TECH PLATFORMS ARE ESSENTIAL FACILITIES

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INTRODUCTION

The most prominent technology companies of today deliver a wide variety of services. Google offers search, office software, email, video streaming, and more.[1] Apple develops hardware, software, and streaming services.[2] Netflix streams and produces film and television.[3] Facebook's offerings are so famous-

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[1] *Browse All of Google's Products and Services*, GOOGLE, https://about.google/intl/en_us/products/ [perma.cc/E6VP-RLT6].

[2] *See* APPLE, https://www.apple.com [perma.cc/6AC4-XVKH].

[3] *New on Netflix*, NETFLIX, https://about.netflix.com/en/new-to-watch [perma.cc/S8XP-8DAA].

ly complicated that even senators struggle to understand what they provide.[4] Though the services these companies offer occupy distinct roles within the tech ecosystem, each provides a platform for other companies to provide services and offer their products.[5] These platforms allow third-party developers and sellers of products to grow. However, if the growth of a third-party developer threatens the business of a platform company, that company might see its growth cut off.[6] In fact, the rise of the so-called "attention economy" means that a developer may not even need to compete directly with a platform company to pose a threat to the larger company's business model.[7] Competition over attention extends beyond the traditional markets contemplated by antitrust regulators, but platform companies are acutely aware of the potential threat to their business models.[8]

Large tech companies host significant economies on their platforms. Meta's Instagram is a booming player in the world of ecommerce.[9] Without dramatic, warranty-voiding changes to your iPhone, any app you would like to install must go through Apple's App Store.[10] Thousands of independent video creators make their living off of channels hosted on Google's YouTube.[11] These companies are tech gatekeepers, and failure to comply with their respective policies can result in being frozen out of the most visible online marketplaces and town squares.[12] This has real-world consequences for businesses; for example, Meta, Google, and Amazon control 62.3 percent of the internet adver-

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[4] Emily Stewart, *Lawmakers Seem Confused About What Facebook Does—and How to Fix It*, VOX (Apr. 10, 2018, 7:50 PM), https://www.vox.com/policy-and-politics/2018/4/10/17222062/mark-zuckerberg-testimony-graham-facebook-regulations [perma.cc/A6SL-KP4T].

[5] Lina M. Khan, *The Separation of Platforms and Commerce*, 119 COLUM. L. REV. 973, 983–84 (2019).

[6] *See* Dana Mattioli, *How Amazon Wins: By Steamrolling Rivals and Partners*, WALL ST. J. (Dec. 22, 2020, 10:26 AM), https://www.wsj.com/articles/amazon-competition-shopify-wayfair-allbirds-antitrust-11608235127 [perma.cc/25CG-QS95].

[7] Tim Wu, *Blind Spot: The Attention Economy and the Law*, 82 ANTITRUST L.J. 771, 771 (2019).

[8] *Id.*

[9] *See Instagram Shopping*, INSTAGRAM, https://about.instagram.com/features/shopping [perma.cc/XSN7-LUUB].

[10] Jason Perlow, *Goodbye, Walled Garden: Apple Gets Bitten Right in the App Store*, ZDNET (May 13, 2019, 9:08 PM), https://web.archive.org/web/20200305042210/https://www.zdnet.com/article/goodbye-walled-garden-apple-gets-bitten-right-in-the-app-store/ [perma.cc/PK56-Z6PF].

[11] Morjax, *How Many YouTube Creators Could Be "Full Time"?*, MEDIUM (May 26, 2017), http://medium.com/@Morjax/how-many-youtube-creators-could-be-full-time-6ecd1636bfc1 [perma.cc/4A85-8K8M].

