reason one might do this is to avoid pricing the cheapest apps out of the store: charging a flat fee would make it unprofitable to distribute low-price or free apps on the store. (The *vast* majority of apps in the Apple App Store and the Google Play Store are free: in the simplest case, under a commission model those apps pay nothing.¹⁷³) Another reason to take a percentage is to charge a higher fee to those app developers that are charging the most for apps and may be receiving the greatest value from it: in other words, to price discriminate.¹⁷⁴ For these and other reasons, the commission model is the most common approach to app-store pricing.

But the charging of a price for app-store service is controversial. For one thing, the app store owner's in-house apps generally do not pay a fee for carriage, so some third-party app developers have suggested that *any* commission places third-party apps at an unfair—even “anticompetitive”—disadvantage compared to in-house apps.¹⁷⁵ (Of course, the third parties also did not incur the costs and risks of building the app store in the first place.) For another thing, some object that common commission rates—30% being a popular benchmark rate—is unfairly high, and that it undesirably suppresses the incentive of developers to create socially valuable apps. As a result, some advocates, scholars, and legislators have suggested limiting app store commissions.¹⁷⁶ Others object that price caps are no more desirable here than they are in other settings.¹⁷⁷

The tying concern arises from the fact that some app store owners require app developers to use the store owner for certain additional services, such as payment handling services for in-app transactions. Many app developers may find such requirements unwelcome: they might object to the fact that the app store owner may charge a commission for such transactions; they may simply prefer to use a different and perhaps better payment handling technology; and they might suggest that rival payment handling systems are being excluded or foreclosed in a way that we would associate with classic antitrust tying concerns, and which leave the developer facing a less competitive market for payment handling technologies.

¹⁷³ See Laura Ceci, *Distribution of free and paid apps in the Apple App Store and Google Play in December 2023*, STATISTA (Dec. 19, 2023).

¹⁷⁴ See, e.g., Zhu Wang & Julian Wright, *Ad valorem platform fees, indirect taxes, and efficient price discrimination*, 48 RAND J. Econ. 467, 468 (2017) (arguing that “when a market involves many different goods that vary widely in their costs and values that may not be directly observable, then ad valorem fees and taxes represent an efficient form of price discrimination because the value of a transaction is plausibly proportional to the cost of the good traded”).

¹⁷⁵ See, e.g., Daniel Ek, *Consumers and Innovators Win on a Level Playing Field*, SPOTIFY FOR THE RECORD BLOG (Mar. 13, 2019) (Spotify CEO stating: “Apple requires that Spotify and other digital services pay a 30% tax on purchases made through Apple’s payment system, including upgrading from our Free to our Premium service. If we pay this tax, it would force us to artificially inflate the price of our Premium membership well above the price of Apple Music.”).

¹⁷⁶ See, e.g., Jack Nicas, *How Apple’s 30% App Store Cut Became a Boon and a Headache*, N.Y. TIMES (Aug. 14, 2020, updated Nov. 18, 2020) (“[N]ow that the tech giants’ smartphones have become the only way other businesses reach millions of people, those businesses are increasingly pleading: Do you really need a third of my sales?”).

¹⁷⁷ See, e.g., Ben Sperry, *Does Apple’s “Discrimination” Against Rival Apps in the App Store Harm Consumers?* TRUTH ON THE MARKET (Oct. 16, 2019).

We can imagine at least two reasons why app-store owners might aim to require the use of the store owner's own technology for payment handling. One reason is security. There are obvious risks to taking a permissive approach to payment-handling service providers: unscrupulous or low-quality service providers might put users' money and privacy at risk. As a result, an app store owner might want to protect users, as well as its own reputation, from the risks of unscreened third-party service providers. The app store might also prefer to avoid the costs and burdens of evaluating third-party payment providers to determine whether they should be trusted.

The other reason is profit, particularly if the app store is operating a commission-based pricing model. If an app store charged a percentage commission for selling the app in the app store, but allowed app developers to handle their own in-app payments, the result would be a strong incentive for app developers to set a zero price for the app in the store (thus generating a zero commission for the app store owner!) and simply charge a price for in-app "activation" without sharing that price with the app store owner. In other words: in order to avoid incentivizing the app developer to reframe an app's purchase price as an in-app activation price, an app store owner that has decided to charge a commission for carriage in the app store probably has to find some way to take the same commission on at least certain kinds of in-app purchases. And it might be easier and cheaper to do this by handling in-app purchases itself and deducting the commission at point of sale, rather than trusting each app developer to pay over the right commission accurately, promptly, and honestly.

Of course, there is plenty of reasonable disagreement about all of this. One might reasonably take the view that the benefits from running an efficient commission system could, at least in some cases, be outweighed by the harms from excluding rival payment systems from the market. Moreover, perhaps a certification-and-auditing system could be developed, without prohibitive cost, that would allow trustworthy third-party payment systems to compete alongside the in-house option. And one might favor some limits on the ability of an app store owner to take a commission on in-app purchases (for example, should a commission be payable to the app store owner when you order products, services, e-books, and so on through an app?).

A related, and similarly controversial, practice seen on some app stores involves so-called "anti-steering" rules: that is, limitations on the ability of app developers to communicate with users about other distribution channels outside the app store. An app store owner might have an incentive to limit or prohibit such communications for reasons very much like those in the payment-system context. For example: the app store owner might fear that app developers will use the app store to get an initial consumer contact—maybe through a zero-priced interaction like a free version of the app—and then re-direct those consumers to buy the full app through another channel that does not compensate the app store owner. Conversely, though, it is easy to see why we might have some competitive concerns about rules imposed by an incumbent with market power that limit the extent to which businesses can communicate with their own customers about low-priced alternatives!

The most prominent example of app-store antitrust litigation in recent years is the two separate blockbuster cases that Epic Games—maker of hit game Fortnite—brought against Apple and Google. Epic lost the federal-antitrust components of its case against Apple following a bench trial (winning only on a state unfair-competition claim), but *won* a jury verdict against Google and obtained a striking remedy. In both cases, the Ninth Circuit declined to disturb the bottom-line result.

The following extract is drawn from the Ninth Circuit's decision in the *Apple* case. Note that the plaintiff invoked both federal antitrust law *and* California state unfair-competition law, leading to different results under the two systems. Epic targeted three of Apple's practices: app store exclusivity; the prohibition of third-party in-app payment systems; and an anti-steering rule that limited communications with users.

Epic Games, Inc. v. Apple, Inc.

67 F.4th 946 (9th Cir. 2023)

Judge Smith.

[1] Epic Games, Inc. sued Apple, Inc. pursuant to the Sherman Act, and California's Unfair Competition Law ("UCL"). Epic contends that Apple acted unlawfully by restricting app distribution on iOS devices to Apple's App Store, requiring in-app purchases on iOS devices to use Apple's in-app payment ["IAP"] processor, and limiting

the ability of app developers to communicate the availability of alternative payment options to iOS device users. [. . .]

[2] Apple creates its walled-garden ecosystem through both technical and contractual means. To distribute apps to iOS users, a developer must pay a flat \$99 fee and execute the Developer Program Licensing Agreement (“DPLA”). The DPLA is a contract of adhesion; out of the millions of registered iOS developers, only a handful have convinced Apple to modify its terms.

[3] By agreeing to the DPLA, developers unlock access to Apple’s vast consumer base—the over 1 billion users that make up about 15% of global smartphone users. They also receive tools that facilitate the development of iOS apps, including advanced application-programming interfaces, beta software, and . . . app-testing software. In essence, Apple uses the DPLA to license its IP to developers in exchange for a \$99 fee and an ongoing 30% commission on developers’ iOS revenue.

[4] The DPLA contains the three provisions that give rise to this lawsuit and were mentioned in the introduction. First, developers can distribute iOS apps only through the App Store (the distribution restriction). Epic Games, for example, cannot make the Epic Games Store available as an iOS app and then offer Fortnite for download through that app. Second, developers must use Apple’s IAP to process in-app payments (the IAP requirement). Both initial downloads (where an app is not free) and in-app payments are subject to a 30% commission. Third, developers cannot communicate out-of-app payment methods through certain mechanisms such as in-app links (the anti-steering provision). Apps and their metadata may not include buttons, external links, or other calls to action that direct customers to purchasing mechanisms other than IAP. Nor can developers use points of contact obtained from account registration within the app (like email or text) to encourage users to use a purchasing method other than IAP. [. . .]

Sherman Act Section 1: Unreasonable Restraint

[5] . . . Section 1 prohibits every contract, combination . . . , or conspiracy, in restraint of trade. . . . [T]he parties agree that the [Rule of Reason, not the *per se* rule,] applies here. [. . .]

Rule of Reason Step One: Anticompetitive Effects

[6] The district court did not err when it found that Epic made the Rule of Reason’s required step-one showing. At step one, the plaintiff has the initial burden to prove that the challenged restraint has a substantial anticompetitive effect that harms consumers in the relevant market. [. . .]

[7] Here, the district concluded that Epic produced both sufficient direct and indirect evidence to show that Apple’s distribution and IAP restrictions impose substantial anticompetitive effects. In terms of direct evidence, the court found that Apple has for years extracted a supracompetitive commission that was set almost by accident and without regard to its own costs and has produced extraordinarily high operating margins that have exceeded 75% for years. The court found that the economic factors driving other platforms’ rates do not apply equally to Apple, with nothing other than legal action seeming to motivate Apple to reconsider pricing and reduce rates. With respect to indirect evidence, the district court found that Apple has market power: Apple had a mobile-games market share of 52 to 57% for the three years in evidence, and network effects and information restrictions create barriers to entry. The court found that Apple wielded that market power to foreclose would-be competitors like Epic from offering app-distribution and payment-processing alternatives—reducing innovation and Apple’s own investment in the App Store in the process. [. . .]

[8] Apple attacks the supracompetitive-pricing finding [(i.e., direct evidence)] on factual grounds by asserting that Apple charges a substantially similar commission as its competitors. That assertion is true as far as *headline* rates go, but the district court reasonably based its supracompetitive-price finding on *effective* commission rates instead of headline rates. The district court found Apple’s reliance on headline rates to be suspect because, unlike the App Store, other platforms frequently negotiate down the rates they charge developers. The court noted that Amazon has a headline rate of 30% but an effective commission rate of 18%. And it credited testimony that game-console transaction platforms often negotiate special deals for large developers. While the district court’s finding that the Google Play Store (the App Store’s main competitor) charges a 30% rate seemingly undermines the

characterization of Apple’s commission as supracompetitive, we cannot say that the district court clearly erred absent evidence about the Google Play Store’s effective commission—the metric that the district court at trial found to be the key to determining the competitiveness of a price in this market. [. . .]

[9] [Nor are we] persuaded by Apple’s argument that the district court erred in concluding that Epic established indirect evidence of anticompetitive effects. Apple does not take issue with the district court’s finding of a 52 to 55% market share (other than noting it was the court’s own calculation); nor does Apple challenge the court’s barriers-to-entry finding. It instead argues that the finding that Apple wields its market power in an anticompetitive manner is speculative. But, supported by basic economic presumptions, the district court reasonably found that, without Apple’s restrictions, would-be competitors could offer iOS users alternatives that would differentiate themselves from the App Store on price as well as consumer-appeal features like searchability, security, privacy, and payment processing. Indeed, it found competition in the PC-gaming market to be a vivid illustration: Steam had long charged a 30% commission, but upon Epic’s entry into the market, it lowered its commission to 20%. Epic’s indirect-evidence showing was sufficient.

Step Two: Procompetitive Rationales [. . .]

[10] [T]he district court accepted two sets of [procompetitive] rationales as non-pretextual and legally cognizable. First, it found that Apple implemented the restrictions to improve device security and user privacy—thereby enhancing consumer appeal and differentiating iOS devices and the App Store from those products’ respective competitors. Second, the court partially accepted Apple’s argument that it implemented the restrictions to be compensated for its IP investment. While the court credited the IP-compensation rationale generally, it rejected the rationale with respect to the 30% commission rate specifically. . . .

[11] Epic argues that the district court may not credit Apple’s IP-compensation rationale while finding that the rationale was pretextual with respect to the 30% commission rate specifically. We have held that IP-compensation is a cognizable procompetitive rationale, and we find no error in the district court’s partial crediting of that rationale here. [. . .]

[12] Because the district court accepted only a general version of Apple’s IP-compensation rationale (that Apple was entitled to “some compensation”), Epic at step three needed only to fashion a less-restrictive alternative calibrated to achieving that general goal, instead of one achieving the level of compensation that Apple currently achieves through its 30% commission. There is no legal requirement—as Epic suggests—that district courts make pretext findings on an all-or-nothing basis. When district courts at step two partially credit a rationale, step three will necessarily take that partial finding into account.

[13] Epic and its *amici* next argue that Apple’s security and privacy rationales are social, not procompetitive, rationales and therefore fall outside the purview of antitrust law. We reject this argument. [. . .]

[14] Epic’s argument characterizes Apple as asserting security and privacy as independent justifications in and of themselves. But, throughout the record, Apple makes clear that by improving security and privacy features, it is tapping into consumer demand and differentiating its products from those of its competitors—goals that are plainly procompetitive rationales. Consumer surveys in the record show that security and privacy is an important aspect of a device purchase for 50% to 62% of iPhone users and 76% to 89% of iPad users worldwide. Even Epic’s CEO testified that he purchased an iPhone over an Android smartphone in part because it offers better security and privacy. And the district court found that, because Apple creates a trusted app environment, users make greater use of their devices.

[15] With Apple’s restrictions in place, users are free to decide which kind of app-transaction platform to use. Users who value security and privacy can select (by purchasing an iPhone) Apple’s closed platform and pay a marginally higher price for apps. Users who place a premium on low prices can (by purchasing an Android device) select one of the several open app-transaction platforms, which provide marginally less security and privacy. Apple’s restrictions create a heterogenous market for app-transaction platforms which, as a result, increases interbrand competition—the primary goal of antitrust law. . . . If we were to accept Epic and its amici’s argument, then no defendant could cite competing on non-price features as a procompetitive rationale. [. . .]

Step Three: Substantially Less Restrictive Means

[16] The district court did not clearly err when it held that Epic failed to prove the existence of substantially less restrictive alternatives (“LRAs”) to achieve Apple’s procompetitive rationales. . . . To qualify as substantially less restrictive, an alternative means must be virtually as effective in serving the defendant’s procompetitive purposes without significantly increased cost. [. . .]

[17] Epic argues that Apple already has an LRA at its disposal for the distribution restriction: the notarization model that Apple uses for app distribution on its desktop and laptop operating system (macOS). The notarization model sits somewhere between iOS’s “walled garden” and the open-platform model that characterizes some app-transaction platforms. Unlike on iOS, the Mac Store (the Apple-run equivalent of the iOS App Store for Mac computers) is not the exclusive means for macOS users to download apps; instead, users can download apps from the Mac Store or anywhere else on the internet. Also unlike on iOS, a developer can distribute a macOS app to users without first submitting it to Apple. But, regardless of how the developer distributes that app, it will carry a warning that Apple has not scanned it for malware. The developer, however, can choose to submit the app to Apple. If the app passes Apple’s malware scan, then the developer can distribute the app to users—again, through the Mac Store or otherwise—without the warning that accompanies unscanned apps.

[18] The malware scanning that Apple performs in the notarization model is not the same as the full app review that it conducts on iOS apps. Importantly, the notarization model does not include *human* review—a contextual review that, as found by the district court, cannot currently be automated. As part of iOS human review, a reviewer confirms that an app corresponds to its marketing description to weed out “Trojan Horse” apps or “social engineering” attacks that trick users into downloading by posing as something they are not. The reviewer also checks that the app’s entitlements are reasonable for its purpose—rejecting, for example, a Tic-Tac-Toe game that asks for camera access and health data, while approving camera access for a social media app. On occasion, human review also detects novel, well-disguised malware attacks. Despite Epic carrying the burden at step three of the Rule of Reason, it was not clear before the district court—and still is not entirely clear—how Epic proposes that the notarization model translates from macOS to iOS. In particular, it is unclear whether the proposed model would incorporate human review and what type (if any) of licensing scheme Apple could implement to complement the notarization model. Whatever the precise form of Epic’s proposed notarization model, the district court did not err in rejecting it. [. . .]

[19] Epic proposes access to competing payment processors as an LRA to Apple’s IAP requirement. Like the distribution requirement LRA, this LRA suffers from a failure of proof on how it would achieve Apple’s IP-compensation rationale. As the district court noted, in a world where Apple maintains its distribution restriction but payment processing is opened up, Apple would still be contractually entitled to its 30% commission on in-app purchasers. Apart from any argument by Epic, the district court presumed that Apple could utilize a contractual right to audit developers to ensure compliance with its commissions. But the court then rejected such audits as an LRA because they would seemingly impose both increased monetary and time costs.

Step Four: Balancing

[20] [. . .] Even though [the district court] did not expressly reference [balancing at step four of the Rule of Reason], it stated that it carefully considered the evidence in the record and determined, based on the rule of reason, that the distribution and IAP restrictions have procompetitive effects that offset their anticompetitive effects. This analysis satisfied the court’s obligation [to conduct balancing under the Rule of Reason.] [. . .]

California’s Unfair Competition Law

[21] We now turn to Apple’s . . . arguments concerning the UCL. The district court . . . concluded that Apple’s anti-steering provision violates the UCL’s [prohibition on unfair competition.] . . . We affirm. [. . .]

{Eds.: The district court below had concluded that Apple’s anti-steering rules, described at paragraphs 1 and 4 of this extract, violated California’s Unfair Competition Law: on the ground that it “threaten[ed] an incipient violation of an antitrust law” by preventing informed choice by users of the iOS platform; on the ground that it “violat[e] the policy and spirit of [the antitrust] laws because anti-steering has the effect of preventing substitution among platforms for transactions”; and on the ground that “the harm from the anti-

steering provisions outweighs [their] benefits.” *Epic Games, Inc. v. Apple Inc.*, 559 F. Supp. 3d 898, 1052–57 (N.D. Cal. 2021).}

[22] Apple . . . argues that two principles from Sherman Act case law preclude UCL liability here. We find neither argument persuasive. First, Apple contends that the Supreme Court’s decision in *Amex*—finding in favor of American Express in a suit challenging its anti-steering provision—bars UCL liability stemming from Apple’s anti-steering provision. Apple does not explain how *Amex*’s fact-and market-specific application of the first prong of the Rule of Reason establishes a categorical rule approving anti-steering provisions, much less one that sweeps beyond the Sherman Act to reach the UCL. *Amex* was based on the plaintiff’s failure to establish direct evidence of anticompetitive effects through a reduction in output, supracompetitive pricing, or excessively high profit margins; it was not a blanket approval of anti-steering provisions.

[23] Second, Apple argues that the UCL mandates trial courts to define a relevant market and then conduct the balancing test within that market (similar to the Rule of Reason). . . . Apple does not cite any California authority for this proposition. Moreover, such a rule runs contrary to California courts’ repeated instruction that no inflexible rule can be laid down as to what conduct will constitute unfair competition. It also contradicts a California Supreme Court decision that conducted something akin to quick-look review (in which a precise market-definition is not needed) when confronted with significant restrictions on the free flow of price information. [. . .]

[24] There is a lively and important debate about the role played in our economy and democracy by online transaction platforms with market power. Our job as a federal Court of Appeals, however, is not to resolve that debate—nor could we even attempt to do so. Instead, in this decision, we faithfully applied existing precedent to the facts as the parties developed them below.

* * *

➔ In an unusual post-script to what you have just read: Apple’s compliance with the anti-steering remedy—imposed to remedy its violation of the UCL—did not meet with the approval of the district court *at all*. In a blistering order issued in April 2025, Judge Yvonne Gonzalez Rogers of the district court held Apple in civil contempt, and referred the company to the U.S. Attorney for the District of Northern California to determine whether *criminal* contempt proceedings were appropriate(!).¹⁷⁸ On appeal, the Ninth Circuit partly modified and partly affirmed the district court’s decision, and partly remanded for further proceedings.¹⁷⁹ But the Supreme Court granted certiorari to review the question of whether a party can be held in contempt for violating the “spirit” of an injunction, or whether contempt requires violation of a clear and unambiguous instruction in an order.¹⁸⁰ The case will be heard in the coming Term.

Although Epic secured only a very partial win in its case against Apple, it had much better luck in its suit against Google. *Epic v. Google* involved allegations of a variety of practices, united by their alleged tendency to reduce the ability and incentive of rivals to compete against Google’s “Play Store” app store. Unlike the *Epic v. Apple* case excerpted above, the *Epic v. Google* was tried to a jury, and Epic prevailed. (Jury verdicts, of course, are not expressed in a reasoned opinion: the verdict form gives little information about the content of the jury’s analysis.)

The district court judge subsequently issued a remedial order that imposed a number of obligations on Google. These included, among other things, the obligation to allow rival app stores to access and sell the apps available on Google’s own Play Store (albeit with revenues flowing back to Google, not the rivals), and the obligation not to prohibit the distribution of third-party app stores (subject to “reasonable measures” to ensure safety, legality, and compliance with Google’s content standards). Google appealed to the Ninth Circuit, protesting that the remedy was overbroad. In the following extract, the court of appeals considers—and rejects—the appeal. For reference, the text of the district court’s remedy order is reproduced after the opinion. (Are you surprised by its brevity?)

¹⁷⁸ *Epic Games, Inc. v. Apple Inc.*, 781 F. Supp. 3d 943, 952 (N.D. Cal. 2025), *aff’d in part, rev’d in part and remanded*, 161 F.4th 1162 (9th Cir. 2025), *cert. granted in part*, No. 25-1311, 2026 WL 1871316 (U.S. June 30, 2026).

¹⁷⁹ *Epic Games, Inc. v. Apple Inc.*, 161 F.4th 1162, 1193 (9th Cir. 2025), *cert. granted in part*, No. 25-1311, 2026 WL 1871316 (U.S. June 30, 2026); Petition for a Writ of Certiorari, *Apple Inc. v. Epic Games, Inc.*, No. 25-1311 (filed May 21, 2026), at i.

¹⁸⁰ *Apple Inc. v. Epic Games, Inc.*, No. 25-1311, 2026 WL 1871316, at *1 (U.S. June 30, 2026).

In re Google Play Store Antitrust Litigation**147 F.4th 917 (9th Cir. 2025)**

Judge McKeown.

[1] In 2018, videogame developer Epic Games released its immensely popular cross-platform game Fortnite as a smartphone app. For two years, Epic sought to distribute the game through direct mobile downloads from its website and through Samsung’s Galaxy Store. In 2020, after Epic realized that Google Play was the only hope that Epic had for actually reaching users, Epic reluctantly decided to offer the Fortnite app on both the Google Play Store (which operates on the Android operating system) and the Apple App Store (which operates on the iOS operating system). Fortnite is offered as a free download; the game generates revenue for Epic via players’ purchase of special in-game features.

[2] Shortly after Fortnite’s launch on the Apple App Store and Google Play Store, Epic embedded secret code into the app’s software so that players making in-app purchases would bypass the required payment-processing systems by which Apple and Google then charged 30% commission. Epic dubbed these circumvention efforts “Project Liberty,” part of its ongoing—and soon highly publicized—protest against mainstream app stores’ restriction of developers’ and users’ choices for app distribution and in-app billing. Almost immediately, Google and Apple removed Fortnite from the Play Store and App Store for noncompliance with their terms of service. Epic responded by filing antitrust suits against both Apple and Google. The two suits proceeded separately. The suit against Apple was resolved in Apple’s favor.

[3] Epic’s suit against Google followed. After a 15-day trial involving 45 witnesses, the jury found that Google had violated federal and state antitrust laws in the markets for Android app distribution and Android in-app billing services. The district court held extensive post-trial proceedings and then entered a permanent injunction against Google to restore market competition. We affirm the jury’s verdict and uphold the district court’s injunction. [. . .]

[*]

[4] Google, in addition to owning and primarily developing the Android operating system, owns and operates the [Play Store], a platform for distributing apps to Android users. The Play Store has an enormous catalog of more than two million apps. In two-sided markets like this one . . . the platform benefits from significant network effects Users are attracted to large catalogs, and developers are attracted to large user bases.

[5] Google magnified these network effects and entrenched its dominant position in Android app distribution by its intentional efforts to frustrate users’ access to and use of alternatives to the Play Store, such as developer websites as well as other Android app stores.

[6] Although an Android app developer can enable potential users to download its apps directly from a developer-specific website (“direct downloading” or, as Google refers to it, “sideloading”), Google’s Android operating system creates “friction” that deters Android users from completing downloads this way. First, Android’s default settings disable direct downloading. Even those users savvy enough to change the default settings must then click through a series of “scare screens”—sometimes as many as 14—to complete a direct download. Some of these screens notified the user that the app was being downloaded from an “unknown source,” that the software could harm their device, and that the user was taking responsibility for any damage that might result from completing the download. Android’s scare screens do not reflect any security assessment of the intended download sources; these screens appear whether the intended download source is a trusted developer’s website or a hypothetical “illstealyourinfo.com.” Thus the “scare screens” operate as a deterrent to downloading apps other than directly via the Play Store.

[7] . . . Such friction degraded the quality of the download experience from websites like Epic’s. Epic found that, of the Android users who initiated the process to download Fortnite directly, 35% abandoned the process after encountering Google’s “warning messages.”

[8] In its dealings with OEMs, Google also sought to obstruct access to alternative app stores. Google’s mobile contract, the Mobile Application Distribution Agreement (“MADA”), effectively required Android OEMs to

preinstall the Play Store on the default home screen of their smartphones. Google’s revenue-sharing agreements with a “premier tier” of these OEMs had the added effect of making the Play Store the only preinstalled app store on their phones. And [a proposal made by Google to Samsung to share Play Store revenues with Samsung], denominated “Project Banyan,” would have compensated an especially formidable OEM / app-distribution competitor to “drive down” its app-distribution market share and turn the Samsung Galaxy Store into a thoroughway for more Play Store traffic. Samsung’s representatives expressly understood that the purpose of “Project Banyan” was to “prevent unnecessary competition with the store.” . . .

[9] When Epic suddenly posed a threat to the Play Store’s dominance, Google went further still. In 2018, Epic initially told Google that it would not be introducing an Android version of Fortnite on the Play Store. Google feared that the game’s off-Play launch could “legitimize” another Android app store and create “contagion” leading other software developers to leave the Play Store. To defend against that scenario, Google initiated Project Hug: a series of special agreements with 22 top game developers . . . under which the developers received cash payments and other benefits not to launch on any Android app store other than the Play Store.

[10] Network effects, default settings and scare screens to deter direct downloads, plus strategic deals to limit the use of alternative stores proved a potent cocktail: As of 2020, the Play Store accounted for 95% of all Android app downloads in the United States, and more than 80% around the world (excluding China).

[11] . . . As of 2021, the Play Store was turning a 71% operating profit.

[12] Convinced that Google was abusing its power in the Android app distribution and in-app billing markets, Epic sued Google shortly after Fortnite was removed from the Play Store in August 2020 for violations under the Sherman Act, California’s Cartwright Act, and California’s Unfair Competition Law. [. . .]

[13] On December 11, 2023, the jury returned a unanimous verdict in favor of Epic. [. . .]

[*]

[14] The court’s [remedial] order began by prohibiting anticompetitive arrangements that insulated the Play Store and Google Play Billing [Google’s in-app payment processor] from competition. The injunction prohibits Google from sharing Play Store revenue with actual or prospective entrants in the Android app-distribution market, just as Google earlier sought to compensate Samsung with “Project Banyan” to “prevent unnecessary competition” between the Samsung Galaxy Store and Play Store. The injunction next prohibits Google from engaging counterparties in restrictive deals that condition payment or access to the Play Store on (1) an agreement to launch apps first or exclusively on the Play Store, or (2) an agreement to preinstall the Play Store and not any other app store in any specific location on an Android smartphone. Finally, the injunction prohibits Google from continuing to require Google Play Billing for all apps distributed on the Play Store. . . . [T]hese remedies “closely track the evidence of anticompetitive conduct at trial.” On appeal, Google does not directly challenge these prohibitions

[15] In addition to these restrictions on Google’s prior anticompetitive conduct, the injunction also seeks to restore competition in the Android app-distribution market with the catalog-access and app-store-distribution remedies. The catalog-access remedy requires Google to permit third-party Android app stores to access the Google Play Store’s catalog of apps, so that competing app stores can offer users a comparable library of software products. On the other side of the market, the app-store-distribution remedy forbids Google from banning third-party Android app distribution platforms or stores through the Google Play Store, so that the same platforms can access Android smartphone users who are currently accustomed to downloading all their apps through the Play Store. Together these provisions allow other app stores to compete in this two-sided market by letting them offer the apps and reach the users on the Play Store platform. The district court gave Google an eight-month timeline to develop the systems needed to comply with both the catalog-access and app-store-distribution remedies. Responding to Google’s concerns about the safety of products offered on the Play Store, the injunction permits Google to adopt reasonable measures and charge a reasonable fee based on Google’s actual costs to ensure user security and privacy.

[16] . . . We uphold the injunction in full. [. . .]

Catalog Access

[17] We begin with the catalog-access approach to restoring competition in Android app distribution. . . . [W]e recognize the district court’s large discretion to meet the special needs of the case

[18] The district court repeatedly emphasized that the catalog-access remedy is intended to ameliorate consequences intertwined with the network effects that Google has enjoyed as a monopolist in a two-sided platform market. Specifically, the court cited evidence about the Play Store’s advantaged position between a critical mass of app developers and a critical mass of app users, quoting directly from Google’s internal presentations that “Users come to Play because we have by far the most compelling catalog of apps/games”; “Developers come to Play because that’s where the users are”; and even formidable competitors like “Amazon will struggle to break those network effects.” As the district court explained, the catalog-access remedy seeks to overcome the Play Store’s illegally amplified network effects by giving rival stores a fair opportunity to establish themselves with a competitive catalog of software applications. The provision temporarily opens up the Android app-distribution market, by giving app stores a three-year window to access the singular catalog that Google accumulated and leveraged during the Play Store’s dominance of the market. As the district court put it, “all that the catalog access does is level the playing field for a discrete period of time so that rival app stores have a fighting chance of getting off the ground.”

[19] Google objects to the catalog-access provision on the grounds that (1) it illegally imposes a duty-to-deal requirement “to design new products and services tailor-made for [Google’s] competitors”; and (2) it imposes that requirement without identifying a “significant causal connection” to Google’s anticompetitive conduct.

[20] Neither of these challenges carries the day, and together they misconstrue our longstanding deferential approach to equitable antitrust remedies. In light of the digital two-sided market at issue, the remedy represents a reasonable method of eliminating the consequences of Google’s illegal conduct that we must affirm as the reviewing court.

No Impermissible Duty to Deal

[21] To start, it is not true that courts cannot and have never compelled antitrust defendants to deal with rivals, notwithstanding Google’s attempt to characterize catalog access as an impermissible “duty to deal.” Google’s reliance on the Supreme Court’s *Trinko* decision for the proposition that forced sharing creates tension with the underlying purpose of antitrust law is misplaced. That case addressed the question of whether a unilateral refusal to deal with rivals violates Section 2 of the Sherman Act—not the legality of compelling a defendant already found liable under that statute to deal with its competitors. We accept *Trinko*’s lesson that a single entity’s decision not to deal with competitors can be legal under the Sherman Act, but it is well established that antitrust remedies can and often must proscribe otherwise lawful conduct to unwind and further prevent violators’ anticompetitive activity. No wonder, then, that the [Supreme] Court in *Ford Motor Co. v. United States*, 405 U.S. 562 (1972), affirmed an order forcing Ford not only to divest an illegally acquired spark-plug manufacturer, but thereafter to purchase one-half of its total annual requirement of spark plugs from the divested plant. More recently, in *Optronic Techs., Inc. v. Ningbo Sunny Elec. Co.*, 20 F.4th 466 (9th Cir. 2021), we also upheld an order requiring a telescope manufacturer to service a designer and marketer of telescopes on non-discriminatory terms. These cases underscore that, after establishing liability, the district court had within its basket of remedial powers the authority to require Google to deal with parties harmed by its anticompetitive conduct, including its competitors.

[22] Google tries to differentiate these previously upheld injunctions by claiming that the district court improperly ordered Google to design new products . . . rather than sell existing products. As a practical matter, this argument mischaracterizes what exactly the catalog-access remedy asks Google to do—which is to allow app-store developers to access existing data and data-processing resources that, until now, Google restricted the developers from accessing. Google is not being asked to develop a new product or service from scratch. . . .

Significant Causal Connection

[23] Google also objects that the district court committed a legal error by failing to make a specific finding that “the company’s competitive advantage—here, network effects—would have existed even without the anticompetitive conduct.” Google highlights its first-mover status in the Android app-distribution market to claim

that some of the Play Store’s network effects must owe to that lawful advantage, rather than any illegal conduct. Neither we nor the district court discount this argument. Nonetheless, it fails.

[24] First, initial innovation notwithstanding, a first mover is not entitled to maintain and magnify the relevant network effects by entrenching its dominance through anticompetitive conduct.

[25] Second, Google misconstrues the responsibility of the district court. The district court was obligated to ensure only that the conduct enjoined or mandated by the catalog-access provision (here, Google’s technical and contractual exclusion of other app-store developers from the Play Store) had a significant causal connection to the violation found (here, the creation or maintenance of a monopoly). . . . *Optronic* does not require that an injunction only touch the consequences of a defendant’s conduct. Rather, it asks for a reasonable method of redressing problems with a significant causal connection to that conduct. . . . Google is barking up the wrong tree.

[26] Likewise, Google’s objection that the catalog access provision lacks a significant causal nexus [with the challenged conduct] falls short. The court [below] plainly stated: “Google unfairly enhanced its network effects in a way that would not have happened but for its anticompetitive conduct.” This is an unambiguous finding of a significant causal connection between Google’s illegal conduct and the strength of the network effects benefiting Google in the app-distribution market. [. . .]

[27] Once the court established . . . that network effects were among the consequences of Google’s anticompetitive conduct, the court was permitted to shape relief targeted to those effects. [The law] authorizes courts to deny to the defendant the fruits of its statutory violation. The network effects that resulted from Google’s entrenchment of the Play Store in the two-sided app-distribution market are among those fruits. Because the catalog-access remedy ultimately offers a reasonable method of counteracting the Play Store’s dominance and reducing the network effects it enjoys by temporarily lowering barriers to entry, we uphold [it].

App-Store Distribution

[28] The . . . injunction also restricts Google from prohibiting the distribution of third-party Android app distribution platforms or stores through the Google Play Store, in direct response to Google’s practice of freezing other app stores out of the Play Store and barring them from users. Google is still entitled to charge a reasonable fee for any reasonable measures it takes to ensure that the app stores distributed on its platform are safe from a computer systems and security standpoint, and do not offer illegal goods or services, or violate Google’s content standards.

[29] Google raises the same two challenges here as it did with respect to the catalogue-access provision—that the district court exceeded its authority, and that it failed to make a causation finding. For the same reasons discussed above, we disagree with Google’s causation argument. And for many of the same reasons as the catalog-access provision, we hold that the app-store-distribution remedy was within the district court’s authority.

[30] In its discussion about Google’s unfairly enhanced network effects, the district court laid bare how market entrants faced hurdles on both ends of the two-sided market for Android app distribution. The yin and yang of this symbiotic relationship locked other app stores out of the Play Store, while app developers and users were locked in. Google knew that competitors would struggle not just because their catalog of apps/games is very limited, but also because they don’t have users. That is why Google worked in various ways to keep users tied to the Play Store, by making it difficult to download apps outside of the platform and by engaging OEMs to install the Play Store as the default app store on Android smartphones. It also explains why the court sought to undo the consequence of Google’s ill-gotten gains on that side of the market, by giving competitors a chance to reach users now anchored to the Play Store.

[31] . . . [A]pp-store distribution lowers the barriers for rival app stores to get onto users’ phones by enjoining Google from prohibiting the presence of rival app stores in the Google Play Store. The remedy [nevertheless allows] Google to charge a reasonable fee for any security measures that are comparable to the measures Google is currently taking for apps proposed to be listed in the Google Play Store. Taken together, the district court’s approach represents a reasonable method of eliminating the consequences of Google’s illegal conduct” on the user

side of the Android app-distribution market, just as the catalog-access remedy did on the developer side. So again, we affirm.

[32] Google’s complaints about these “duties to deal” are even less convincing here than in the context of the catalog-access remedy. By ordering Google to allow rival app stores from Amazon, Samsung, or any other competitor onto the Play Store, the injunction only compels that Google treat those software products the same way that it treats other products already offered on the platform. App stores are themselves just a type of app, as Epic notes, and some third-party app stores were already carried on the Play Store before Google updated its terms to have them excluded. . . .

[33] Google offers an additional challenge to the app-store-distribution remedy’s pricing clause, which provides: “Google may require app developers and app store owners to pay a reasonable fee” for its security procedures. Google asks that we follow our decision in *Image Technical Services v. Eastman Kodak*, 125 F.3d 1195, 1225 (9th Cir. 1997), to modify the provision about “reasonable prices” and require only “nondiscriminatory pricing.” This argument is unconvincing because there our intervention was motivated by a concern about Kodak’s intellectual property assets and its attendant right to earn monopoly profits. Google cannot explain why it is similarly entitled to charge supracompetitive prices for security reviews. While Google seeks to transform *Kodak* into a legal rule that prohibits direct price administration, it overlooks *Kodak*’s recognition that pricing is “generally [i.e., not always] considered beyond our function.” Indeed, the Supreme Court has expressly approved “reasonable” pricing restrictions in remedial orders.

[34] We conclude that the district court not only acted within its discretion to mandate a “reasonable fee,” but also chose the right price level to ensure the pro-competitive function of the app-store distribution remedy. Whereas *Kodak* determined that the modified, “nondiscriminatory pricing” would work just as well to keep the defendant in that case from harming competitors and charging exorbitant fees, here that standard could still allow Google to keep third-party app stores off the Play Store by charging them all the same unreasonably high price. The FTC and DOJ warn against this possibility in their amicus brief, where they argue that the reasonable-fee provision plainly prevents Google from undermining the decree by charging rival app stores exorbitant rates that could undermine their competitiveness. Google objects that it has no established history of abusing the pricing of its security procedures to restrain trade, but that does not answer the question whether it could instrumentalize that price lever in the future, when Google is enjoined from excluding third-party app stores simply as a matter of policy.

[35] The Supreme Court put this point bluntly: “The District Court is not obliged to assume, contrary to common experience, that a violator of the antitrust laws will relinquish the fruits of [its] violation more completely than the court requires.” *Int’l Salt Co. v. United States*, 332 U.S. 392, 400 (1947). As Epic explains, “Google has not been and does not want to be in the business of carrying app stores at all.” So now that the jury found Google liable for restraining trade through other means, it falls squarely within the district court’s discretion to ensure that there remain no practices likely to result in monopolization in the future. Because that discretion encompasses the power to craft “forward-looking” restraints like the reasonable-fee provision, and because that provision enhances the restorative and pro-competitive effect of the app-store-distribution remedy without causing undue harm to Google or its business, it survives our review.

Permanent Injunction, In re Google Play Store Antitrust Litigation

No. 3:21-MD-2981 (N.D. Cal. filed Oct. 7, 2024)

Judge Donato.

[1] This injunction applies to Google LLC and each of its parent, affiliated, and subsidiary entities, officers, agents, employees, and any person in active concert or participation with them, who receive actual notice of this order by personal service or otherwise (together, Google).

[2] Unless otherwise stated, the effective date of the injunction is November 1, 2024.

[3] The geographic scope of the injunction is the United States of America.

[4] For a period of three years ending on November 1, 2027, Google may not share revenue generated by the Google Play Store with any person or entity that distributes Android apps, or has stated that it will launch or is considering launching an Android app distribution platform or store.

[5] For a period of three years ending on November 1, 2027, Google may not condition a payment, revenue share, or access to any Google product or service, on an agreement by an app developer to launch an app first or exclusively in the Google Play Store.

[6] For a period of three years ending on November 1, 2027, Google may not condition a payment, revenue share, or access to any Google product or service, on an agreement by an app developer not to launch on a third-party Android app distribution platform or store a version of an app that includes features not available in, or is otherwise different from, the version of the app offered on the Google Play Store.

[7] For a period of three years ending on November 1, 2027, Google may not condition a payment, revenue share, or access to any Google product or service, on an agreement with an original equipment manufacturer (OEM) or carrier to preinstall the Google Play Store on any specific location on an Android device.

[8] For a period of three years ending on November 1, 2027, Google may not condition a payment, revenue share, or access to any Google product or service, on an agreement with an OEM or carrier not to preinstall an Android app distribution platform or store other than the Google Play Store.

[9] For a period of three years ending on November 1, 2027, Google may not require the use of Google Play Billing in apps distributed on the Google Play Store, or prohibit the use of in-app payment methods other than Google Play Billing. Google may not prohibit a developer from communicating with users about the availability of a payment method other than Google Play Billing. Google may not require a developer to set a price based on whether Google Play Billing is used.

[10] For a period of three years ending on November 1, 2027, Google may not prohibit a developer from communicating with users about the availability or pricing of an app outside the Google Play Store, and may not prohibit a developer from providing a link to download the app outside the Google Play Store.

[11] For a period of three years, Google will permit third-party Android app stores to access the Google Play Store's catalog of apps so that they may offer the Play Store apps to users. For apps available only in the Google Play Store (i.e., that are not independently available through the third-party Android app store), Google will permit users to complete the download of the app through the Google Play Store on the same terms as any other download that is made directly through the Google Play Store. Google may keep all revenues associated with such downloads. Google will provide developers with a mechanism for opting out of inclusion in catalog access for any particular third-party Android app store. Google will have up to eight months from the date of this order to implement the technology necessary to comply with this provision, and the three-year time period will start once the technology is fully functional.

[12] For a period of three years, Google may not prohibit the distribution of third-party Android app distribution platforms or stores through the Google Play Store. Google is entitled to take reasonable measures to ensure that the platforms or stores, and the apps they offer, are safe from a computer systems and security standpoint, and do not offer illegal goods or services under federal or state law within the United States, or violate Google's content standards. The review measures must be comparable to the measures Google is currently taking for apps proposed to be listed in the Google Play Store. If challenged, Google will bear the burden of proving that its technical and content requirements and determinations are strictly necessary and narrowly tailored. Google may require app developers and app store owners to pay a reasonable fee for these services, which must be based on Google's actual costs. Google will have up to eight months from the date of this order to implement the technology and procedures necessary to comply with this provision, and the three-year time period will start once the technology and procedures are fully functional. For the duration of this time period, the Technical Committee described in paragraph 13 below will in the first instance decide challenges to Google's review decisions, with the Court serving as the final word when necessary.

[13] Within thirty days of the date of this order, the parties will recommend to the Court a three-person Technical Committee. Epic and Google will each select one member of the Technical Committee, and those two members will select the third member. After appointment by the Court, the Technical Committee will review disputes or issues relating to the technology and processes required by the preceding provisions. If the Technical Committee cannot resolve a dispute or issue, a party may ask the Court for a resolution. The Technical Committee may not extend any deadline set in this order, but may recommend that the Court accept or deny a request to extend. Each party will bear the cost of compensating their respective party-designated committee member for their work on the committee. The third member's fees will be paid by the parties in equal share.

[14] The Court will retain jurisdiction over the injunction for all purposes. Google or Epic may request a modification of the injunction for good cause.