[12] Nick Statt, *Apple Just Kicked Fortnite off the App Store*, THE VERGE (Aug. 13, 2020, 2:59 PM), https://www.theverge.com/2020/8/13/21366438/apple-fortnite-ios-app-store-violations-epic-payments [perma.cc/EMW8-CZQR].

tising market.[13] As Milo Yiannopoulos, Alex Jones, and most famously, Donald Trump discovered, "deplatforming" can dry up revenue streams, fame, and organizing spaces.[14]

Tech platforms are the new railroads. These platforms are private, essential tools that other companies rely on to offer valuable and necessary services. Like the railroads, successful private firms like Facebook owe their existence to public support, such as government innovations like ARPANET, the precursor to the modern internet.[15] The easements that allowed railroads to span the country are also responsible for the cables that allowed for the development of a speedy and global internet.[16]

This Note will trace the origins of American antitrust law to their steel, oil, and rail roots. Then, it will examine the conflict between intellectual property law and antitrust law in the information age. This Note will also review recent developments in technology antitrust investigations and litigation and the two primary approaches to addressing technology monopolization: the duty-to-deal doctrine and the essential facilities doctrine. Lastly, this Note will establish that the essential facilities doctrine is the best approach for ensuring a competitive technology industry in the future.

I. HISTORICAL DEVELOPMENT

A. Steel, Oil, Rail: The Origins of American Antitrust

American antitrust law arose out of necessity in the late nineteenth century due to the prominence of large "trusts," namely, Standard Oil and the sugar trust.[17] Before this period, firms primarily served the local area around them,

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[13] *See* Emily Bary, *Google's U.S. Ad Revenue Projected to Fall This Year, eMarketer Says, as Facebook, Amazon Gain Share*, MARKETWATCH (June 22, 2020, 12:18 PM), https://www.marketwatch.com/story/googles-us-ad-revenue-projected-to-fall-this-year-emarketer-says-as-facebook-amazon-gain-share-2020-06-22 [perma.cc/2SBE-JU3Y].

[14] Zach Beauchamp, *Milo Yiannopoulos's Collapse Shows That No-Platforming Can Work*, VOX (Dec. 5, 2018, 8:30 AM), https://www.vox.com/policy-and-politics/2018/12/5/18125507/milo-yiannopoulos-debt-no-platform [perma.cc/PQ34-CAF9]; Maya Kosoff, *Alex Jones, Diminished*, COLUM. JOURNALISM REV. (Apr. 2, 2019), https://www.cjr.org/the_media_today/alex-jones-deposition-deplatforming-infowars-sandy-hook-lawsuit.php [perma.cc/65C4-76YQ]. *But see* Genevieve Lakier & Nelson Tebbe, *After the "Great Deplatforming": Reconsidering the Shape of the First Amendment*, LPE PROJECT (Mar. 1, 2021), https://lpeproject.org/blog/after-the-great-deplatforming-reconsidering-the-shape-of-the-first-amendment/ [perma.cc/H3ZS-TMD2] (discussing how the issue of technology platform antitrust and deplatforming goes further than right-wing demagogues).

[15] Steve Crocker, *Today's Internet Still Relies on an ARPANET-Era Protocol: The Request for Comments*, IEEE SPECTRUM (July 29, 2020), https://spectrum.ieee.org/todays-internet-still-relies-on-an-arpanetera-protocol-the-request-for-comments [perma.cc/3DCV-9H9M].

[16] Danaya C. Wright & Jeffrey M. Hester, *Pipes, Wires, and Bicycles: Rails-to-Trails, Utility Licenses, and the Shifting Scope of Railroad Easements from the Nineteenth to the Twenty-First Centuries*, 27 ECOLOGY L.Q. 351, 426 (2000).

[17] H.R. REP. NO. 50-3112, at 10 (1888).

but the advent of widespread shipping and transportation made it possible for firms to market and sell their products and services on a national or international scale.[18]