➔ {Eds.: after this injunction issued, Epic and Google entered into an agreement to resolve their disputes.¹⁸¹}

* * *

Concerns about app store competition—including some discussed above—have motivated some legislative proposals in recent years. The following extract is drawn from the proposed Open App Markets Act, proposed as a measure to improve competition in app stores, but not yet enacted. What do you think of it?

[Proposed] Open App Markets Act

S. 2153, 119th Cong. (2025)

SEC. 2 DEFINITIONS

[. . .] **COVERED COMPANY.**— The term “covered company” means any person that owns or controls—

(A) an app store for which users in the United States exceed 50,000,000 on a monthly basis (inclusive of support functions associated with the app store such as updates to apps); and

(B) the operating system or operating system configuration on which the app store described in subparagraph (A) operates.

[. . .] **NONPUBLIC BUSINESS INFORMATION.**— The term “nonpublic business information” means nonpublic data that is—

(A) derived from a developer or an app or app store owned or controlled by a developer, including interactions between users and the app or app store of the developer; and

(B) collected by a covered company in the course of operating an app store or providing an operating system.

SEC. 3. PROTECTING A COMPETITIVE APP MARKET.

(a) **EXCLUSIVITY AND TYING.**—A covered company shall not—

(1) require developers to use or enable an in-app payment system owned or controlled by the covered company or any of its business partners as a condition of the distribution of an app on an app store or being accessible on an operating system;

(2) require as a term of distribution on an app store that pricing terms or conditions of sale be equal to or more favorable on its app store than the terms or conditions under another app store; or

¹⁸¹ Sameer Samat, *A New Era for Choice and Openness*, Android Developers Blog (Mar. 4, 2026), <https://android-developers.googleblog.com/2026/03/a-new-era-for-choice-and-openness.html> (“With these updates, we have . . . resolved our disputes worldwide with Epic Games.”); Sean Hollister, *Google and Epic Give Up Fighting—Third-Party Android App Stores Are Coming Next Week*, THE VERGE (July 14, 2026) (quoting Google representative: “We’ve agreed with Epic to withdraw our motion to modify the US Court’s injunction rather than prolonging this process which creates uncertainty for the ecosystem.”).

(3) take punitive action or otherwise impose less favorable terms and conditions against a developer—

(A) for using or offering different pricing terms or conditions of sale through another in-app payment system or on another app store; or

(B) on the basis that an app provides access to other third-party apps or games through remote electronic services rather than through download from an app store.

(b) Interference with legitimate business communications.—A covered company shall not impose restrictions on communications of developers with the users of an app of the developer through the app or direct outreach to a user concerning legitimate business offers, such as pricing terms and product or service offerings. Nothing in this subsection shall prohibit a covered company from requiring that an app acquire user consent prior to the collection and sharing of the data of the user by an app.

(c) Nonpublic business information.—A covered company shall not use nonpublic business information derived from a third-party app for the purpose of competing with that app.

(d) Interoperability.—A covered company that controls the operating system or operating system configuration on which its app store operates shall allow and provide readily accessible means for users of that operating system to—

(1) choose third-party apps or app stores as defaults;

(2) install third-party apps or app stores through means other than its app store; and

(3) hide or delete apps or app stores provided or preinstalled by the covered company or any of its business partners.

(e) Self-Preferencing in search.—

(1) IN GENERAL.—A covered company shall not provide unequal treatment of apps in an app store through ranking schemes, user interface features, or algorithms that unreasonably preference or rank the apps of the covered company or any of its business partners over those of other apps in organic search results.

(2) CONSIDERATIONS.—Unreasonably preferencing does not include clearly disclosed advertising.

(f) Open app development.—

(1) ACCESS.—A covered company shall provide access to operating system interfaces and hardware and software features to developers that are generally available to the public.

(2) DOCUMENTATION.—A covered company shall provide documentation and development information sufficient to access such interfaces and features.

(3) TIMELY AND EQUIVALENT BASIS.—A covered company shall provide the access and documentation under this subsection on a reasonably timely basis and on terms that are equivalent to the terms for access by the covered company or to its business partners.

SEC. 4. PROTECTING THE SECURITY AND PRIVACY OF USERS.

(a) In general.—

(1) NO VIOLATION.—Subject to section (b), a covered company shall not be in violation of section 3 for an action that is—

(A) necessary to achieve user privacy or security;

(B) taken to prevent spam or fraud;

(C) necessary to prevent unlawful infringement of preexisting intellectual property; or

(D) taken to prevent a violation of, or comply with, Federal or State law.

(2) **PRIVACY AND SECURITY PROTECTIONS.**—In paragraph (1), the term “necessary to achieve user privacy or security” includes—

(A) allowing an end user to opt in, and providing information regarding the reasonable risks, prior to enabling installation of the third-party apps or app stores;

(B) removing malicious or fraudulent apps or app stores from an end user device;

(C) providing an end user with the means to verify the authenticity and origin of third-party apps or app stores; and

(D) providing an end user with the option to limit access to the user's device or device features, or limit the collection and sharing of the data of the user with third-party apps or app stores.

(b) **Requirements.**—

(1) **IN GENERAL.**—Subsection (a) shall only apply if the covered company establishes by a preponderance of the evidence that the action described in that subsection is—

(A) applied on a demonstrably consistent basis to—(i) apps of the covered company or its business partners; and (ii) other apps; and

(B) narrowly tailored and could not be achieved through a less discriminatory and technically possible means.

(2) **CERTIFICATION.**—The principal executive officer or officers of the covered company, or persons performing similar functions shall submit to the court a certification made under penalty of perjury . . . that the action described in subsection (a) is not used as a pretext to exclude, or impose unnecessary or discriminatory terms on, third-party apps, in-app payment systems, or alternative app stores.

SEC. 5. ENFORCEMENT.

(a) **Enforcement.**—

(1) **IN GENERAL.**—The Federal Trade Commission, the Attorney General, and any attorney general of a State subject to the requirements in paragraph (3) shall enforce this Act in the same manner, by the same means, and with the same jurisdiction, powers, and duties as though all applicable terms and provisions of the Federal Trade Commission Act (15 U.S.C. 41 et seq.), the Sherman Act (15 U.S.C. 1 et seq.), the Clayton Act (15 U.S.C. 12 et seq.), and the Antitrust Civil Process Act (15 U.S.C. 1311 et seq.), as appropriate, were incorporated into and made a part of this Act.

(2) **FEDERAL TRADE COMMISSION INDEPENDENT LITIGATION AUTHORITY.**—If the Federal Trade Commission has reason to believe that a covered company violated this Act, the Federal Trade Commission may commence a civil action, in its own name by any of its attorneys designated by it for such purpose, to recover a civil penalty and seek other appropriate relief in a district court of the United States against the covered company.

(3) **PARENS PATRIAE.**—Any attorney general of a State may bring a civil action in the name of such State for a violation of this Act as parens patriae on behalf of natural persons residing in such State, in any district court of the United States having jurisdiction of the defendant, and may secure any form of relief provided for in this section.

(b) **Suits by developers injured.**—

(1) **IN GENERAL.**—Except as provided in paragraph (3), any developer injured by reason of anything forbidden in this Act may sue therefor in any district court of the United States in the district in which the defendant resides or is found or has an agent, without respect to the amount in controversy, and shall

recover threefold the damages by the developer sustained and the cost of suit, including a reasonable attorney's fee. The court may award under this paragraph, pursuant to a motion by such developer promptly made, simple interest on actual damages for the period beginning on the date of service of the pleading of the developer setting forth a claim under this Act and ending on the date of judgment, or for any shorter period therein, if the court finds that the award of such interest for such period is just in the circumstances. In determining whether an award of interest under this paragraph for any period is just in the circumstances, the court shall consider only—

(A) whether the developer or the opposing party, or either party's representative, made motions or asserted claims or defenses so lacking in merit as to show that such party or representative acted intentionally for delay or otherwise acted in bad faith;

(B) whether, in the course of the action involved, the developer or the opposing party, or either party's representative, violated any applicable rule, statute, or court order providing for sanctions for dilatory behavior or otherwise providing for expeditious proceedings; and

(C) whether the developer or the opposing party, or either party's representative, engaged in conduct primarily for the purpose of delaying the litigation or increasing the cost thereof.

(2) **INJUNCTIVE RELIEF.**—Except as provided in paragraph (3), any developer shall be entitled to sue for and have injunctive relief, in any court of the United States having jurisdiction over the parties, against threatened loss or damage by a violation of this Act, when and under the same conditions and principles as injunctive relief against threatened conduct that will cause loss or damage is granted by courts of equity, under the rules governing such proceedings, and upon the execution of proper bond against damages for an injunction improvidently granted and a showing that the danger of irreparable loss or damage is immediate, a preliminary injunction may issue. In any action under this paragraph in which the plaintiff substantially prevails, the court shall award the cost of suit, including a reasonable attorney's fee, to such plaintiff.

(3) **FOREIGN STATE-OWNED ENTERPRISES.**—A developer of an app that is owned by, or under the control of, a foreign state may not bring an action under this subsection.

NOTES

- 1) Should courts, agencies, or Congress allow an app store owner to collect an unlimited commission on app distribution and in-app sales for an unlimited period of time? To put it another way: should app store owners have more freedom, less freedom, or the same freedom to price that other businesses enjoy?
- 2) How do you rate the extract from the proposed Open App Markets Act? What goals do you think it is trying to balance, and what changes would you make to improve it?
- 3) If there is no duty to carry third-party apps in the first place, does it follow that there is no antitrust problem with imposing particular conditions on their carriage?
- 4) Are the different outcomes in Epic's suits against Apple and Google respectively in tension with one another? Do you think the difference between a bench trial and jury trial had anything to do with the different results?
- 5) Do you think the *Epic v. Google* remedial model is a promising model for antitrust concerns in other markets (*i.e.*, beyond the app-store setting)? Which ones?
- 6) Is the terse district court order in *Epic v. Google* a demonstration that a court can relax, to some extent, about the technical details of implementing a remedy, because it can just set out the broad strokes and the technical difficulties can then be handled as they arise? Or did the court leave too much to be worked out after the fact?
- 7) Suppose that Business A decides to develop a platform—a device or operating system—primarily as a means of distributing its flagship app. To that end, it invests in building a high-quality platform and prices it at cost, all as a major strategic investment in distributing its flagship app widely. And suppose that Business B decides to develop a platform of the same kind—that is, a device or operating system—with no particular intention of distributing apps. Only later does Business B decide to make some money by developing some apps as a sideline. Should both businesses have the same latitude to discriminate against, or refuse to carry, rival apps on the platform's app store? In other words, in shaping antitrust rules and other regulations, should we care whether or not the platform was created specifically to provide better distribution for the in-house app?

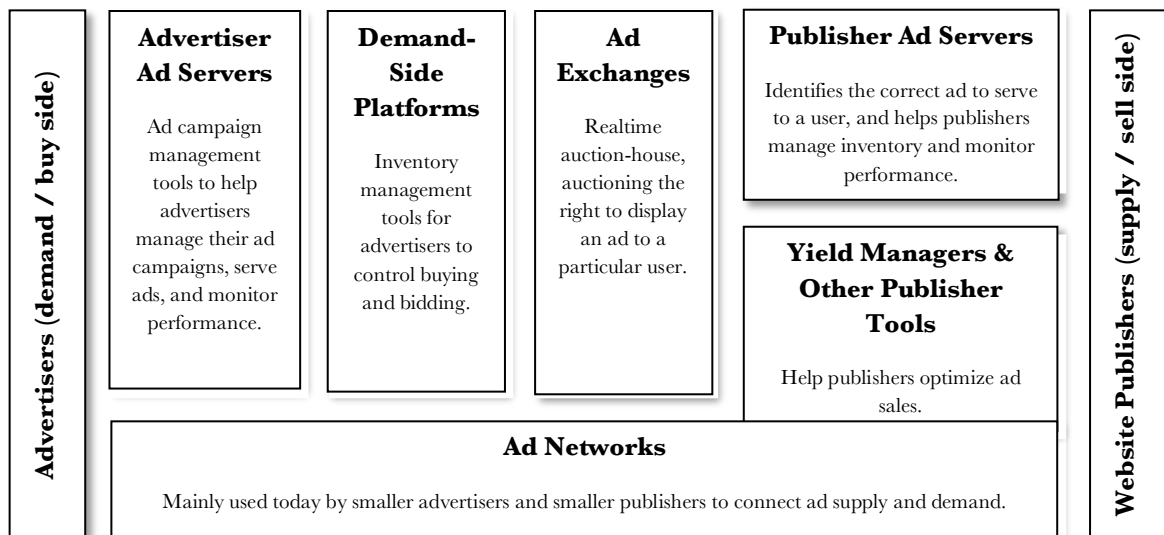
- 8) Is it an antitrust problem for an app-store owner to unilaterally decide to remove a rival app from its app store purely because the owner thinks that app is better and doesn't want the competition? What cases would bear on liability for that behavior?
- 9) Should an app store be able to enter into agreements with app developers about app pricing? What antitrust concerns, if any, might such a practice raise?
- 10) Consider the following statement. "Personal devices contain huge amounts of personal and sensitive data, and users make mistakes all the time when installing and using apps. As a result, the dangers of criminal, malicious, and other hostile apps vastly outweigh the gains from forced access or interoperability, so courts and Congress should be very deferential to (plausible) security concerns when invoked as a basis to limit or deny third-party access to app stores and devices." Do you agree?
- 11) Which government actor is best placed to figure out whether particular kinds of app-store restrictions are in fact reasonably necessary: Congress, courts (judges? juries?), or enforcers?
- 12) Are there any circumstances under which antitrust doctrine might imply due-process-style obligations (*e.g.*, reasoned decision-making, a hearing, some kind of appeal or review) when an app store owner wants to remove apps or limit their distribution? Should Congress create such obligations?

H. The Ad Tech Stack: *Google Ad Tech*

We have already encountered digital advertising, in general terms, above. But in this section we will consider some of the antitrust issues that have been raised in connection with the "ad tech stack." In general terms, the "stack" is the complicated chain of processes that connects businesses that have demand for digital advertising (*e.g.*, sellers of products and services that can be advertised) (the "demand side" of the market) with businesses that have a supply of digital advertising space (*e.g.*, website operators or "publishers") (the "supply side" of the market). A remarkable array of platforms, exchanges, and services have emerged to help match supply with demand.

The following is a highly simplified map of some common elements of the stack:

Figure 8: The Ad Tech Stack



The ad tech stack has long been a matter of interest for tech antitrust scholars, enforcers, and policymakers. Several factors explain its role as a magnet for attention. One is the presence of a prominent vertically integrated business—Google—which has maintained a significant presence throughout the stack for many years. At least some of Google's vertical integration in the stack is the result of acquisitions rather than organic growth. Most famously, Google's acquisition of DoubleClick in 2008 was the subject of an FTC investigation at the time: no

enforcement action was taken, but the transaction has remained controversial, especially as attention has focused on “tech antitrust” in recent years. For another thing, the operation of the stack is massively significant to the economy as a whole: digital advertising is a multi-billion-dollar matter as well as a feature of life (as well as an input cost!) to businesses of all kinds. Even “traditional” industries spend staggering sums on digital advertising, and therefore have a strong incentive to scrutinize the cost of such advertising for any anticompetitive overcharges. For a third thing, activity in the stack is complex, very fast, and difficult to measure accurately. Advertising supply and demand are matched in the twinkling of an eye, and it is hard for advertisers and publishers alike—with little information about the alternatives or the quality of the matching process—to be sure that they are getting good value for their money from the ad tech suppliers in the middle. For all these reasons, then, ad tech is often in the policy spotlight.

➔ In recent years the stack has also been in antitrust litigation, with the Justice Department launching a broad antitrust complaint at Google, challenging an array of practices. In the following extract, the U.S. District Court for the Eastern District of Virginia gives an overview of the stack, and then reviews DOJ’s allegations that Google has violated the antitrust laws in at least three ways: (1) acquisitions; (2) tying (applying a version of the heavily modified “*per se* rule” for tying—look back at Chapter VI if you need a refresher on this odd corner of doctrine); and (3) other “leveraging” practices. At the time of writing (Summer 2026), this litigation continues, as the court is considering its remedial decision.

United States v. Google LLC (“Google Ad Tech”)

778 F. Supp. 3d 797 (E.D. Va. 2025)

Judge Brinkema.

[1] The federal government and seventeen states (“Plaintiffs”) have brought this antitrust action against Google LLC (“Google” or “Defendant”), in which they claim that Google has monopolized . . . digital advertising technology markets in violation of Section 2 of the Sherman Act, and has tied its products in these markets together in violation of Sections 1 and 2 of the Sherman Act. [. . .]

Ad Networks and the Ad Tech Stack

[2] A few core digital advertising tools enabled the rise of programmatic advertising and the increased monetization of online content. At first, publishers and advertisers primarily used “ad networks,” third-party software products that sign up advertisers and publishers as their customers, and then match their advertisers’ ads with their publishers’ inventory. The advertiser side, or buy-side, of an ad network gave advertisers the ability to create or upload an advertisement’s visuals and any accompanying audio, to specify how much the advertiser was willing to pay for the advertisement to be placed on websites of publishers within the ad network, and to control the scope of the advertising campaign. The network would, in turn, match these ads to inventory that publishers had placed in the network. On the publisher side, or sell-side, the ad network gave publishers the ability to specify where and how ads appear on their websites, as well as to select types of ads based on quality and relevance. Google’s ad network was called the Google Content Network. AdWords is the advertiser-facing side of the Google Content Network, i.e., the Google product through which advertisers buy inventory from publishers that are in the network. AdSense is [the] publisher-facing side of the Google Content Network, i.e., the Google product through which publishers sell their inventory to advertisers that are in the network.

[3] Ad networks provide a simple way to connect advertising demand with publisher inventory, and are now primarily used by smaller advertisers and publishers. Larger, more sophisticated advertisers and publishers have generally moved away from ad networks and turned to modern ad tech products that facilitate large-scale advertising campaigns and increase their control over where, how, when, and to whom ads are shown. These more modern programmatic advertising products are collectively referred to as the “ad tech stack.”

[4] On the buy-side, sophisticated advertisers and their ad agencies have reduced their reliance on ad networks and started using two primary tools to buy ads and execute their advertising campaigns: “advertiser ad servers” and “demand-side platforms.” Advertiser ad servers help advertisers manage digital advertising campaigns, serve ads, and track ad performance. For example, advertiser ad servers enable advertisers to see how their ads perform

across different publishers, track user activity after interacting with ads (e.g., determine if the user visited the advertiser’s website or made a purchase), and adjust their advertising campaigns based on user behavior. Google’s advertiser ad server is called Campaign Manager 360, or CM360.

[5] Demand-side platforms provide large advertisers with significant control over the sources of inventory from which they purchase impressions and how they bid on those impressions. Demand-side platforms do this, in part, by providing a single interface for advertisers to manage programmatic and direct ad buying, to synthesize data about publisher inventory and users, and to bid into ad exchanges. A demand-side platform lets an advertiser control where and when its ads appear and to which user they are displayed. . . . Google’s demand-side platform is known as Display & Video 360, or DV360, and was previously called DoubleClick Bid Manager, or DBM.

[6] “Ad exchanges” serve as the critical intermediary between advertisers’ ads and publishers’ inventory by facilitating real-time auctions in which advertisers can bid on inventory. Ad exchanges do this by aggregating available inventory from publishers, flagging impressions as they become available (i.e., as users visit webpages), integrating with buy-side tools to solicit advertisers’ bids for each impression, and evaluating those bids within a fraction of a second to determine auction winners. [They are] the central transaction platforms for connecting sophisticated advertisers with sophisticated publishers Google’s ad exchange is called AdX.

[7] On the sell-side, most sophisticated publishers stopped using ad networks and started using “publisher ad servers” to manage and sell their ad inventory. When a user visits a website, a publisher ad server instantaneously alerts sources of advertising demand that it has an impression for sale, decides in real-time which ad to show the user, and runs the back-end processes to display the ad. Publisher ad servers make it easier for publishers to place multiple sources of advertising demand in competition against each other, as well as to run advertisements pursuant to direct deals with large advertisers. Publisher ad servers also enable sophisticated publishers to manage inventory across multiple web pages, set inventory price floors, and create detailed reports on inventory performance. As such, publisher ad servers are mission-critical tools for large publishers Google’s publisher ad server is called DoubleClick for Publishers, or DFP.

[8] These products in the ad tech stack work together to place advertisers’ ads on publishers’ websites. When a user visits a website, one or more ad exchanges receive a bid request from a publisher ad server that contains information about the impression and provides the amount of time that the exchange has to respond. During this time, which is usually a fraction of a second, each ad exchange that received the bid request runs an auction for the impression, soliciting bids from demand-side platforms, such as DV360, and the advertiser side of ad networks, such as AdWords. The ad exchange helps these ad buyers formulate their real-time bids by sharing information about the impression, including the website on which the impression appears, attributes about the user who is visiting the site, and the pricing information that the ad exchange has received from the publisher ad server. Within the extremely short amount of time that it has to respond to the publisher ad server, the ad exchange collects all buy-side bids, determines the highest bid, and shares that bid with the publisher ad server.

[9] The publisher ad server, in turn, selects the winning bid for the impression based on the bids it has received. Bids that do not meet or exceed the publisher’s floor price—the minimum amount of money that the publisher is willing to accept for the impression—are screened out. Publisher ad servers . . . [pit] exchanges’ bids against each other in real-time auctions. Once a winning bid is selected by the publisher ad server, the advertisement associated with it is served on the publisher’s webpage and displayed to the user. . . .

[10] For every programmatic advertising transaction, the companies that develop and operate these ad tech tools extract fees. Publisher ad servers, ad exchanges, demand-side platforms, advertiser ad servers, and ad networks typically each collect fees from the revenue-generating transactions in which they are involved, which means that ad exchanges and buy-side tools only collect fees when they submit a winning bid and place an ad in front of a user. Industry participants . . . refer to an ad tech tool’s percentage-based fees as its “take rate.” Typically, between \$20 to \$40 of every \$100 spent on digital advertising goes to the ad tech companies that develop and operate these tools.

[11] . . . From start to finish, the process takes no more than the time it takes the webpage to load, which is often well under half a second. . . .

[*Google's Activities in Programmatic Digital Advertising*]

[12] [. . .] In 2000, to meet [advertising] demand [for search advertising on Google Search], Google launched AdWords, which originated as a self-service advertising platform for buying search ads.

[13] AdWords grew rapidly, gaining over 100,000 advertiser customers by 2003. Although the platform first offered only text-based keyword advertising that appeared alongside Search results, it quickly expanded to offer ads across both Google's owned-and-operated websites and third-party websites.

[14] . . . [Later,] Google also launched AdSense, a self-service platform on which publishers could serve ads tailored to the content of their [own] webpages.

[15] By 2007, Google's advertiser-facing AdWords and publisher-facing AdSense, which together comprised the Google Content Network, constituted the largest digital ad network in the world. [. . .]

[16] **DoubleClick Acquisition.** In 2008, Google purchased a company called DoubleClick for \$3.1 billion to improve Google's ad serving capabilities and to prevent Microsoft from acquiring the leading ad serving company and thus becoming a major competitive threat to Google's publisher-facing ad tech business. With DoubleClick, Google significantly expanded the third-party publisher base on which it could run its advertisers' ads. DoubleClick's flagship product was the market's leading publisher ad server, DoubleClick For Publishers ("DFP"). DFP had a 60% share of the publisher ad serving market, and counted nine of the top ten U.S. websites among its customers. By acquiring DFP, Google was able to keep the sell-side control that DFP offered out of the hands of Microsoft, Yahoo, and other digital advertising rivals. Indeed, Google understood that DFP was the "must-call" publisher ad server, and that owning it was critical to winning the "most strategic battle" in the emerging open-web ad tech ecosystem.

[17] . . . [T]he DoubleClick acquisition helped [Google] establish a dominant position on both sides of the ad tech stack. Google's ad tech business thus benefited from network effects, as the more advertiser customers Google had, the more publishers wanted to use DFP, and the more publisher customers Google had, the more advertisers wanted to use Google's buy-side services, thereby creating a self-reinforcing positive feedback loop. In the DoubleClick acquisition, Google also obtained a nascent ad exchange, AdX, that connected the two sides of the ad tech stack by matching advertiser bids with publisher inventory.

[18] **Connection of AdWords, AdX, and DFP.** After acquiring DoubleClick, Google implemented two policies that incentivized both advertisers and publishers to use AdX. First, with limited exceptions, Google made AdX the only ad exchange into which AdWords advertising demand was permitted to bid. Second, Google required publishers to use DFP as their ad server if they wanted to access real-time bids from AdX.

[19] Through these two policies, AdX became the glue that sealed DFP inventory to AdWords demand. AdWords was a singularly powerful source of digital advertising demand. Its ease of use, association with a preeminent Internet company, and ability to place targeted advertisements alongside Search results attracted millions of unique advertisers, including countless small and medium-sized businesses. Although publishers could offer their impressions on non-Google ad exchanges, large publishers were greatly attracted to the unique advertising demand offered by AdWords, and as a result viewed using DFP as essential because it was the only publisher ad server that could effectively access AdX and, consequently, AdWords demand. Google . . . understood that limiting access to AdWords demand in this way compelled publishers to use AdX and DFP.

[20] **First Look.** Google used its control of DFP, the world's most popular ad server for large publishers, to implement additional policies that benefited its ad tech products. With a feature called "First Look," Google required publishers using DFP to offer AdX a first right of refusal for each impression. In other words, a publisher using DFP had to give AdX the opportunity to buy the publisher's impression before any rival exchanges were permitted to bid for that impression. In addition to giving AdX the opportunity to bid before other exchanges, DFP permitted AdX to bid in real-time, whereas other exchanges were required to make static bids that were set in advance and could not account for contemporaneous information about the value of the specific impression. AdX received a First Look at DFP impressions even if the publisher preferred other exchanges and wanted to rank them first.

[21] The First Look functionality benefited AdX advertisers, as they could win the auction even when advertisers using rival ad exchanges were willing to pay a higher price for the impression (i.e., when bids from other exchanges offered publishers more revenue for the impression). For example, if AdX offered \$1.07 [cost per thousand impressions (“CPM”)] for an impression, and that amount met or exceeded the publisher’s floor price for the impression, AdX would win the auction before any other exchanges’ bids were examined, even if other exchanges were offering \$1.10 CPM and \$1.08 CPM for the same impression. Thus, under First Look, advertisers using AdX could win the auction even if they did not offer the highest revenue for the impression. This inherent inefficiency limited the ability and incentive for advertisers using other ad exchanges to compete on price, and resulted in publishers not obtaining the maximum value for their impressions. The “unfair advantage” that First Look offered Google was built into the software . . . within DFP, and publishers could not toggle it off.

[22] By giving AdX an advantage in winning the transaction, First Look made it difficult for other exchanges to compete on a level playing field with AdX, thereby impeding their ability to enter the market, grow, and compete. In addition to providing a revenue advantage, First Look also gave Google a data advantage that helped the AdX team train its auction bidding models more effectively.

[23] . . . DFP remained the [de facto] preferred ad server of choice for 90% of publishers [despite frustration with Google’s policies], because of its guaranteed access to the unique AdWords demand sourced through AdX, the high switching costs associated with changing to another publisher ad server, and the lack of competitive alternatives.

[24] **Admeld Acquisition.** . . . In 2011, Google acquired Admeld, a yield manager that helped publishers decide which ad networks and other demand sources to transact with based on supply, demand, and pricing data. Before acquiring Admeld, Google viewed it as a direct competitor that could disintermediate Google’s control over advertiser-publisher relationships, that risked breaking Google’s ability to enforce policies such as First Look, and that offered a better publisher base and improved audience data integration.

[25] After acquiring Admeld, Google incorporated some of Admeld’s features, such as its network yield management functionality, into AdX and DFP to improve Google’s sell-side ad tools. But Google also shut down some of Admeld’s features, including its ability to pass real-time AdX pricing into non-DFP publisher ad servers. Google did so . . . because allowing AdX to submit real-time bids to publishers using non-Google ad servers would have taken away a key differentiator for DFP. The deprecation of Admeld features was consistent with Google’s pre-acquisition plan to “pick up the yield manager with the most traction and park it somewhere.” [. . .]

[26] **Last Look.** Through a process called Last Look, AdX was able to outbid the winner of the header bidding auction for every impression in DFP. {Eds.: “header bidding” was a technical workaround, created by publishers, that allowed publishers using DFP to solicit real-time bids from multiple ad exchanges, rather than just AdX—in brief, it would conduct a preliminary mini-auction among non-AdX exchanges, and then force AdX to compete against the bid that won the mini-auction.} DFP publishers that wanted to place the winning bid of a header bidding auction in competition with AdX’s bids were required to incorporate that winning bid as a price floor in DFP. AdX would then have the unique opportunity to adjust its bid in response to the highest bid from rival ad exchanges. In what was otherwise a sealed auction, Last Look let AdX open the envelope for the winning bid, know what the winning bid was, and be able to bid after everybody else. Being able to view its competitors’ bids provided Google and its advertising customers with a significant informational advantage that significantly disadvantaged other competitors in the ad exchange space. . . .

[27] **Sell-Side Dynamic Revenue Share.** Google further expanded AdX’s Last Look advantage by using a pricing model called sell-side dynamic revenue share. This dynamic pricing model allowed AdX to adjust its take rate—the percentage fee it charged—on an impression-by-impression basis to “exploit the last look advantage.” Although AdX maintained an overall take rate of around 20%, it would lower its take rate below 20% on competitive impressions that had received relatively high offers from third-party exchanges via header bidding. Selectively lowering its take rate on competitive impressions made AdX’s advertisers more likely to win auctions for those impressions, as publishers ranked bids by the revenue they offered net of fees. [To compensate,] AdX . . . [charged] a take rate above 20% for impressions where its advertisers faced less competition from third-party exchanges. [. . .]

[28] **Unified Pricing Rules.** By 2019, Google was facing pressure from publishers to improve the transparency and fairness of its advertising auction processes . . . [and it anticipated] regulatory and competition concerns. In response, Google agreed to remove Last Look. But Google simultaneously introduced Unified Pricing Rules, a policy that prohibited publishers using DFP from setting higher price floors for AdX than for other exchanges. Unified Pricing Rules also prohibited DFP publishers from setting higher price floors for Google AdWords demand than for demand from other ad networks or demand-side platforms.

[29] . . . Google knew . . . that many publishers using DFP had been setting higher pricing floors for AdX than for other exchanges so that they could reduce their high dependence on Google’s ad tech stack. . . . Despite its name, Unified Pricing Rules did not require a level playing field between exchanges, as it permitted publishers to set higher price floors on third-party exchanges than on AdX. [. . .]

[30] Unified Pricing Rules increased the number of impressions AdX won and the revenue it received, while decreasing impressions won and revenue received by third-party exchanges. [. . .]

[*Monopolization Claims*]

[31] Plaintiffs contend that Google violated Section 2 of the Sherman Act by monopolizing . . . markets within the open-web display advertising technology ecosystem [including]: the publisher ad server market [and] the ad exchange market[.] {*Eds.: we are omitting reference to a third alleged market, rejected by the court.*} [. . .]

[*Market Definition*]

[32] . . . [P]ublisher ad servers for open-web display advertising constitute a distinct relevant product market. [They] are uniquely suited for managing ad inventory for large web publishers, are priced differently than other ad tech tools, and are recognized as a distinct product by ad tech industry participants. Consequently, other ad tech tools are not reasonably interchangeable with publisher ad servers. [. . .]

[33] [A]d exchanges for open-web display advertising [also] constitute a distinct relevant product market. Ad exchanges play a distinct role in the open-web display ad tech stack by connecting publishers using publisher ad servers with advertisers using programmatic buying tools such as demand-side platforms and ad networks. Due to their unique ability to collect and rank ad bids from multiple buying tools in mere milliseconds, ad exchanges are involved in most programmatic open-web display transactions, are recognized as a distinct product by industry participants, and are priced differently than other ad tech tools. Accordingly, there is no other ad tech tool that is reasonably interchangeable with ad exchanges. [. . .]

[*Monopoly Power*]

[34] Plaintiffs have proven that Google possesses monopoly power in the publisher ad server for open-web display advertising market. Google’s publisher ad server DFP has a durable and predominant share of the market that is protected by high barriers both to entry and expansion. This conclusion is reinforced by evidence that Google has acted to degrade DFP’s features without fear that its customers would switch to alternative publisher ad servers.

[35] [Expert evidence] showed that in 2022, Google had a 91% market share of the worldwide publisher ad server market for open-web display advertising as measured by the number of impressions served. From 2018 through 2022, Google’s share of this worldwide market held steady between 91.0% and 93.5%, and its U.S. market share stayed between 86.5% and 92.3%. . . .

[36] The significant barriers to entry and expansion that exist in the publisher ad server market make DFP’s high market share durable. . . . [B]uilding a publisher ad server is a complex, resource-intensive process, even for a large corporation. [And] it is very challenging to gain publisher ad server customers. Publishers almost always use a single ad server for open-web display ads because operating two or more publisher ad servers would not be practical due to [technical challenges]. To gain market share from DFP, a rival would have to convince publishers to stop using DFP and switch to the rival’s publisher ad server. This, however, is very difficult to do. . . . In the words of a former Google and DoubleClick executive, switching publisher ad servers “takes an act of God to do” and is a “nightmare” because “nothing has such high switching costs.” [. . .]

[37] Plaintiffs have [also] proven that Google possesses monopoly power in the ad exchange for open-web display advertising market. Google’s AdX has long been the dominant exchange For over a decade, Google has charged durable supracompetitive prices for AdX—taking 20% of each open-web display transaction—and has exhibited an unwillingness to lower AdX’s take rate even as the market matured and other ad exchanges reduced their prices. Despite the availability of lower priced exchanges, customers generally have not left AdX due to Google’s substantial market power in the ad exchange market. That market power has been fortified by high barriers to entry that resulted from Google’s scale and network effects across the open-web display ecosystem. Accordingly, Google has maintained a high share of the open-web display ad exchange market, with AdX having a market share roughly nine times greater than that of its next-largest competitor. [. . .]

[Anticompetitive Conduct]

[38] **Acquisitions.** The Court finds that Plaintiffs have failed to show that the DoubleClick and Admeld acquisitions were anticompetitive. Although these acquisitions helped Google gain monopoly power in two adjacent ad tech markets, they are insufficient, when viewed in isolation, to prove that Google acquired or maintained this monopoly power through exclusionary practices.

[39] The 2008 acquisition of DoubleClick gave Google the largest publisher ad server, DFP, and provided the company with a nascent ad exchange for matching DFP publishers with AdWords advertisers. Google knew that acquiring DFP and connecting it to AdWords using an ad exchange would increase Google’s scale, network effects, and power across the ad tech ecosystem. According to Plaintiffs, Google paid \$1 billion more than its corporate strategy team’s valuation of DoubleClick to secure sell-side infrastructure and to prevent another large technology company from standing between Google’s buy-side business and publishers.

[40] Even assuming Plaintiffs are correct in their assessment of Google’s strategy, they have not shown that the acquisition of DoubleClick was anticompetitive. Plaintiffs do not assert that Google had monopoly power in any of the relevant markets when it acquired DoubleClick. Indeed, the DoubleClick acquisition occurred at a time when [other businesses, such as] Magnite (then known as Rubicon), Microsoft, OpenX, and Yahoo were vigorous participants in open-web display advertising markets. The acquisition was reviewed and cleared by the Federal Trade Commission by a four to one vote after a determination that Google’s proposed acquisition of DoubleClick is unlikely to substantially lessen competition.

[41] Nor did the 2011 acquisition of Admeld constitute anticompetitive conduct. Plaintiffs argue that the Admeld acquisition was problematic because Google intentionally acquired a key competitor, and then terminated its core yield management functionality, thereby ending a competitive threat to Google’s sell-side businesses. According to Plaintiffs’ expert . . . , the Admeld acquisition reduced competition in both the ad exchange and publisher ad server markets for open-web display advertising.

[42] It is true that Admeld, along with Magnite and PubMatic, was one of the three leading yield managers in 2011, and that Google had identified Admeld as being its largest concern, because it had a stronger product offering and better publisher base than its competitors. As a leading yield manager, Admeld threatened to undermine Google’s strategy to “own the tag,” i.e., to control which advertising demand sources would be used to monetize indirect inventory for a publisher. But evidence shows that Google did not merely buy Admeld to sideline it; rather, Google sought to fill a gap in its portfolio and drew upon Admeld’s engineers and technology to rebuild some of Admeld’s capabilities within AdX and other aspects of Google’s ad tech architecture. In doing so, Google at least partially improved the effectiveness of AdX, which before the Admeld acquisition was struggling to win business due to being very expensive, inflexible, and not great at optimizing for yield. The Admeld acquisition also provided Google with the skill set and the knowledge it needed to make the AdX value proposition more compelling. Acquiring technology and talent to offer customers a more flexible, affordable, and effective product is not anticompetitive when motivated by valid business reasons. That may be one reason why the Antitrust Division of the U.S. Department of Justice chose not to pursue legal action against Google for its Admeld acquisition after conducting an investigation that obtained extensive information from Google, Admeld and a wide range of market participants. [. . .]

[43] **Tying DFP to AdX.** [. . .] Tying is per se unlawful under Section 1 of the Sherman Act To prove a tying claim, a plaintiff must establish . . . : (1) the existence of two separate products, (2) an agreement conditioning purchase of the tying product upon purchase of the tied product (or at least upon an agreement not to purchase the tied product from another party), (3) the seller's possession of sufficient economic power in the tying product market to restrain competition in the tied product market, and (4) a not insubstantial impact on interstate commerce. . . . [T]ying by a monopolist can satisfy the anticompetitive conduct element under Section 2 of the Sherman Act. . . .

[44] Here, Plaintiffs allege that Google tied DFP, its publisher ad server, to AdX, its ad exchange. Specifically, Plaintiffs cite to Google's technical and policy restrictions that prohibited publishers from receiving real-time bids from AdX (the tying product) unless they also used DFP (the tied product). These restrictions, according to Plaintiffs, compelled publishers to use DFP, not because they viewed it as a superior product, but rather due to Google's exploitation of its control over AdX's preeminent position in the open-web display ad exchange market. Partly as a result, Plaintiffs claim that DFP became, and has remained, the dominant publisher ad server for open-web display advertising.

[45] Plaintiffs have proven the four elements of their tying claim. First, publisher ad servers and ad exchanges are "two separate products" that are not reasonably interchangeable. [They] serve different functions, use different pricing structures, and are recognized as different products by industry participants. . . .

[46] Second, the policy and technology restrictions that Google has placed within AdX conditioned purchase of the tying product [AdX] upon purchase of the tied product [DFP]. The function of an ad exchange is to match publishers with advertisers by facilitating real-time auctions for publishers' inventory. An ad exchange does this by aggregating advertisers' bids for each available impression, then submitting the best of those bids to the publisher ad server with the goal of outbidding competing bids from other ad exchanges. Access to real-time bids from AdX is considered particularly valuable by publishers because of the unique advertising demand that AdX receives from the millions of advertisers who exclusively use AdWords. By restricting AdX's submission of real-time bids only to DFP, and by not allowing AdX to provide real-time bids to other publisher ad servers, Google made AdX ineffective at its core function when used by publishers who did not also use DFP. In practice, therefore, Google's restriction of AdX's real-time bidding to DFP required Google's publisher customers who wanted to use AdX's core feature to use DFP. This coercive policy made purchasing DFP, the tied product, together with AdX, the tying product, the only viable economic option for publishers who wanted to gain effective real-time access to AdWords, which they could only accomplish by using AdX. [. . .]

[47] Google staff understood the coercive power of the AdX-DFP tie. For example, a Google sell-side manager told his leadership that "AdX can serve as a tool to pull publishers onto DFP." [. . .]

[48] Google argues that publishers who used AdX were free to use a publisher ad server other than DFP, and those that used DFP did not necessarily have to use AdX. But by prohibiting publishers that used a non-DFP ad server from having access to the essential AdX feature of real-time bidding by AdWords advertisers, Google effectively has coerced the abdication of publishers' independent judgment as to the tied product's merits and insulated it from the competitive stresses of the open market. . . .

[49] Third, Google has possessed sufficient economic power in the tying product market to restrain competition in the tied product market. The Court has found that Google has monopoly power in the open-web display ad exchange market because AdX charges supracompetitive prices, is nine times larger than the next largest ad exchange, and is protected by high barriers to entry and expansion. Such proof . . . is more than sufficient to show . . . the requisite level of economic power[.] [. . .]

[50] Fourth and finally, the tying of AdX and DFP has had a not insubstantial impact on interstate commerce. . . . [I]t is not disputed that such an impact is present here. . . . Plaintiffs have [thus] shown that Google has engaged in unlawful tying under Section 1 of the Sherman Act.

[51] Google's tying of DFP to AdX also violates Section 2 of the Sherman Act because it contributed significantly to the maintenance or creation of monopoly power even though it was unilaterally imposed. . . . To deepen [the connections between its products], Google artificially handicapped its buy-side (AdWords) to boost the

attractiveness of its sellside (AdX) by effectively limiting its programmatic open-web advertisers in AdWords to bidding for inventory from publishers that used AdX and DFP. Google did this despite knowing that its advertiser customers would benefit from AdWords' bidding for open-web display ad inventory on non-Google exchanges. [. . .]

[52] [**Entrenchment.**] Google's monopolies in the publisher ad server and ad exchange markets, enhanced by the AdX-DFP tie, have enabled Google to introduce a series of [other] anticompetitive policies, practices, and technology changes to its sell-side ad tech tools that were not in its publisher customers' best interests. These changes decreased product quality and harmed competition by further entrenching Google as the dominant company in open-web display advertising. . . .

[53] The first of these anticompetitive policies was First Look, which required publishers using DFP to offer AdX a first right of refusal for each impression. First Look exacerbated the anticompetitive effect of the unlawful AdX-DFP tie by artificially advantaging AdX within DFP's auction logic at the expense of Google's publisher customers. [Google ran] a fundamentally unfair auction process to preference its own ad exchange over third-party ad exchanges . . . [and this] use of its monopoly power to impose artificial technical limitations that made it harder for customers to do business with rivals, instead of competing on the merits by making its ad exchange more attractive to customers, constituted anticompetitive conduct. . . .

[54] Google's Last Look [also] entrenched Google's monopoly power, disadvantaged Google's publisher customers, and harmed the competitive process. This DFP feature, which gave AdX the ability to see competing exchanges' bids in an otherwise sealed auction before AdX would bid, harmed publishers, rival ad exchanges, and advertisers using non-Google ad buying technologies. . . .

[55] The anticompetitive effects of Last Look have been compounded by Google's sell-side dynamic revenue share. By using the Last Look informational advantage to vary AdX fees and win impressions that it would have lost in a fair auction, Google has further enhanced AdX's market power at the expense of rivals, thereby reducing competition and harming its publisher customers' ability to diversify their revenue sources away from Google.

[56] . . . Google eventually eliminated its Last Look advantage. But in implementing Unified Pricing Rules, Google simultaneously took away publishers' ability to set higher price floors on AdX than on third-party exchanges, which was a primary tool that publishers had used to maintain revenue diversity and to mitigate Google's dominance of the ad exchange market. . . . Unified Pricing Rules is another example of Google exploiting its monopoly power and tying arrangement to restrict its customers' ability to deal with its rivals, thereby reducing its rivals' scale, limiting their ability to compete, and further compounding the harm to customers. Under these circumstances, Unified Pricing Rules constituted anticompetitive conduct because it involved Google using its coercive monopoly power to deprive its publisher customers of a choice that they had previously exercised to promote competition.

[*]

[57] [Google argues] that its actions to build and shape an integrated ad tech infrastructure, including the tying of DFP to AdX and the subsequent use of that tie to preference Google products over rival products, cannot result in antitrust liability under the "refusal to deal" doctrine articulated by the Supreme Court in *Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398 (2004)[.] . . .

[58] The refusal to deal doctrine in *Trinko* does not apply to Google's conduct at issue. Courts have declined to extend a refusal-to-deal-with-rivals analysis to anticompetitive restraints that a monopolist places on its customers, as opposed to its competitors. Courts have also contrasted the refusal to deal doctrine from a monopolist's more direct interference with rivals, such as limiting the abilities of third parties to deal with rivals (exclusive dealing) or requiring third parties to purchase a bundle of goods rather than just the ones they really want (tying). Here, Google has engaged in tying that effectively has compelled its publisher customers to use DFP if they want to use AdX and receive real-time bids from AdWords advertisers. This tying has had the anticompetitive effect of limiting Google's publisher customers' choice of publisher ad server for reasons other than competition on the merits. Moreover, the tie increased Google's scale, decreased rivals' scale, caused some rivals to exit the publisher ad server market, and harmed competition, customers, and Internet users. Although such tying, like other

anticompetitive and restrictive conditions on customers, can be conceptualized as a conditional refusal to deal, that does not mean it should be assessed as a “simple refusal to deal” with rivals, which was the alleged harm in *Trinko*. . . . [A] tying claim does not fail as a matter of law simply because it was implemented by refusing to deal with an intermediary.

[59] . . . [In addition,] two other aspects of Google’s conduct differ significantly from the conduct at issue in *Trinko*. Unlike in *Trinko*, Google’s ad tech business has not operated in a highly regulated industry in which state and federal regulators require the leading firms to share access to capital-intensive infrastructure. . . . Moreover, like in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985), but unlike in *Trinko*, Plaintiffs presented evidence that Google sacrificed short-run benefits because it was more interested in reducing competition over the long run by harming its smaller competitors. For example, after acquiring Admeld, Google shut down its feature of providing real-time bids to third-party exchanges. . . .

[60] Given all these significant differences, . . . the refusal to deal doctrine articulated in *Trinko* does not protect Google from antitrust liability in this civil action.

{Eds.: the court rejected Google’s claimed procompetitive benefits on the ground that each claimed benefit was either invalid or outweighed by harmful effects.}

[61] [. . .] In sum, Plaintiffs have shown that Google engaged in willful acquisition or maintenance of its monopoly power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident by tying DFP to AdX and committing a series of exclusionary and anticompetitive acts to entrench its monopoly power in two adjacent product markets.

* * *

The *Google Ad Tech* story is an ongoing one. At the time of writing (summer 2026), the district court is considering remedies; a remedial decision (and perhaps an appeal) will follow!

In the meantime, policymakers and scholars continue to debate the best regulatory treatment of the ad tech stack. To date, the highest profile legislative effort aimed at ad tech is the “Advertising Middlemen Endangering Rigorous Internet Competition Accountability Act” (“AMERICA Act”), most recently introduced by a group of lawmakers in the 119th Congress, but not yet enacted. How would you describe its basic operation? What benefits and what risks would you foresee from its enactment? Do you think the Justice Department’s win in the *Google Ad Tech* case, assuming it survives appeal, makes the AMERICA Act more or less appealing?

[Proposed] Advertising Middlemen Endangering Rigorous Internet Competition Accountability Act

S. 1060, 119th Cong. (2025)

{Eds.: the bill would add the following as a new Section 8A of the Clayton Act.}

SEC. 8A. COMPETITION AND TRANSPARENCY IN DIGITAL ADVERTISING.

(a) Definitions.— In this section: [. . .]

(2) BUY-SIDE BROKERAGE.—The term ‘buy-side brokerage’ means a person in the business of effecting transactions on digital advertising exchanges, including by offering software or services that assist in serving or displaying digital advertisements, for other buyers.

(4) DIGITAL ADVERTISING EXCHANGE.—The term ‘digital advertising exchange’ means a person who constitutes, maintains, or provides a marketplace for or facilitates bringing together buyers and 1 or more third-party sellers of digital advertisements, or for otherwise performing with respect to digital advertising the functions commonly performed by a digital advertising marketplace. [. . .]

(7) EFFECTIVE DATE.—The term ‘effective date’ means the date that is 1 year after the date of enactment of this section. [. . .]

(10) **REQUIRED DIVESTITURE.**—The term ‘required divestiture’—

(A) means a divestiture, sale, or other transaction undertaken to comply with any provision of this Act; and

(B) does not include any action required by a court of the United States.

(11) **SELL-SIDE BROKERAGE.**—The term ‘sell-side brokerage’ means a person in the business of effecting transactions on digital advertising exchanges, including by offering software or services that assist in serving or displaying digital advertisements, for third-party sellers. [. . .]

(b) **Prohibitions.**—No person with more than \$20,000,000,000 . . . in digital advertising revenue during the previous calendar year may, after the effective date—

(1) own a digital advertising exchange if the person—

(A) owns a sell-side brokerage or a buy-side brokerage; or

(B) is a seller of digital advertising space;

(2) own a sell-side brokerage if the person owns a buy-side brokerage; or

(3) own a buy-side brokerage or a sell-side brokerage if the person is a buyer or seller of digital advertising space.

(c) **Requirements.**—On and after the effective date, any person with more than \$5,000,000,000 . . . in digital advertising revenue during the previous calendar year shall be subject to the following requirements:

(1) **BEST INTEREST DUTY.**—A buy-side brokerage or sell-side brokerage—

(A) shall, in the course of providing services as a brokerage, use reasonable diligence, care, and skill to act in the best interests of the brokerage customers; and

(B) may not put the interests of the brokerage ahead of those of the brokerage customers.

(2) **BEST EXECUTION DUTY.**—A buy-side brokerage or sell-side brokerage shall seek the most favorable terms reasonably available under the circumstances for each order transaction of the brokerage customer.

(3) **TRANSPARENCY REQUIREMENTS.**—

(A) **IN GENERAL.**—Upon written request from a brokerage customer, a buy-side brokerage or sell-side brokerage shall supply to the brokerage customer, within a reasonable time, information sufficient to permit the brokerage customer to verify compliance of the brokerage with the obligations under paragraphs (1) and (2).

(B) **CONTENTS.**—The information described in subparagraph (A) shall include, if requested and to the extent such information is collected by the brokerage in the ordinary course of business—

(i) in the case of a sell-side brokerage providing information to a sell-side brokerage customer—[. . .]

all bids received, and, for each bid received, the bid submitted to the digital advertising exchange on behalf of the buy-side brokerage customer, the winning price, the uniform resource locator or other property identifier at the lowest level of granularity, the identity of the digital advertising exchange or other digital advertising venue returning the bid, date, time that the bid response was received in microseconds or a lower level of granularity, web

domain associated with the advertising creative, the advertising creative size and format, and whether the bid won the impression of the seller;

the nature of any data collected or derived from the brokerage customer or any user or customer of the brokerage customer, and the ways in which the data is used by the sell-side brokerage; [. . .] and

the source and nature of any compensation paid or received in connection with transactions; and

(ii) in the case of a buy-side brokerage providing information to a buy-side brokerage customer—[. . .]

all bids won by the buy-side brokerage customer, and for each bid won, the maximum allowed bid of the advertiser, if any, the uniform resource locator or other property identifier at the lowest level of granularity, date, the digital advertising exchange, the web domain associated with the advertising creative, the advertising creative size and format, the winning price, the bid submitted to the digital advertising exchange on behalf of the buy-side brokerage customer, and, if possible, whether the ad served and whether the ad rendered; [. . .] and

the source and nature of any compensation paid or received in connection with transactions. [. . .]

(4) FIREWALLS.—[. . .]

Persons not subject to prohibitions under subsection (b) shall establish, maintain, and enforce written policies and procedures reasonably designed to ensure that the buy-side brokerage, sell-side brokerage, digital advertising exchange, and role as a buyer or seller of digital advertising, as applicable, operate separate and independent from one another and transact business at arm's length.

(5) FAIR ACCESS DUTY.—A digital advertising exchange shall provide every buyer and seller in the exchange fair access, including with respect to operations of the exchange, colocation, any technology systems or data, information related to transactions, service, or products offered, exchange processes, and functionality. [. . .]

(7) DATA OWNERSHIP.—All records pertaining to an order solicited or submitted by a brokerage customer, and the subsequent result of the order, shall remain the property of the customer, including any bids solicited from or submitted to any digital advertising exchange, unless the information is otherwise publicly available. [. . .]

(d) Enforcement.—

(1) ATTORNEY GENERAL AND STATE ATTORNEYS GENERAL.—[. . .]

(B) CIVIL ACTION.—The Attorney General and State attorneys general may bring an action on behalf of persons in the United States injured in their business or property by reason of any violation of this section in any district court of the United States in the district in which the defendant resides or is found or has an agent, without respect to the amount in controversy, and shall—

(i) in a case brought by the Attorney General or a State attorney general, be entitled to injunctive relief; and

(ii) in a case brought by the Attorney General, recover damages sustained by such persons. [. . .]

(2) DIVESTITURE ENFORCEMENT.—The Attorney General may bring an action on behalf of the United States in any district court of the United States in the district in which the defendant resides or is

found or has an agent, and may obtain injunctive relief upon showing by a preponderance of the evidence that the defendant has—

(A) violated a requirement of subsection (e); or

(B) undertaken a required divestiture that unnecessarily harms or threatens competition in any market.

(3) PRIVATE RIGHT OF ACTION.—

(A) IN GENERAL.—A brokerage customer harmed by a knowing violation of subsection (c) by a person with more than \$20,000,000,000 (as adjusted each year on January 1 by an amount equal to the percentage increase, if any, in the Consumer Price Index, as determined by the Department of Labor or its successor) in digital advertising revenue during the previous calendar year may bring a civil action in an appropriate court to obtain injunctive relief, if appropriate, and recover damages in the amount of the greater of—

(i) \$1,000,000 for each month in which the violation occurred and reasonable attorney’s fees; or

(ii) actual damages and reasonable attorney’s fees. [. . .]

(e) Divestiture.—[. . .]

(2) ATTORNEY GENERAL REVIEW.—The Attorney General shall approve a required divestiture upon a showing by the person making the divestiture that the terms of the divestiture, including the qualifications of any counterparty to the divestiture, will not unnecessarily harm or threaten competition in any market.

NOTES

- 1) What are the basic differences between antitrust litigation and an AMERICA-Act-style legislative intervention as a means of responding to competition concerns in the ad tech stack? Would they elicit similar outcomes?
- 2) Given the speed and complexity of market interactions in the ad tech chain, and the prevalence of cross-platform network effects, is it fair to say that we would have serious competition-based worries *even if no business ever violated the antitrust laws*, because the ad tech stack would inevitably “tip” to a single dominant vertically integrated provider, and customers and rivals would be unlikely to enjoy the benefits of rivalry?
- 3) On what facts, if any, does the case for the AMERICA Act depend? To put it another way, what evidence would you want to see in order to decide whether you supported or opposed the legislation?
- 4) What do you make of the following critical reactions to the three parts of the *Google Ad Tech* decision?
 - a. Acquisitions: “The court seems to think that an acquisition is *per se* legal if it’s at least partly motivated by ‘good’ intentions and if it leads to any non-trivial product improvement for the acquirer. But that’s not the law under Section 2—nor for that matter under Section 7.”
 - b. Tying: “The court seems to think that if an integrated defendant does not share a facility with other third parties, but chooses only to use it or make it interoperable with its own in-house division, then it is ‘tying’ that facility to whatever the in-house division produces. But that would turn refusal-to-deal law upside down: the defendants in *Aspen Skiing* and *Trinko* weren’t “tying” mountains to resort tickets or interconnection to retail telephony—they were just refusing to supply them to rivals. The same thing was going on here: AdX just wasn’t supplying real time bids to DFP’s rivals.”
 - c. Entrenchment: “The court seems to think that mere self-preferencing—that is, treating your own in-house division or business more favorably than those of rivals—becomes illegal if you label it ‘entrenchment’ and if the defendant is doing something else suspicious at the same time.”
- 5) The *Google Ad Tech* court makes reference to the lack of federal enforcement action with respect to both the DoubleClick and Admeld acquisitions. Does this put agencies in a bind: if they wait to see how the market develops before taking enforcement action, they run the risk of their own inaction being used against them when they do eventually sue? Or is that the wrong way to think about it?

I. Artificial Intelligence: Preemptive Competition Policy?

At the time of writing, no area of the tech frontier is generating as much attention and anxiety as artificial intelligence (“AI”). The current and expected future ability of machine learning technologies to help solve problems, generate new ideas, and perform functions of all kinds—from the mundane to the bewilderingly complicated—has become the hottest topic in many tech regulation policy spaces. And it is influencing competition policy discussion too!

As usual, opinion is divided on the right path for competition policy. Some have called for aggressive enforcement—and perhaps special regulation too—in the near future, to avoid the emergence (or improper maintenance) of monopoly power or anticompetitive practices.¹⁸² Many of these writers emphasize the existence of monopoly power or significant market concentration at critical levels of the “AI stack.” Others suggest that we would do best to stick to the regular antitrust rules of the road as the industry develops, and that the presence of monopoly and concentration alone does not suggest that anything undesirable is going on or that special intervention is needed.¹⁸³

By way of background, the AI stack, in broad terms, is the set of layered technologies that makes AI possible. In most common formulations, the stack is described as follows:

- **Chip technologies.** The first (“lowest”) region of the stack involves high-end processor chips and the array of technologies needed to design and create them. Many commentators emphasize the lack of existing rivalry for some kinds of technologies in this region of the stack, and note the dominance of NVIDIA (a high-end chipmaker) and ASML (a provider of photolithography technologies used in making chips). But a number of large tech businesses have announced major efforts to enter or expand in this space.¹⁸⁴
- **Cloud computing technologies.** The second level of the stack involves cloud technologies, including processing and storage capacity that can be used for handling the vast amounts of information needed to make AI technologies work. Commentators generally recognize that cloud markets are moderately concentrated, with a few leading suppliers and a robust fringe.
- **Foundation models.** The third level of the stack involves “foundation models”: the core AI models that serve as the “brains” supporting individual applications. The shape of competition in the supply of foundational models, or access to them, is changing rapidly.
- **Apps.** The fourth (“highest”) level of the stack contains user-facing applications that rely on the foundation models and use them to perform particular useful functions. This set of applications is changing rapidly, as businesses search for new ways to harness and use AI technologies.

Is it possible, today, to say anything useful and concrete about antitrust and competition policy in AI? Are there genuine signs of misconduct? And how strong is the case for special competition-policy intervention by Congress, antitrust enforcers, or others today?

Take a look at the following three extracts, taken respectively from: (1) a blog post from the FTC supporting an antitrust-based interventionist approach, (2) an academic article supporting the creation of regulatory duties

¹⁸² See, e.g., Cristina Caffara, *The Global AI Conundrum for Antitrust Agencies*, TECH POLICY PRESS (Feb. 7, 2024); FTC, *Generative AI Raises Competition Concerns*, FTC TECHNOLOGY BLOG (June 29, 2023); White House, Press Release, Readout of White House Meeting on Competition Policy and Artificial Intelligence (Jan. 20, 2024); AI NOW, 2023 LANDSCAPE: CONFRONTING TECH POWER (2023); Ganesh Sitaraman & Tejas N. Narechania, *It’s Time for the Government to Regulate AI. Here’s How*, POLITICO (Jan. 15, 2024).

¹⁸³ See, e.g., Patrick Grady & Daniel Castro, *Tech Panics, Generative AI, and the Need for Regulatory Caution*, CENTER FOR DATA INNOVATION WHITE PAPER (May 2023); Satya Marar, *Artificial Intelligence and Antitrust Law: A Primer*, MERCATUS CENTER AT GEORGE MASON UNIVERSITY SPECIAL STUDY (Feb. 2024).

¹⁸⁴ See, e.g., Katie Paul, Max A. Cherney & Stephen Nellis, *Meta to Put AI Chip into Production in September as It Looks to Double Computing Capacity*, MEMO SHOWS, REUTERS (July 9, 2026); Osmond Chia, *South Korea Unveils \$880bn Chip and AI Investment Plan*, BBC (June 29, 2026); Keach Hagey, *Sam Altman Seeks Trillions of Dollars to Reshape Business of Chips and AI*, WALL ST. J. (Feb. 8, 2024); Jonathan Vanian, *Mark Zuckerberg indicates Meta is spending billions of dollars on Nvidia AI chips*, CNBC (Jan. 18, 2024); Cade Metz, Karen Weise & Mike Isaac, *Nvidia’s Big Tech Rivals Put Their Own A.I. Chips on the Table*, N.Y. TIMES (Jan. 29, 2024).

separate and apart from antitrust; and (3) a white paper from the Mercatus Center supporting a cautious approach. Which do you find more persuasive?

FTC, Generative AI Raises Competition Concerns

FTC Technology Blog (June 29, 2023)

[1] “Generative AI” is a category of AI that empowers machines to generate new content rather than simply analyze or manipulate existing data. By using models trained on vast amounts of data, generative AI can generate content—such as text, photos, audio, or video—that is sometimes indistinguishable from content crafted directly by humans. Large language models (LLMs), which power chatbots and other text-based AI tools, represent one common type of generative AI.

[2] Many generative AI models are developed using a multi-step process: a pre-training step, a fine-tuning step, and potential customization steps. These steps may all be performed by the same company, or each step may be performed by a different company. The pre-training step creates a base model with broad competency in a specific domain, such as language or images. For example, a pre-trained language model might take a partial sentence such as “the family brought their pet goat to the . . .” and generate potential “autocomplete” suggestions like “park,” “vet,” or “farm.” After pre-training, the model is fine-tuned for a specific application, such as responding to questions or generating images from prompts. In a chatbot interface, a user may ask: “What are some good places to bring your pet goat?” Finally, some types of generative AI can be further customized via methods specific to certain types of models, such as prompt engineering. Prompt engineering is used by many chatbot developers to add more constraints—directions to not respond to inappropriate or harmful questions—or to imitate behaviors.

[3] Generative AI may raise a variety of competition concerns. In particular, control over one or more of the key building blocks that generative AI relies on could affect competition in generative AI markets.

[4] The foundation of any generative AI model is the underlying data. Developing generative AI typically requires exceptionally large datasets, especially in the pre-training step. The data used in this step forms the foundation of the model in the chosen domain, such as language or images.

[5] The volume and quality of data required to pre-train a generative AI model from scratch may impact the ability of new players to enter the market. There are a few reasons why collecting a large and diverse corpus of data can be harder for new market entrants than for incumbents. First, more established companies may benefit from access to data collected from their users over many years—especially if the incumbents also own digital platforms that amass large amounts of data. This data may also be more detailed and robust. Second, established companies are more likely to have developed and honed proprietary data collection tools and technologies for acquiring or scraping data.

[6] This may be particularly true in specialized domains or domains where data is more highly regulated, such as healthcare or finance. Pre-training or fine-tuning a model with deep expertise in these types of areas may require access to large amounts of data that is not widely available and would be difficult for a new player in the market to collect.

[7] Of course, simply having large amounts of data is not unlawful—though the Commission has brought many actions alleging that companies’ data collection, retention, or [usage] policies and practices were unreasonable, unfair, or deceptive. However, even with responsible data collection practices in place, companies’ control over data may also create barriers to entry or expansion that prevent fair competition from fully flourishing.

[8] Another essential input for generative AI is labor expertise. Developing a generative model requires a significant engineering and research workforce with particular—and relatively rare—skillsets, as well as a deep understanding of machine learning, natural language processing, and computer vision. It can be difficult to find, hire, and retain the talent required to develop generative AI.

[9] Additionally, the speed and velocity at which generative AI is evolving means that models may quickly become outdated or obsolete. The talent companies can acquire and maintain may play a key role in not only the path, but also the rate, of generative AI's evolution.

[10] Firms hoping to compete in the generative AI space need expertise, not only on how to develop generative AI but also on how to deploy the fine-tuned AI products. Companies that can acquire both the engineering experience and professional talent necessary to build and package the final generative AI product or service will be better positioned to gain market share.

[11] Since requisite engineering talent is scarce, powerful companies may be incentivized to [lock in] workers and thereby stifle competition from actual or would-be rivals. To ensure a competitive and innovative marketplace, it is critical that talented individuals with innovative ideas be permitted to move freely, and, crucially, not be hindered by non-competes.

[12] Access to computational resources is a third key input in generative AI markets. Generative AI systems typically require significant computational resources ("compute"). This is especially true at the pre-training step, when creating a new model from scratch. Compute allows generative AI companies to process data, train the model, and deploy the AI system. Compute generally requires dedicated hardware, such as computers with specialized chips like graphical processing units (GPUs) that can be expensive to operate and maintain. New entrants typically access compute by turning to cloud computing services, which provide high-performance compute resources on demand. However, cloud services can be expensive and are currently provided by only a handful of firms, raising the risk of anticompetitive practices.

[13] The fine-tuning step usually requires substantially less compute than pre-training steps, as fine-tuning techniques usually involve smaller training datasets. For example, the fine-tuning technique LoRa (Low-Rank Adaptation) can enable a developer to fine-tune a model to perform a specific task using consumer grade GPUs. However, fine-tuning must be performed on an existing pre-trained base model, meaning that companies wishing to create a fine-tuned model for a specific application must partner with a company that already owns an established base model, take on the substantial cost of developing their own, or turn to publicly available open-source base models.

[14] This high cost of entry to creating a pre-trained base model may lead to a market where the highest quality pre-trained models are controlled by a small number of incumbents. Several developments currently ongoing in generative AI research may affect this dynamic, such as the proliferation of open-source pre-trained models and models with a much smaller number of parameters, which are cheaper to train. The evolution of the relative quality of public base models compared to privately controlled models will likely be a key factor in determining the impact of computational resources as a barrier to entry in generative AI development.

[15] Additionally, some markets for specialized chips are—or could be, without appropriate competition policies and antitrust enforcement—highly concentrated. Last year a challenge by the FTC led to Nvidia abandoning its proposed \$40 billion acquisition of Arm. The FTC's complaint alleged that the merger would have stifled competition in multiple processor markets, including chips for cloud service providers. Today, increasing demand for server chips may outpace supply in some instances. There are reports, for example, that the spike in demand for server chips that can train AI has caused a shortage, prompting major cloud-server providers such as AWS, Microsoft, Google, and Oracle to "limit their availability for customers." And firms in highly concentrated markets are more prone to engage in unfair methods of [competition] or other antitrust law violations.

[16] The open-source ecosystem may play an important role in the development of generative AI. For example, last year, following major advances in closed-source image generation models, open-source image generation models became available to the open-source community. What followed was a proliferation of open-source models with similar capabilities. Rapidly, the capabilities of the open-source image generation models eclipsed those of the proprietary base models that inspired them. The open-source innovation explosion in image generation, coupled with new developments in optimizations, made it possible for nearly anyone to develop, iterate on, and deploy the models using smaller datasets and lower-cost consumer hardware. In this manner, the open-source ecosystem may help open up the playing field once the base models become available to the public, if it can reach

parity with the quality of proprietary models. However, open-source AI models are also susceptible to misuse. For instance, while open-source AI image generation tools were released with built-in restrictions on the types of images that could be generated, malicious users removed these protections and utilized the models to create non-consensual intimate images.

[17] Experience has also shown how firms can use “open first, closed later” tactics in ways that undermine long-term competition. Firms that initially use open-source to draw business, establish steady streams of data, and accrue scale advantages can later close off their ecosystem to lock-in customers and lock-out competition.

[18] Products and services using generative AI capabilities may develop in both open-source and proprietary ecosystems. In a proprietary ecosystem, access to the essential building blocks of generative AI—and who controls that access—may play a major role in determining which firms sink or swim.

[19] Incumbents that control key inputs or adjacent markets, including the cloud computing market, may be able to use unfair methods of competition to entrench their current power or use that power to gain control over a new generative AI market.

[20] For example, market leaders could attempt to foreclose competition through bundling and tying. Bundling occurs when a company offers multiple products together as a single package. Tying occurs when a firm conditions the sale of one product on the purchase of a separate product. Incumbents may be able to link together new generative AI applications with existing core products to reduce the value of competitors’ standalone generative AI offerings, potentially distorting competition.

[21] Incumbents that offer a range of products and services as part of an ecosystem may also engage in exclusive dealing or discriminatory behavior, funneling users toward their own generative AI products instead of their competitors’ products. Further, incumbents that offer both compute services and generative AI products—through exclusive cloud partnerships, for instance—might use their power in the compute services sector to stifle competition in generative AI by giving discriminatory treatment to themselves and their partners over new entrants. A related scenario exists where an incumbent offers both their own products leveraging generative AI as well as offering APIs allowing other companies to leverage their generative AI capabilities. In such circumstances, there is a risk that incumbent firms will offer their APIs on terms which exist to protect their incumbent position.

[22] Incumbent firms could also use M&A activity in the generative AI space to consolidate market power in the hands of a few players. Large firms already active in generative AI—or that already control a critical input—may try to buy up critical applications and cut off rival access to core products. Market leaders may also try to buy up complementary applications and bundle them together. Additionally, incumbents may be tempted to simply buy up nascent rivals instead of trying to out-compete them by offering better products or services.

[23] Firms in generative AI markets could take advantage of network effects to maintain a dominant position or concentrate market power. A first mover could secure a significant advantage over its competitors because its models, by virtue of having interacted with a greater number of users over a longer period, are able to generate more engaging and useful content than rival products. Because positive feedback loops can improve the performance of generative AI models, generative AI products can get better the more people use them. At the same time, this can result in a concentrated market with less possibility for entrants to compete effectively. Absent legal or policy intervention, network effects can supercharge a company’s ability and incentive to engage in unfair methods of competition.

[24] Another related effect is platform effects, where companies may become dependent on a particular platform for their generative AI needs. As with network effects, firms could leverage platform effects to consolidate their market power, especially if they take specific steps to lock in customers in an exclusionary or otherwise unlawful way. One specific area where platform effects may play a significant role is cloud services. Cloud providers may exploit generative AI companies’ need for compute by trying to lock in customers by, for example, charging exorbitant data egress fees.

[25] The FTC is no stranger to dealing with emerging technologies. Generative AI is still evolving rapidly, but it already has the potential to transform many markets. Through vigorous law enforcement, the FTC strives to

support a vibrant marketplace where new businesses can compete, researchers are free to move to the jobs where they can best advance the state of the technology, and entrepreneurs can continue to innovate. As competition issues surrounding generative AI continue to develop, the Bureau of Competition, working closely with the Office of Technology, will use our full range of tools to identify and address unfair methods of competition.

Tejas Narechania & Ganesh Sitaraman, An Antimonopoly Approach to Governing Artificial Intelligence

43 Yale L. & Pol’y Rev. 95 (2024)

[1] Regulatory tools from the law of networks, platforms, and utilities have long been applied to industries that feature network effects, and functional or actual monopoly or oligopoly characteristics. [Network, platform, and utility (“NPU”)] regulations . . . provide a legal framework that can help build NPUs at scale, ensure continuity of service, prevent monopoly and oligopoly abuses, avoid destructive competition, ensure widespread access, promote commercial development, and sustain democracy. These regulations operate primarily *ex ante*, that is, by structuring the market (often to favor greater downstream competition), identifying likely harms, and establishing rules to prevent those harms before they arise. . . . [S]elected NPU tools could be helpful to addressing the downsides of an AI oligopoly.

[2] *Structural Separations* — Structural separations limit the lines of business in which a firm can engage. The central benefit of structural separations is that they prevent a business from self-preferencing or leveraging its power from one business-line into another. For example, under the Hepburn Act of 1906, railroads were prevented from carrying commodities from any company in which they also had a stake. The idea behind the rule was that railroads should offer equal services to all shippers, rather than preferencing their own vertically-integrated shipping interests. In addition to preventing conflicts of interest and leveraging of profits, structural separations also limit the concentration of economic power and promote a diverse business ecosystem of users of the platform. Perhaps most importantly, structural separations are more administrable than many other policies. If a company is involved in the prohibited business line, it violates the rule. This is a far clearer rule than one that requires monitoring specific behaviors. [. . .]

[3] *Nondiscrimination, Open Access, and Rate Regulation* — [Alternatives] to structural separation requirements are nondiscrimination and equal access rules, sometimes coupled with rate regulation. Nondiscrimination rules allow a firm to operate two or more vertically-linked business lines, but require the firm to treat downstream businesses neutrally—including its own vertically-integrated business lines. Nondiscrimination and equal access rules apply to both access and pricing. Most platforms have to be open to all comers who seek to use them, with limited exceptions. All users must also be treated similarly in terms of price. Historically, nondiscriminatory pricing rules required firms to file their prices, called “tariffs,” and make them publicly available. Transparency about prices and prohibitions on charging prices that diverged from the posted tariff ensured equal rates for customers. Equal pricing rules are an essential corollary to open access because firms could charge prohibitive prices as a workaround to evade nondiscriminatory access requirements. In some cases, regulators have also directly set the rates firms can charge. Rate setting is usually directed toward preventing NPU enterprises from lowering output and raising prices, while simultaneously ensuring a reasonable return on invested capital. [. . .]

[4] *Interoperability Rules* — Interoperability rules lower barriers to entry and thus stimulate competition by allowing new competitors to share in existing investments and imposing sharing requirements on market participants. In the telecommunications context, for example, policymakers changed the dynamics of entry into local telephone markets not only through open access rules, but also through interconnection mandates: By requiring that each telephone provider interconnect with another, no one provider could wield its network effects as a sword, effectively consolidating control over the entire market. A customer could choose any provider, and still reap the benefits of a network that spanned the entire market. Rules that required a . . . provider to transfer a user’s phone number to a competing provider (and thus required that the providers work together on an interoperable number portability system) also facilitated competition among providers by reducing switching costs for users. Those rules targeted a notable lock-in effect: It is quite cumbersome to let all your contacts know you have a new phone number.

Satya Marar, Artificial Intelligence and Antitrust Law: A Primer
Mercatus Center at George Mason University, Special Study (Feb. 2024)

Horizontal Mergers

[1] [. . .] Since the 1960s, improvements in economic understanding have led most economists to question and criticize the presumption that a merger is anticompetitive and likely to harm consumers and competition if it establishes control over a certain share of the market. . . . Varying industry and market-specific conditions mean that there is no systematic causal relationship between market concentration and performance measures, such as prices and margins. . . . The superior efficiency of larger firms in markets characterized by innovation and differentiated products can also lead to their becoming concentrated without reducing consumer welfare. This holds especially true for high-tech innovation-intensive industries like AI, as economies of scale possessed by larger firms are essential for delivering cost-effective data compilation and model training and cloud computing. Smaller companies and developers benefit too, either by being acquired and seeing their innovations deployed at scale by larger companies, or by contracting with larger firms for services that would not be cost-effective if conducted in-house, or by licensing proprietary technology such as advanced, closed AI foundation models. Consequently, blocking high-tech acquisitions purely based on market concentration can significantly harm innovation and thus consumer welfare by precluding these procompetitive outcomes. [. . .]

[2] In the tech sector, the ability to produce and deploy products at a massive scale, rather than just possessing the resources necessary to invest in research and development, is a key advantage possessed by larger firms relative to smaller competitors. A 2020 survey of acquisitions by Google, Amazon, Facebook, and Microsoft canvassed the 175 firms that had been acquired by these tech giants between 2015 and 2017 and found that most of these transactions resulted in the acquired firm's technology, talent, IP, and functionality being integrated into the acquiring firm's ecosystem. This indicates that acquiring firms were using acquisition to supplement and to substitute for their in-house research and development. Only a single acquisition out of the 175 canvassed was identified as a possible killer acquisition. These differing factors attest to the need to closely examine the surrounding factors in each individual merger before assuming the applicability of novel theories of harm that are likely to manifest in alternative contexts. A false-positive blocking of a merger on the basis of the killer-acquisition theory could cause immense harm to consumer welfare and innovation by entirely preventing or delaying the deployment and development of new technologies using the scale necessary.

Vertical Mergers

[3] [. . .] There are situations in which a vertical merger or vertical integration could . . . raise anticompetitive concerns. For example, imagine a large firm with few rivals in an industry in which a key production asset at another level of the market is controlled by a single firm. The large firm could acquire that single firm, gaining exclusive control over its input and plausibly harming competition by raising the prices it charges to its rivals for that input. The likelihood of this depends, however, on market-specific conditions supporting the merged firm's ability and incentive to act. . . .

[4] In the AI context, certain inputs may exist in concentrated near-monopoly markets in which a downstream company, such as a foundation-model developer or finished hardware or computing company, could theoretically raise its rivals' costs, harming competitors and consumers, by acquiring the upstream monopolist or oligopolist firm. For example, the ultraviolet lithography machine used to manufacture leading chips used by AI foundation models is patented by a single manufacturer, the Dutch firm ASML Holdings.

[5] Conversely, many examples of vertical integration are crucial for innovating and deploying AI foundation models. For example, cloud-computing firms can take advantage of economies of scale from their server capacity to subsidize computing costs for their own foundation models; they can then deploy these models on a greater scale and with greater access to their user base. Inputs from that user base can be used to fine-tune model algorithms by offering them to application developers who purchase cloud services. Google, Amazon, and Microsoft all provide cloud services to a range of application developers and foundation-model developers while developing their own models and application programming interfaces (APIs) in house. Similarly, social media companies like Facebook/Meta and search engines like Google can take advantage of their large user base of

consumer data to refine and train better-quality foundation models in house; part of this process may include acquiring developers who hold promising technology. [. . .]

[Refusal to Deal]

[6] Although a firm is generally free to unilaterally refuse to do business with any other firm, refusal to deal constitutes illegal anticompetitive conduct if it serves the purpose of creating or maintaining a monopoly—that is, when a dominant firm’s refusal to deal excludes rivals from competing effectively. Refusing to deal, or dealing in discriminatory terms with competitors in licensing or selling a technology or input that is deemed an “essential facility” or “bottleneck input,” could theoretically “raise rivals’ costs,” thereby stymieing competition and causing higher prices to be passed on to consumers. However, declaring a technology to be an essential facility and thus mandating that it be shared with other firms would drastically reduce the commercial incentive to invest in developing such technologies in the first place, thereby undermining future innovation. It also ignores any potential for competitor technologies to emerge in the future, given technological innovation’s unpredictable nature. Administering a “duty to deal,” including setting its terms and determining what a fair price or other terms might be for such involuntary dealings, is also outside the expertise and administrative capacity of the courts. It is thus exceedingly difficult for refusal-to-deal claims to succeed under US antitrust law.

[7] In the AI sector, there is currently a thriving market for both open-source foundation models and for closed-source models that can be licensed under commercial terms. There is also a thriving market for competing chip designs, with market leaders like the United States’ NVIDIA likely to face competition from in-house designs from Amazon, Microsoft, and other firms. Although semiconductor chips are manufactured by many companies across a range of countries, predominantly in Asia, manufacturing facilities for cutting-edge chips remain a relatively concentrated market. The most advanced two-nanometer (nm) chip designs are expected to be produced by Taiwan’s TSMC and the United States’ Intel in 2024 and by South Korea’s Samsung in 2025. Technological advances and a combination of public and private investment are likely to see the continued expansion of the manufacturing of these inputs. These features, combined with the evidently rapid evolution of the industry and the technology supplying it, make it unlikely that any particular chip will be deemed an “essential facility,” even though a shortage of chips across the market remains a pressing issue for AI innovation, deployment, and global supply chains. Netherlands-based firm ASML Holdings currently remains the only producer of *{Eds.: certain kinds of}* cutting-edge UV lithography machines necessary for AI chip manufacturing. However, there is no indication that this firm is dealing with customers requiring AI chips on illegal anticompetitive discriminatory terms.

[Tying and Bundling]

[8] In the case of “platform software,” such as operating systems, courts have applied the rule-of-reason standard to tying and bundling arrangements. Since the utility of platform software (such as a computer or smartphone operating system) is providing a range of different applications and services in one place, it would be inappropriate to assume that the platform and each software component are separate products tied together, rather than a single offering that benefits consumers through convenience, a better user experience, and a reduction in time and resource expenditure relative to independently sourcing or distributing different services and applications. Integrating new functionalities into existing software is an in-demand and sought-after innovation for consumers, as consumers often buy into an entire “ecosystem” of services and applications rather than individual products. Even when the two tied items are considered separate products, technologically and physically integrating them could improve the value of one or both individual products to users as well as to the producer of the complementary product. It is thus appropriate for [defendants] in such cases to have the opportunity to forward evidence of procompetitive efficiencies that could justify the arrangement.

[9] AI foundation models arguably serve an analogous function to platform software, with individual applications serving as complements and providing more benefits to consumers when the two are integrated in purchases. Similarly, cloud-computing services may be deemed as analogous to platform software. Individual applications or services offered as part of the cloud-computing service package constitute pro-innovation integrations that add value for consumers and thus increase rather than reduce competition. Whether these efficiency justifications are applicable and whether they outweigh the anticompetitive harms of the individual tying arrangement must be

judged on a case-by-case basis. Evaluating future tying arrangements in AI through the rule-of-reason approach will allow for this.

Executive Orders on AI

On October 30, 2023, President Biden issued an “Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence.” The Executive Order instructed a wide array of federal government agencies and components to take steps to identify and analyze the risks and opportunities presented by emerging AI technologies. For example, the Secretary of Commerce was directed to “[e]stablish guidelines and best practices, with the aim of promoting consensus industry standards, for developing and deploying safe, secure, and trustworthy AI systems”; the Secretary of the Treasury was directed to “issue a public report on best practices for financial institutions to manage AI-specific cybersecurity risks”; the Secretary of Homeland Security was directed to “evaluate the potential for AI to be misused to enable the development or production of [chemical, biological, radioactive, and nuclear] threats, while also considering the benefits and application of AI to counter these threats”; and so on.

The Executive Order also included some provisions aimed at competition. Most pointedly, the FTC was “encouraged to consider, as it deems appropriate, whether to exercise the Commission’s existing authorities, including its rulemaking authority under the Federal Trade Commission Act, to ensure fair competition in the AI marketplace and to ensure that consumers and workers are protected from harms that may be enabled by the use of AI.” In addition, “[t]he head of each agency developing policies and regulations related to AI” was directed to “use their authorities, as appropriate and consistent with applicable law, to promote competition in AI and related technologies, as well as in other markets. Such actions include addressing risks arising from concentrated control of key inputs, taking steps to stop unlawful collusion and prevent dominant firms from disadvantaging competitors, and working to provide new opportunities for small businesses and entrepreneurs.”

On January 20, 2025, President Trump revoked his predecessor’s Executive Order. Three days later, he issued a new Executive Order entitled “Removing Barriers to American Leadership in Artificial Intelligence,” which among other things directed relevant officials to prepare an action plan to “sustain and enhance America’s global AI dominance in order to promote human flourishing, economic competitiveness, and national security.” And on December 11, 2025, he issued another Executive Order entitled “Ensuring a National Policy Framework for Artificial Intelligence,” which stated that “United States AI companies must be free to innovate without cumbersome regulation,” and declared that “excessive State regulation thwarts this imperative.” The December order directed officials to prepare to evaluate and challenge state laws that created improper obstacles to “the United States’ global AI dominance.” Neither of these orders, nor a third on June 2, 2026, mentioned antitrust or traditional competition policy tools.

In light of the issues, concerns, and observations you have read: what should the federal government do, if anything, to protect AI competition? What role can the White House play in that process?

NOTES

- 1) What are the most compelling reasons to treat AI differently from other technologies as a matter of antitrust doctrine or competition policy? What are the most compelling reasons not to do so?
- 2) Is there an antitrust market for “artificial intelligence”?
- 3) How would you calculate the market share of an AI foundation model?
- 4) Imagine that you were leading an enforcement agency and you wanted to maximize your chances of detecting antitrust wrongdoing relating to AI in a timely and efficient fashion. Concretely, what would you do?
- 5) Suppose we agree that AI technology is the most important innovation since the microchip. Does that have any implications for competition policy?
- 6) What could a “structural separation” regulatory regime look like in the AI sector? What effects could it have?
- 7) Governments around the world are struggling with the national-security implications of powerful AI tools. What role, if any, is there for national-security considerations in antitrust analysis?

- 8) In light of what you read in Chapter VII, do you agree with the Marar extract that “refusal to deal [is] illegal anticompetitive conduct . . . when a dominant firm’s refusal to deal excludes rivals from competing effectively”?

J. The Remedial Toolkit: Principles and Perspectives

Winning a “tech antitrust” case can be hard, but sometimes it’s just half the battle. In some cases the harder puzzle is: what should the plaintiff get if it wins? Remedies in tech antitrust are the subject of a vigorous literature, much of it recent.¹⁸⁵ And courts are at last beginning to make tech-antitrust remedy decisions, particularly—as we saw above—in the *Google Search* litigation and the *Epic v. Google* cases.

Certain types of remedial measures have attracted particular attention from scholars and policymakers. In this section we will take a quick look at three such categories: interoperability, portability, and breakup. Our focus will be on the remedial tools themselves: what they might entail, why they might be appealing, and what the challenges and concerns might be. Whether they are a good fit in a particular case depends on the specific theory of harm asserted by the plaintiff, the state of the market, and the extent to which the measure would likely help to restore competition to the condition that it would be in but-for the unlawful conduct.¹⁸⁶ Finally, we will take a look at the case for a specialized agency to supervise competition problems, and efforts to solve them, in the “tech sector.”

1. Interoperability and Portability

An interoperability remedy mandates some kind of interconnection or interaction between the defendant and third parties. Plenty of digital businesses interoperate voluntarily: for example, users of different email providers can send and receive emails to and from one another; customers of different cellphone service providers can make calls to one another and exchange text messages; and in some cases players of video games on one console or platform can play against those on another (“cross-platform play”). In other cases, this may not take place unless a legislature, an agency, or a court requires it.

Successful interoperability usually requires some kind of standardization: a common protocol or set of reference points to ensure technical compatibility. (This is a specific version of a broader point we encountered at the beginning of this chapter: participation in a common network often requires some common rules.¹⁸⁷) The nature of this standardization may vary considerably from one setting to the next: it may involve a detailed and complex set of rules covering many different variables, or something more straightforward. Of course, this has implications for the feasibility and attractiveness of interoperability itself: in some settings a meaningful interoperability remedy may be very hard to design and to monitor or enforce; in other settings, it may be very manageable.

Interoperability can offer a mixed basket of beneficial and harmful effects. On the one hand, there can be real benefits. An interoperability mandate can allow users of each network to enjoy benefits from the participation of users on other networks, and thus unlock significant social value. This may tend to reduce the tendency of network effects to deter entry, by allowing even small rivals to compete and gain scale while actively benefiting from the large network size of an incumbent. (For example, a new entrant social network may be more appealing if its users can communicate and share content with users of the incumbent network!) Interoperability may also bring welfare benefits even for users of a dominant network, who may benefit from the participation of additional networks and their own users. Interoperability rules may also encourage third parties to design and develop products and

¹⁸⁵ See, e.g., Herbert Hovenkamp, *Structural Antitrust Relief Against Digital Platforms*, 7 J.L. & Innovation 57 (2024); Daniel Rubinfeld, *Data portability and interoperability: An E.U.-U.S. comparison*, 57 Eur. J.L. & Econ. 163 (2023); Herbert Hovenkamp, *Antitrust Interoperability Remedies*, 123 Colum. L. Rev. Forum 1 (2023); Fiona M. Scott Morton, Gregory S. Crawford, Jacques Crémer, David Dinielli, Amelia Fletcher, Paul Heidhues & Monika Schnitzer, *Equitable Interoperability: The “Supertool” of Digital Platform Governance*, 40 Yale J. Reg. 1013 (2023); Marc Bourreau, Jan Krämer & Miriam Buiten, *Interoperability in Digital Markets*, CERRE (May 2022); Hiba Hafiz, *Rethinking Breakups*, 71 Duke L.J. 1491 (2022); John Kwoka & Tommaso Valletti, *Unscrambling the Eggs: Breaking Up Consummated Mergers and Dominant Firms*, 30 Indus. & Corp. Change 1286 (2021); Rory Van Loo, *In Defense of Breakups: Administering a “Radical” Remedy*, 105 Cornell L. Rev. 1955 (2020); Lina M. Khan, *The Separation of Platforms and Commerce*, 119 Colum. L. Rev. 973, 997–1000 (2019); Spencer Weber Waller, *Access and Information Remedies in High-Tech Antitrust*, 8 J. Comp. L. & Econ. 575 (2012).

¹⁸⁶ See *supra* §§ VIII.E (merger remedies), XI.G (principles governing injunctive relief in other cases).

¹⁸⁷ See *supra* § XIV.B.1.

technologies that would otherwise be too risky, given the threat that a dominant network could simply cut them off.

On the other hand, interoperability has some drawbacks and risks. For one thing, it may limit the incentive of users to switch over to new entrants: an incumbent’s users may find it *less* appealing to switch over to an appealing new network if they can simply interoperate without switching! For another, it may discourage rivals from establishing new networks and disruptive technologies, by offering them the easier path of interoperating with an incumbent instead. For a third, the creation of close relationships between rivals—including insight into one another’s business models and technical standards—might tend to harm competition by facilitating express or tacit collusion. For a fourth, market participants (including incumbents and entrants) may be deterred from investing in innovations and improvements if the benefits from those investments will be shared to some extent with rivals through interoperability links. And, as with other standards drawn up with existing technologies (or interests!) in mind, the obligation to maintain interoperability may involve standardization that precludes or hinders valuable innovations.

We have so far been focusing on network-to-network interoperability: that is, connection between two networks that would otherwise be competing as substitutes for one another. But there are other forms of interoperability remedy too! Some of these involve interconnection between *complementary* products or technologies. In this broader sense we might think of an obligation to allow third-party peripherals with a particular device—or to carry third-party apps on a particular app store, or to make certain forms of access or data available to a complementary software product—as “interoperability” remedies as well. For a prominent recent proposal with ambition in this direction, look back at the excerpts from the proposed AICOA statute earlier in this chapter.¹⁸⁸

The following extract makes the case for interoperability, in the expanded sense, as a “supertool” for digital competition policy.

**Fiona M. Scott Morton, Gregory S. Crawford, Jacques Crémer, David Dinielli,
Amelia Fletcher, Paul Heidhues, and Monika Schnitzer, Equitable
Interoperability: The “Supertool” of Digital Platform Governance
40 Yale J. Reg. 1013 (2023)**

[1] [One] tool available to a regulator is equitable interoperability. We argue . . . that interoperability is both “light touch” and effective. It is “light touch” because it only defines an interoperable interface while allowing firms free choice about other aspects of their products and strategies. But such an interface significantly lowers entry barriers for rivals, allowing them to enter and compete in the market, and it therefore increases contestability. Interoperability, as applied to dominant platforms with network effects, substantially reduces barriers to entry by new competitors, converts proprietary network effects to market-wide network effects, and reduces gatekeeper power. These reduced barriers allow more competitors to enter an industry, increasing choice, competition, and innovation that benefits consumers. Interoperability can also be valuable for facilitating multihoming, with the benefits outlined above. Interoperability can shift competition from being for the market to being in the market. It is a regulatory governance tool that stimulates innovation and works in a broad variety of settings.

[2] For maximum effectiveness, interoperability must be paired with a prohibition against discrimination. We call this requirement “equitable interoperability,” to reflect that the terms of such interconnection must give all businesses using the platform access to the market and to consumers that is qualitatively equivalent (in terms of scope, ease, cost, utility, and the like). In the case of direct network effects this requires no discrimination between the connecting entities served by the platform’s interface. In the case of indirect network effects, the prohibited discrimination is both among complementary businesses using the platform and between those businesses and any vertically integrated service provided by the platform. Nondiscrimination ensures that nascent rivals or other competitive threats are not disadvantaged as they attempt to connect or compete in the market, or as a nascent

¹⁸⁸ See *supra* § XIV.D.2.

threat to the platform itself. As is true with all competitive markets, final outcomes such as revenue or popularity with consumers will reflect competition and need not be the same.

[3] A critical step in the regulatory process is identifying the bottleneck where an equitable interoperability mandate is necessary and effective. The regulator must first designate the core platform services that require interoperability using criteria such as size, the presence of network effects, the absence of multihoming, and entrenched market power. After a dominant digital platform has been identified, the next step is to determine the most effective location for the interface as well as its design and functionality. These tasks can be carried out in different ways. The staff of the regulator could do both. Another option, proposed in legislation in the United States, allows the regulator to establish and oversee a technical committee including industry participants that would carry out the work. If this approach is chosen, the project does not burden the regulator with a responsibility to engage in interface design: it can evolve flexibly with technological trends to meet the needs of the industry, all while protecting consumers from market power. [. . .]

[4] Mandatory interoperability as applied to Facebook.com would require that users of Facebook could post as usual and have content flow to their friends, some of whom might have accounts on rival social networks. Those friends in turn could post and have the content flow to friends on Facebook. The technical requirements to make this interoperability effective would include establishing the APIs and standards for passing certain formats, for example, image, text, video, and calendar. In addition, there would need to be a standardized process for establishing friendship links, perhaps with an address protocol like the internet TCP/IP. A user on Facebook.com might receive a friend request from a user of network G. They could approve the friend request, being fully aware that the friend is located on network G. Once friends on the different platforms confirmed their desire to be linked, content posted by them would flow back and forth, in the standardized format, just as it does within a proprietary network. [. . .]

[5] If Facebook.com were required to interoperate under either EU or U.S. law, the process would necessitate the design of APIs through which networks could exchange content. Just as a protocol is needed to exchange email, that same function must be designed for social networks. Designing a software interface is often straightforward because code is easily changed and modular, and a relevant interface may already exist within the dominant firm. The interface would define whatever is determined to be “standard functionality” (today, that might include text, images, video, and calendar) that is of most value to consumers and defines APIs that permit those elements to be exchanged by any participating network. For instance, a parent on Network G wanting to know whether a school with an account on Facebook.com is closed will benefit from receiving a simple notification via text that contains that information, even if the font or illustrations are special to Facebook, non-standard, and only visible to members of Facebook.

[6] Posts would arrive in a user’s feed in an unchanged way (except that they would be labeled with the network of origin) so as not to disrupt the receiving platform’s business model. That is, if the receiving platform sorts and arranges messages according to the type of content, forecasted ad revenue, or time of day, the platform would continue to employ that algorithm without discrimination against posts that originate elsewhere. In the case of friends on other platforms, for example, Facebook.com would deliver users’ posts to their friends’ home networks, and the home network would deliver the post to the destination friend. An entering platform could offer differentiation through the business model (e.g., via a subscription rather than via ad support) or content moderation (e.g., less hate speech) or privacy considerations (e.g., more or less data exploitation). Not all services would be part of the “standard functionality” and included in the API. Users would have to belong to a social network to enjoy its non-standard, differentiated features. This type of innovation would more easily attract users to a new network when network effects are not a barrier. Users, as they do with their email, could move to the entrant while continuing to send (or receive) messages and posts to (or from) their friends on Facebook.com or any other participating platform.

[7] Differentiation would also arise. A platform run by the National Rifle Association, for example, would likely have different content moderation policies than one run by the Sierra Club, which would again differ from one run by the Walt Disney Company. Users could vote with their feet by choosing a home network that offered the speech environment and business model that best aligned with their needs. [. . .]

[8] It is important to stress that self-regulation will not work in this setting. It may be tempting to allow the dominant firm to design the APIs and simply publish them for everyone else to use. But if the dominant firm is placed in charge, it has the incentive and ability to alter the interface every time a threatening competitor appears likely to obtain any significant market share. In that case, content flowing to or from competitors will not transmit properly, making consumers—who value reliable communication—reluctant to leave the dominant firm. To guard against this outcome, the regulator must have ultimate control. If the regulator empowers a technical committee, that allows the regulator to avoid controlling the pace of technological change or making design choices. The regulator instead can protect the interface from capture by the dominant firm, from bias against any set of entrants, and from changes that block or restrict entry.

[9] The “equitable” part of equitable interoperability is a necessary component of the regulation. When a platform engages in content moderation, chooses the prominence of content, and limits access to its users, it would have to do so regardless of the home platform or origin of the content. For example, no compliant platform could discriminate against content simply because it originated on a rival platform. It may also be necessary to prohibit the monetization of users from other platforms, which might take the form of analyzing incoming messages from users’ friends and gathering information to later monetize them, sell ads, or combine with other data about those friends.⁵⁶ Such activity might be prohibited in order to give the home platform the revenue from its own users and to protect those users’ privacy. If so, social networks would see the content received by their own users just as they do now, and they would be able to monetize those users according to their terms of service, subject to privacy-based or other regulated data usage restrictions.

* * *

Portability is similar to, but distinct from, interoperability. A portability mandate requires a defendant to make users’ data and materials easily transferrable to rivals, in order to reduce the switching costs that could otherwise deter users from switching to preferred alternatives. For example, you might feel reluctant to switch to a different kind of smartphone even if you think it is a better device, simply because you have many personal photos, messages, contacts, music, movies, and other data and assets stored on your current smartphone, and it would be burdensome or impossible to move it all over to a new device. A portability mandate would require the provider of your current smartphone to make it easy for you to take that with you to a new device: and this in turn might make it rational for you to switch over.

Like interoperability, portability generally requires some kind of standardization, to ensure that the information can be read and processed by the defendant’s rival. As a result, a portability mandate can present similar challenges of design, enforcement, and monitoring to those presented by interoperability.

The following extract presents a perspective on portability, as well as a different take on interoperability from the excerpt immediately above.

Gus Hurwitz, Digital Duty to Deal, Data Portability, and Interoperability
Global Antitrust Institute Report on the Digital Economy (2023)

[1] . . . The idea of data portability is that users of one service . . . should be able to take their data with them to another service. Interoperability is a closely related idea: dominant firms should engineer their platforms so that competing firms’ services can seamlessly work with those of dominant firms. The basic economic rationales for these ideas are, respectively, to reduce switching costs and to reduce the barriers to entry that network effects can create.

[2] Data portability, for instance, might require a social media company to allow a user to download all of her posts and personal information and thus be able to import them into a competing service. Interoperability may, in a weak form, require a social media company to use standardized file formats . . . In a stronger form, it may require that a social media company engineer (or re-engineer) their systems to use industry-defined APIs that would allow competitors’ users to post directly to or receive posts directly from that firm’s customers.

[3] We can see other examples in the telecommunications sector . . . For instance, local number portability, which allows telephone customers to keep their phone numbers as they change service providers, has had dramatic procompetitive effects and was important to establishing competitive local carriers following adoption of the 1996 Telecommunications Act. [. . .]

[4] Mandating interoperability runs into legal and practical issues. First, mandating interoperable platforms requires some of the very coordination between firms that antitrust laws normally seek to deter. . . . Indeed, interoperability among currently dominant online platforms could exacerbate rather than reduce their market power. For instance, if something like the data portability project among Facebook, Twitter, Google, and Apple were to be mandated in a format which is friendly to the incumbents but not to new entrants, then it could actually have an exclusionary effect.

[5] Second, it is unclear how interoperability would be practically enforced. Courts are generally unable to oversee this process. An expert regulator may be better positioned than a generalist court, but it too would be highly dependent on the regulated platforms to design and implement any interoperability plan. [. . .]

[6] Concerns about using a duty to deal as an antitrust remedy in digital markets fall into three categories: the direct costs of imposing such a duty, the effects on static competition, and the effects on dynamic competition. It is easy to imagine a world of interoperable networks, but it is more difficult to actually design such a world. The design challenges account for the direct costs of duties to deal. An antitrust duty to deal necessarily arises only where one of the parties is averse to a voluntary course of dealing. As a result, it falls to the antitrust authorities and courts to determine the terms of the duty to deal. This is easier said than done, especially in complex, rapidly changing markets.

[7] As an example, consider . . . the history of AT&T and the telecommunications industry. . . . [T]he FCC spent nearly two decades trying to define the terms on which AT&T could deal with the computer industry—an effort ended by the antitrust suit breaking up AT&T, not by the FCC’s efforts proving fruitful. Another example is to be found in the Telecommunications Act of 1996, at its core a statute that created a duty for incumbent telecommunications carriers to deal with competitive entrants into the market. Implementation of the Act led to over a decade of litigation that ended up in the Supreme Court multiple times. Arguably, the Telecommunications Act failed to achieve its primary goals: to the extent the communications industry has become more competitive over the past 25 years, it did so largely with thanks to unprecedented technological innovation on the part of cellular and cable communications companies.

[8] The effort to impose duties to deal in the telecommunications industry is particularly telling because it is a heavily regulated industry comprising a relatively small number of firms and a dedicated, expert regulator. Indeed, for most of the 20th century the industry was based upon a simple, relatively static technology well understood by the FCC. Yet the FCC and the courts consistently struggled to implement duties to deal.

[9] Given these failures, it is hard to imagine successfully implementing a duty to deal in digital markets, which are dynamic industries built upon rapidly changing technologies. Indeed, modern computer systems are often so complicated that the entirety of how they work is incomprehensible even to the engineers who build them—not to mention the widespread adoption of machine learning algorithms into many of the platforms that dominate the digital economy.

[10] To take just one specific example of the potential unanticipated costs of implementing data portability or interoperability duties, consider their potential effects on data security and privacy. . . . The idea of data portability and interoperability mandates is to make it easier for users and firms to access the very information that those concerned about data security and privacy want to ensure is difficult to access. Making it easier for authorized third parties to access information, by definition, also makes it easier for unauthorized parties to do so.

[11] In addition to these direct costs, imposing duties to deal in digital markets will affect how firms compete with one another in both static and dynamic terms. . . . [A] firm that avails itself of its dominant competitor’s network will need to maintain some level of compatibility with that network in order to maintain the benefits of the network effects that result from interoperability. The competitor, therefore, will have less ability to compete by offering

new or improved core functionalities; instead, it will focus on repackaging or reselling the services already offered by the dominant firm.

[12] More perniciously, reliance on an antitrust duty to deal opens up use of the courts and antitrust laws as a means by which non-competitive firms can attempt to “compete,” albeit by a fundamentally anticompetitive means, with more capable firms; the more duties to deal are imposed, the more frequently firms will seek to avail themselves of them. Because it is difficult to fully specify the terms of a duty to deal, imposing one as a remedy in any given case is an invitation for future lawsuits regarding compliance. . . .

[13] Likewise, a data portability mandate would empower every competitor to make demands for access to any of a firm’s data arguably subject to that mandate—and those demands would be backed by a colorable threat of agency or judicial review. Similarly, with regard to an interoperability mandate, the threat of agency or judicial intervention effectively shifts the costs of designing systems for interoperability from the competitor, which wants the benefits of interoperability, to the incumbent firm, which must now facilitate it.

Do Interoperability and Portability Threaten Privacy?

Interoperability and portability can raise some tricky questions about privacy and data security. The core issue is that, in order for interoperability or portability to work effectively, certain kinds of information must be made available to users *outside* the network that a user has chosen to join. Making two social networks, or dating platforms, interoperable will probably require sharing information about who is using each network, as well as access to some personal information (profile, public photos, etc.). Making a social network account portable might require allowing a user to transfer a list of connections or friends over to a new network, even though those connections or friends may not have given their permission. Obviously, different kinds of network, and different forms of interoperability and portability, will present very different versions of this issue: some settings may not implicate privacy at all, while others may implicate very sharp versions of it.

In a December 2023 blog post, FTC staff affirmed the importance of both competition and digital privacy and security.¹⁸⁹ The post acknowledged that “certain safeguards for privacy and security can impede interoperability,” but expressed skepticism that the two were usually in tension. “[I]nteroperability can coexist with privacy and security—and even *enhance* them—in various contexts.” “Where dominant market participants use privacy and security as a justification to disallow interoperability and foreclose competition,” the post warned, “the FTC will scrutinize those claims carefully to determine whether they are well-founded and not pretextual, and whether the chosen approach is tailored to minimize anticompetitive impact.” This seems to be some (slightly backhanded) acknowledgement that privacy and security *can* constitute a procompetitive justification for practices that involve the denial of access to rivals, so long as the benefit is genuine and the relevant practice is appropriately tailored to the need.

Interoperability—At What Price?

Interoperability is a valuable service, and a business that provides it would normally be entitled to charge for providing it. When interoperability is imposed as an antitrust remedy, or as a pre-emptive policy measure (*e.g.*, by statute), should the interoperating platform be allowed to charge a fee for connection? On the one hand, of course, a fee will tend to limit the ability of other market participants to use and benefit from the connection, and a very high fee might render interoperability commercially impossible. On the other hand, businesses are generally entitled to charge for the services they provide, and requiring free sharing might significantly sap the owner’s incentive to invest in subsidizing others, and discourage others from undertaking similar investments. So: if we choose interoperability as a remedy in a particular case, must a court (or other decisionmaker) also venture into

¹⁸⁹ FTC Staff in the Office of Technology and Bureau of Competition, *Interoperability, Privacy, & Security*, FTC Technology Blog (Dec. 21, 2023).

the murky waters of setting a “fair and reasonable” price for connection? If so, how should they approach that enterprise?

NOTES

- 1) The *Epic v. Google* remedy, discussed earlier in this chapter, is in some important ways an interoperability remedy. So are the proposed AICOA and OAMA bills. Do they demonstrate, in effect, that mandating interoperability need not be particularly difficult? Of the three models, which do you most and least prefer, and why?
- 2) In what (merger or conduct) settings might an antitrust claim involve allegations that a defendant is denying some kind of interoperability or portability to rivals?
- 3) In what settings might an antitrust claim involve allegations that a defendant is *providing* some kind of interoperability or portability to rivals?
- 4) Would it be a good idea to impose a blanket “ex ante” obligation of interoperability and portability for all digital platforms? All big digital platforms, measured by user base? All platforms with monopoly power? None?
- 5) Can you think of particular markets or sectors in which interoperability and portability might be effective remedial choices? And how about those in which you suspect they would not be effective?
- 6) Under what circumstances do you think interoperability and/or portability would be a good choice as a remedy for a merger challenge? Are there any circumstances under which they might be preferable to divestiture of the acquired business, or a valuable complement to divestiture?
- 7) What practical challenges would be presented by the design and monitoring of an interoperability remedy? In what ways, if any, do these challenges differ from the ones associated with a “duty to deal” under Section 2?
- 8) Concretely, what would or might an interoperability remedy look like in (a) social networking? (b) ridesharing? (c) internet search? Would different theories of harm imply different kinds of interoperability remedy?

2. Breakup and Structural Separations

Some scholars and advocates favor antitrust’s iconic remedy, and in some sense its most dramatic one: breakup. This might involve the separation of the defendant by dividing up assets in a single market (“horizontal” separation) or by separating business units at different levels of the supply chain (“vertical” separation).

As you may remember, structural remedies are the default solution for unlawful mergers,¹⁹⁰ but are generally disfavored in conduct cases.¹⁹¹ As the D.C. Circuit put it in the *Microsoft* decision, breakup is appropriate only to the extent that there is a “significant causal connection” between the targeted structural feature (in the court’s telling in that case, the defendant’s market power) and the unlawful conduct:

Mere existence of an exclusionary act does not itself justify full feasible relief against the monopolist to create maximum competition. Rather, structural relief, which is designed to eliminate the monopoly altogether[,] requires a clearer indication of a significant causal connection between the conduct and creation or maintenance of the market power. Absent such causation, the antitrust defendant’s unlawful behavior should be remedied by an injunction against continuation of that conduct.¹⁹²

Some commentators object to courts’ general reluctance to grant structural relief in conduct cases. They favor more liberal use of a breakup remedy: at least in certain tech markets.¹⁹³ This view may be connected with an

¹⁹⁰ See *supra* § VIII.E.

¹⁹¹ See *supra* § XI.G.1.

¹⁹² *United States v. Microsoft Corp.*, 253 F.3d 34, 107 (D.C. Cir. 2001) (en banc) (quoting 3 Areeda & Hovenkamp, ANTITRUST LAW (1995) ¶ 650a, at 67).

¹⁹³ See, e.g., Rory Van Loo, *In Defense of Breakups: Administering a “Radical” Remedy*, 105 Cornell L. Rev. 1555, 1561 (2020) (“Once breakups are understood as a normal part of business affairs, and as capable of being co-administered with the private sector, courts and enforcers can deploy them more readily as an antitrust remedy.”); John Kwoka & Tommaso Valletti, *Unscrambling the Eggs: Breaking Up Consummated Mergers and Dominant Firms*, 30 Indus. & Corp. Change 1286, 1287 (2021) (“[T]he policy tool of breaking up

underlying sense that dramatic change is necessary, and with a prediction that the relevant markets may be able to support multiple competitors, even in the presence of network effects and scale economies. Of course, others disagree, urging caution and restraint in the imposition of this dramatic remedy.¹⁹⁴ Some such writers argue that horizontal separation is of little use if network effects will drive the market back to a single provider in short order; that vertical separation (perhaps combined with a “line of business” restriction to prevent the business from becoming integrated again) may destroy and preclude valuable benefits; and that breakups can be as costly and burdensome as behavioral relief. The following extracts present some perspectives on the nuclear option in antitrust’s arsenal.

Majority Staff Report and Recommendations, Investigation of Competition in Digital Markets

Subcommittee on Antitrust, Commercial, and Administrative Law of The Committee on the Judiciary of the U.S. House of Representatives (July 2022)

[1] In addition to controlling one or multiple key channels of distribution, the dominant [Big Tech] firms investigated by the Subcommittee are integrated across lines of business. When operating in adjacent markets, these platforms compete directly with companies that depend on them to access users, giving rise to a conflict of interest. . . . [T]he Subcommittee’s investigation uncovered several ways in which Amazon, Apple, Facebook, and Google use their dominance in one or more markets to advantage their other lines of business, reducing dynamism and innovation.

[2] First, the investigation revealed that the dominant platforms have misappropriated the data of third parties that rely on their platforms, effectively collecting information from customers only to weaponize it against them as rivals. For example, the investigation produced documents showing that Google used the Android operating system to closely track usage trends and growth patterns of third-party apps—near-perfect market intelligence that Google can use to gain an edge over those same apps. Facebook used its platform tools to identify and then acquire fast-growing third-party apps, thwarting competitive threats at key moments. A former Amazon employee told the Subcommittee that Amazon has used the data of third-party merchants to inform Amazon’s own private label strategy, identifying which third-party products were selling well and then introducing copycat versions. These and other examples detailed in this Report demonstrate a dangerous pattern of predatory conduct that, if left unchecked, risk further concentrating wealth and power.

[3] Some have suggested that there is little difference between the dominant platforms’ access to and use of this data and the way that brick-and-mortar retailers track popular products. The Subcommittee’s investigation, however, produced evidence that the platforms’ access to competitively significant market data is unique. Specifically, the dominant platforms collect real-time data which, given the scale of their user-base, is akin to near-perfect market intelligence. Whereas firms with a choice among business partners might seek to protect their proprietary data, the platforms’ market power lets them compel the collection of this data in the first place.

[4] Second, dominant platforms can exploit their integration by using their dominance in one market as leverage in negotiations in an unrelated line of business. For example, evidence produced during the investigation showed that Amazon has leveraged its dominance in online commerce as pressure during negotiations with firms in a separate line of business. Market participants that depend on Amazon’s retail platform are effectively forced to accept its demands—even in markets where Amazon would otherwise lack the power to set the terms of commerce.

[5] Third, dominant platforms have used their integration to tie products and services in ways that can lock in users and insulate the platform from competition. Google, for example, required that smartphone manufacturers

firms needs to be treated as a realistic—and at times necessary—option. . . . [A]s a result of their acquisitions and strategic growth into other businesses, the tech companies have become far larger, far more powerful, and far more harmful to competition than their core platforms. . . . [T]hese extensions of the core platforms can and need to be undone.”)

¹⁹⁴ See, e.g., Noah Joshua Phillips, *We Need to Talk: Toward A Serious Conversation About Breakups* (remarks of Apr. 30, 2019) (“While the law contemplates [the breakup remedy]—and doing so sometimes is warranted—enforcement experience and economic research show us that the treatment may be worse than the disease and, in some cases, simply not doable.”); Ryan Bourne, *Big Is Not Always Bad: Why We Shouldn’t Rush to Break up the Tech Giants*, CATO INSTITUTE COMMENTARY (June 6, 2019).

seeking to use Android also pre-install and give default status to certain Google apps—enabling Google to maintain its search monopoly and crowd out opportunities for third-party developers.

[6] And fourth, these firms can use supra-competitive profits from the markets they dominate to subsidize their entry into other markets. Documents uncovered during the Subcommittee’s investigation indicate that the dominant platforms have relied on this strategy to capture markets, as startups and non-platform businesses tend to lack the resources and capacity to bleed billions of dollars over multiple years in order to drive out rivals. For dominant platforms, meanwhile, this strategy appears to be a race to capture ecosystems and control interlocking products that funnel data back to the platforms, further reinforcing their dominance.

[7] By using market power in one area to advantage a separate line of business, dominant firms undermine competition on the merits. By functioning as critical intermediaries that are also integrated across lines of business, the dominant platforms face a core conflict of interest. The surveillance data they collect through their intermediary role, meanwhile, lets them exploit that conflict with unrivaled precision. Their ability both to use their dominance in one market as negotiating leverage in another, and to subsidize entry to capture unrelated markets, have the effect of spreading concentration from one market into others, threatening greater and greater portions of the digital economy.

[8] To address this underlying conflict of interest, the Subcommittee recommends that Congress consider legislation that draws on two mainstay tools of the antimonopoly toolkit: structural separation and line of business restrictions. Structural 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.

[9] Congress has relied on both policy tools as part of a standard remedy for dominant intermediaries in other network industries, including railroads and telecommunications services. In the railroad industry, for example, a congressional investigation found that the expansion of common carrier railroads into the coal market undermined independent coal producers, whose wares the railroads would deprioritize in order to give themselves superior access to markets. In 1893, the Committee on Interstate and Foreign Commerce wrote that “[n]o competition can exist between two producers of a commodity when one of them has the power to prescribe both the price and output of the other.”

[10] Congress subsequently enacted a provision to prohibit railroads from transporting any goods that they had produced or in which they held an interest. Congress has legislated similar prohibitions in other markets. The Bank Holding Company Act of 1956 broadly prohibited bank holding companies from acquiring nonbanking companies. Vertically integrated television networks, meanwhile, were subject to “fin-syn” rules, which prohibited networks from entering production and syndication markets.

[11] Both structural separations and line of business restrictions seek to eliminate the conflict of interest faced by a dominant intermediary when it enters markets that place it in competition with dependent businesses. In certain cases, structural separations have also been used to prevent monopolistic firms from subsidizing entry into competitive markets and to promote media diversity.

[12] At a general level, there are two forms of structural separation: (1) ownership separations, which require divestiture and separate ownership of each business; and (2) functional separations, which permit a single corporate entity to engage in multiple lines of business but prescribe the particular organizational form it must take. Importantly, both forms of structural limits apply on a market-wide basis, while divestitures in antitrust enforcement generally apply to a single firm or merging party.

[13] A benefit of these proposals is their administrability. By setting rules for the underlying structure of the market—rather than policing anticompetitive conduct on an ad hoc basis—structural rules are easier to administer than conduct remedies, which can require close and continuous monitoring. The challenges of crafting and implementing structural solutions vary by market and market participants. In response to the Subcommittee’s requests for comments on potential reforms, some antitrust experts have cautioned that crafting separations can pose a major cost and challenge, especially in dynamic markets. Others have responded by identifying certain principles that can make identifying the fault lines easier. In the case of separations undoing vertical mergers, the

fault lines designating the separate companies are likely to still be apparent, even in the new structure. In cases where a firm grew through internal expansion or when the constituent parts are no longer clearly distinguishable, scholars have suggested identifying distinct business operations. Experts have also noted that business-initiated corporate restructuring and divestitures may in some cases also provide a guide to designing and implementing successful break-ups.

Herbert Hovenkamp, Structural Antitrust Relief Against Digital Platforms

7 J.L. & Innovation 57 (2024)

[1] As a starting principle for digital networks, breakup remedies are generally even more difficult than they are for traditional products, but sharing obligations are easier.

[2] Most antitrust divestiture decrees have involved firms that made traditional “tactile” products in physical plants or other production facilities. Further, nearly all of the § 2 decrees that required divestiture used it to break off assets that had been acquired rather than internally developed—that is, they reversed previous acquisitions. Indeed, out of 95 monopolization cases that produced structural relief, only three involved immediate breakups of internally developed assets.

[3] When considering remedies for an antitrust violation, digital markets pose some unique problems, although not every divestiture involving a digital platform is necessarily “digital” in this sense. For example, Amazon owns Whole Foods, which is a largely nondigital asset. Apple “manufactures” iPhones, mainly in China and India, but through firms designated as partners rather than subsidiaries. That is, Apple does not own them but has supply agreements with them.

[4] Nevertheless many of the assets controlled by large digital firms are digital themselves. This has a number of consequences. First, they are likely to be nonrivalrous and, as a result, more readily subject to sharing. For example, “breaking up” a patent by giving nonexclusive licenses to multiple recipients is inherently easier to manage than breaking up and sharing a physical production plant. The same thing is true of computer code. Second, digital assets are characterized by high fixed costs and low variable costs, making both scale economies and network effects significant. Any breakup that imposes loss of significant scale economies or positive network effects will have to be accompanied by large offsetting benefits somewhere else. By contrast, remedies that require sharing of digital, fixed cost assets can reduce total costs by distributing the fixed costs over more output. This [mitigates] in favor of remedies that require sharing of a digital asset, rather than breaking it into pieces.

[5] In thinking about remedies, networks should be treated as assets, not as firms. Some firms, such as Alphabet (Google), own or control several networks, including Search, Android, Gmail, YouTube, and Chrome. Structural “breakups” of networks can be even more competitively harmful than breakups of single plants. First, they can deprive a firm of scale economies, just as breaking up a plant. But they can also reduce positive network effects by limiting the number of network participants. With a qualified exception for AT&T, discussed below, structural breakups under §2 of the Sherman Act have involved the spinning off of plants or other discrete assets rather than actually “breaking” them into multiple pieces.

[6] In general, there should be a strong presumption against breaking into a network unless the decree also provides for effective interoperability, as it did in the AT&T case. Even then, interoperability decrees may have to be managed. In some cases that may require long-term or permanent oversight or even re-assignment to a regulatory agency, as also happened in the AT&T case. Other decisions have proven to be less problematic. For example, the decrees in *United States v. Terminal R.R. Ass’n of St. Louis*, 224 U.S. 383 (1912), and *Associated Press v. United States*, 326 U.S. 1 (1945), both required participants in a shared network to open it up on nondiscriminatory terms to outsiders. In both cases the decrees appear to have succeeded in their goal of facilitating competition without doing structural damage. [. . .]

[7] One promising “breakup” remedy involving networks is the one contemplated in the FTC’s case against Facebook, seeking divestiture of Instagram. For many purposes Facebook holds Instagram as a separate network, with a separate set of users. As a result, the requested remedy is not a division of a single network, but rather separation of two networks that are currently owned by a single firm. To be sure, FB and Instagram accounts can

be linked in certain ways, but common ownership is not a precondition to doing that. The reason a Facebook/Instagram breakup might work is that relatively few of Instagram's features have been merged into the parent network. For those that are, the court ordering that remedy will very likely have to consider some mandatory licensing, a form of interoperability, as part of the remedy.

[8] By contrast, breaking *into* the FB network would involve segregating two groups of users, or perhaps peeling off one or more features and placing them into a different and exclusive network. For example, one could break up traditional Facebook by (1) segregating users by location, gender, or some other criterion; or (2) breaking off one or more features, such as video or digital photo posting. These would make FB smaller, but they would almost certainly not add any value. Rather they would likely destroy a great deal of it and might perhaps even ruin it as a platform if it could no longer compete effectively.

NOTES

- 1) In what kinds of conduct cases, if any, do you think courts should seriously consider a breakup remedy?
- 2) Suppose that a court concluded that a long-consummated tech merger, involving a dominant business, was illegal. How should the court think about the choice between a difficult breakup remedy that might destroy the business, on the one hand, and an interoperability-portability remedy that would leave the monopoly intact, on the other? What factors or evidence should affect its choice?
- 3) Do you agree with the following statement? "Even when an individual breakup remedy might cause some social harm, it might still be welfare-maximizing overall because it will send a message to other potential wrongdoers that the penalty for illegality is severe. Conversely, if agencies and courts allow themselves to be talked down by the costs and harms of a breakup, businesses will know that they are likely to get away with antitrust violations."
- 4) Suppose that you wanted to figure out whether, and to what extent, antitrust breakups over the last 50 years had served the public interest. How would you do that? Design an empirical study to help answer this question.
- 5) Do you agree with the following statement? "Courts and agencies have no business trying to redesign markets or competitors. Outside of merger cases, breakups should be a thing of the past. Exclusively behavioral wrongdoing should have exclusively behavioral solutions."
- 6) If you were going to break up one business in the hope of increasing social welfare, which would you break up, why, and how? Remember to specify any ancillary obligations needed to make your remedy work.
- 7) Do you agree with the following statement? "The complexity of breakups and other antitrust remedial tools is the most compelling reason to create specialized courts to handle antitrust cases."
- 8) Do you agree with the following statement? "We can't possibly know whether breakups are as harmful and risky as some writers suggest, because we just haven't done them often enough. We should try a more aggressive breakup policy for a decade or so, and then we'll have enough information to make an informed judgment."

3. A New Digital Regulator?

As scholars, legislators, policy advocates, and citizens grapple with the rise of new technologies, some commenters and lawmakers have proposed the creation of a new digital regulator.¹⁹⁵ Some of these proposals have drawn on discontent with existing frameworks—including the slow pace and limited expertise of generalist antitrust enforcers and courts—to suggest that an expert body, staffed with subject-matter experts and equipped with special powers, would make a difference for the better. Others are skeptical that a new bureaucratic actor will add much except complexity and burden.

The following extracts exemplify these different views. The first summarizes one version of the case for a new agency; the second argues that a new institution is not the answer.

Tom Wheeler, Phil Verveer & Gene Kimmelman, New Digital Realities; New Oversight Solutions in the U.S.: The Case for a Digital Platform Agency and a New Approach to Regulatory Oversight

Harvard Kennedy School Shorenstein Center Discussion Paper (August 2020)

[1] The creation of a new independent federal regulatory agency—the Digital Platform Agency (“DPA”)—would recognize the inherent limitations of trying to shoehorn digital realities into an agency created for the oversight of industrial activities. The existing regulatory agencies are populated by good and responsible individuals, but these institutions bring with them decades of operational and jurisprudential precedent that inhibits the ability to address the dynamics of the new digital marketplace. Congress must establish a new set of expectations for behavior in the digital marketplace and those expectations should be overseen by a new digital agency.

[2] *Common Law Principles:* The challenge in the digital era is how to protect consumers and promote competition without micromanaging a fast-paced and dynamic process of innovation. The solution is to focus on managing an unwanted outcome of an activity rather than dictating how that activity should be performed. The demands of digital dynamism should be overseen with a new and more flexible regulatory approach. That approach can be found in the wisdom of common law concepts that have evolved since the Middle Ages. Congress should adopt these long-standing principles—particularly the duty of care and the duty to deal—in legislation establishing the DPA.

[3] The duty of care establishes the expectation that the provider of goods or services has the responsibility to attempt to identify and mitigate the adverse consequences of that activity. The evolving concepts of negligence and tort—encompassing more activity over time—for instance, find their roots in the duty of care. Who is responsible for minimizing losses and who is responsible for compensating for them when they occur? [. . .]

[4] The duty to deal establishes that the provider of an essential service has a duty to provide impartial access to that activity. As a consequence of the Black Death in some analyses and continuing thereafter, common law developments reflected economic circumstances in determining that commercial activities enjoying a “virtual monopoly” have special responsibilities. This meant that the operator of a ferry across a river had a duty to deal with all those who wanted to use his service, or the owner of a tavern had a duty to deal with hungry travelers. [. . .]

[5] *Light-Touch Practices:* In the industrial era regulatory oversight was not only through the application of duty of care expectations, but also through top-down, bureaucratic, and rules-based policies that often relied on prior-approval mechanisms and the ability to prescribe technical and quality standards. While the duty of care’s responsibility to proactively identify and mitigate potential harms is as valid today as it ever was, its implementation through so-called “utility regulation,” which relied in part on prior approval mechanisms, is inappropriate for the application of fast-moving digital technology. In its place, a new agile regulatory model should be adopted. This new light-touch oversight would be built around government-industry cooperation in the development of mechanisms to efficiently pursue pro-competition and pro-consumer goals.

¹⁹⁵ See, e.g., Digital Platform Commission Act of 2022, S. 4201, 117th Cong. (2022).

[6] *Non-Duplication*: The DPA should not duplicate the activities of sector-specific federal agencies and the authority granted them by Congress. The Federal Trade Commission (FTC), for instance, would retain its traditional antitrust and deceptive practices enforcement responsibility. The authority of the DPA would fill the void created by encumbrances on the FTC's authority. As Thomas McCraw explained in [Thomas McCraw, PROPHETS OF REGULATION (1984)], "the most important single consideration is the appropriateness of the regulatory strategy to the industry involved." The "industry involved" with the DPA will be the consumer-facing digital activities of companies with significant strategic market status.

[7] *Protecting Competition*: To protect competition, the new agency's activities should embrace the common law duty to deal. For centuries, that duty has stipulated that dominant firms controlling essential assets or services should make them available on a non-discriminatory basis. The ability of dominant digital companies to exploit bottlenecks to competition and to control the pace and scope of innovation through their control of data assets is an invitation to monopolization and other abusive practices.

[8] *Supporting Antitrust Authorities*: To support existing antitrust review the DPA should be designated as the expert agency in digital market activities. As such, the DPA's expertise should become an intrinsic part of investigations, merger reviews, and enforcement of remedies of digital companies undertaken by the Department of Justice (DOJ) and Federal Trade Commission (FTC).

[9] *Not Burdening Small Companies*: The DPA should exercise its authority in a targeted manner. It is frequently argued (especially by the big companies) that "regulation hurts small companies." The activities of the DPA, thus, should pay principal attention to market-dominant companies with power, not only over markets, but also with the power to rewrite norms with practices that benefit themselves to the detriment of smaller companies.

Robert W. Crandall & Thomas W. Hazlett, Antitrust Reform in the Digital Era: A Skeptical Perspective

2 U. Chi. Bus. L. Rev. 293 (2023)

[1] To some critics, trial-and-error adjustments to the inexorable progression in digital markets demand constant oversight. As a result, [a recent] Stigler Center report recommends the establishment of a new Digital Authority[.] [. .]

[2] Calls for a new regulatory body derive in part from a concern that antitrust authorities and the courts have insufficient expertise to design and enforce rules for competition in the digital sector. But amassing such expertise is the mission of the existing antitrust agencies—the Justice Department and/or the Federal Trade Commission, in the case of the United States. The argument for the creation of a new Digital Authority appears to presume that each generation of technology requires its own regulatory agency. That experiment has been conducted. "When it was created in 1887, the Interstate Commerce Commission seemed essential to proper management of railroads," wrote Peter Huber [in LAW AND DISORDER IN CYBERSPACE: ABOLISH THE FCC AND LET COMMON LAW RULE THE TELECOSM (1997)]. "But when it was abolished in early 1996, hardly anyone noticed. We never did create a Federal Computer Commission. The computer industry has nonetheless developed interconnection rules and open systems, set reasonable prices, and delivered more hardware and more service to more people faster than any other industry in history."

[3] Scant analysis has been undertaken to justify current proposals to upend the conventional wisdom that Huber conveys. Agency capture is still widely seen as problematic, and a particular threat when government creates an industry-specific regulator. In fact, the Stigler Report suggests placing the new Authority in the Federal Trade Commission to reduce influence exercised by digital incumbents. This follows the observation that the FTC, operating as an economy-wide regulator of business, is less prone to capture than industry-specific regulators. The search for walls to protect regulators concedes the need for defenses, but promotes an unproven methodology. Meanwhile, Lina Khan, perhaps the leading critic of the antitrust status quo, has been appointed Chair of the FTC. This has led to legal challenge by at least one of the digital giants, but so far seems to prove another point: the existing antitrust structure can accommodate strategic changes in the direction of policy and undertake hearings, studies and enforcement initiatives designed to modify antitrust jurisprudence.

[4] The economic rents available for potential regulatory distribution are enormous. In mid-2022, Amazon, Apple, Facebook, and Google had a combined market capitalization of nearly \$7 trillion. By comparison, the monopoly owned by AT&T had a market capitalization of just \$47 billion (or \$270 billion in mid-2022 dollars) when it was sued by the DOJ in 1974. Given the potential rewards available, political coalitions will form to pressure any new Digital Authority Past experience with industry-specific regulators suggests that it is unlikely that the new regulatory authority would single-mindedly pursue the maximization of consumer welfare. Continuing the debate over U.S. antitrust policy and adjusting antitrust to address new challenges in our increasingly digital world would seem to be less of a risk than the establishment of a new regulator with wide-ranging authority over the digital economy.

NOTES

- 1) Suppose that Congress had decided to create a digital competition regulator but had not yet decided what powers and functions it would have, nor what kind of jurisdiction it should enjoy. What recommendations would you make?
- 2) Suppose that Congress had decided *not* to create a separate digital competition regulator, but instead to create and fund a separate unit at *either* the FTC *or* DOJ. Which would you recommend, and why?
- 3) Suppose that Congress had decided *not* to create a separate digital competition regulator, but instead to take the money that would have been spent in doing so, and use it to “help antitrust meet the demands of the new era.” How should that money be spent?
- 4) Rank the following from most appealing to least appealing responses to the digital competition concerns you have considered in this chapter, and explain your ranking:
 - a. existing institutions applying existing antitrust rules;
 - b. existing institutions applying special new antitrust rules for tech markets;
 - c. new, specialized institutions (enforcers, rulemakers, or courts) applying existing antitrust rules; or
 - d. new, specialized institutions (enforcers, rulemakers, or courts) applying special new antitrust rules for tech markets.
- 5) A common challenge with remedial design is that agencies and courts often lack important technical knowledge about the market and the defendant’s own business, while the entities with that knowledge—particularly, the defendant and its competitors—have strong incentives to present information in a particular light. How can agencies and courts gather reliable information so that they can design effective remedies? Would a special digital regulator be better placed?