Rail, steel, flour, and oil were all able to take advantage of economies of scale to monopolize.[19] As the importance of rail networks was realized, their size grew tremendously—in 1870, track mileage stood at about 50,000 miles.[20] Twenty years later, milage had tripled to more than 150,000 miles.[21] Speed was not the only factor, however. Rail decreased the cost of shipping goods from about $0.15 per ton per mile via road in 1830.[22] In 1880, as rail networks were exploding in size, the cost of shipping goods was about $0.015 per ton per mile via rail.[23] These efficiencies, paired with the speed of communication in the concurrently expanding network of telegraphs, set the stage for companies to expand their reach across the United States.[24] Finally, concurrent advances in productivity allowed firms to harness their new geographic reach and rapid communication by producing vast quantities of goods. The Bessemer process in steel, Hungarian reduction techniques in flour, and novel distillation methods in petroleum allowed firms to produce greater quantities of goods.[25] These processes allowed firms to take advantage of economies of scale, which decreased per-unit costs.[26] These factors set the stage for the trusts that would be targeted in the Sherman Act.[27]

The Sherman Antitrust Act of 1890 limited these trusts by making it unlawful to make a contract or combination in the form of a trust in restraint of trade.[28] Further, the Act makes it illegal to monopolize or attempt to monopolize.[29] The House Report concerning the Sherman Act identified the practices of the sugar trust and Standard Oil as critical in their understanding of how a trust operates.[30] However, neither of these industries relied on novel techniques or the protection of patent law to ensure their monopolies. Rather, the sugar industry formed its monopoly through mergers, aided by geographical and indus-

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[18] Wayne D. Collins, *Trusts and the Origins of Antitrust Legislation*, 81 FORDHAM L. REV. 2279, 2282 (2013).

[19] *Id.* at 2285.

[20] *Id.* at 2282.

[21] *Id.*

[22] *Id.* at 2283.

[23] *Id.*

[24] *Id.*

[25] *Id.* at 2285; *see also* Erik Gregersen, *Bessemer Process*, ENCYC. BRITANNICA (Aug. 27, 2019), https://www.britannica.com/technology/Bessemer-process [perma.cc/2VNN-RSN5] (discussing how the Bessemer process rapidly increased the process of converting iron to steel by blowing hot air into the iron).

[26] Collins, *supra* note 18, at 2285.

[27] *See id.* at 2289–90.

[28] Sherman Antitrust Act of 1890, ch. 647, § 1, 26 Stat. 209, 209 (codified as amended at 15 U.S.C. § 1).

[29] *Id.* § 2.

[30] *See generally* H.R. REP. NO. 50-3112 (1888).

trial concentration.[31] Similarly, the Standard Oil monopoly derived from mergers and economies of scale from production techniques, such as those described above.[32] The oil cartel was able to grow through a mutualistic relationship with the railroad companies. Each of the major competing oil refining companies sent specific percentages of their refined petroleum products out on specific railroads, which allowed railroad companies to increase their shipping rates while giving discounts to the oil refining companies.[33]

In summary, the trusts that provoked and shaped the Sherman Act used a number of business techniques, fortuitous circumstances, and industrial advances to achieve their market dominance. However, none of them used a patent to exclude other firms from the marketplace. The use of patents to secure market dominance would arise later, demonstrating the limits of antitrust law in a vacuum.

B. Signs of Tension Between Patent and Antitrust Public Policy

Courts have long recognized the issues arising between patent and antitrust laws.[34] The primary tension between the two is that patents grant the patentholder a temporary monopoly over the patented technology, and antitrust law seeks to prevent monopolies.[35] However, this states the problem too simply. Antitrust law is concerned with the willful acquisition of monopoly power, "as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."[36] The benefits enjoyed by patentholders are part and parcel of growth and development "as a consequence of a superior product" and are therefore tolerated by antitrust law.[37] Preeminent antitrust scholar Herbert Hovenkamp notes that "[t]rue conflicts between antitrust and intellectual property rights are relatively rare."[38] Only when competi-

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[31] Richard Zerbe, *The American Sugar Refinery Company, 1887–1914: The Story of a Monopoly*, 12 J.L. & ECON. 339, 341 (1969).

[32] George L. Priest, *Rethinking the Economic Basis of the Standard Oil Refining Monopoly: Dominance Against Competing Cartels*, 85 S. CAL. L. REV. 499, 503 (2012).

[33] *Id.* at 505.

[34] *See* SCM Corp. v. Xerox Corp., 645 F.2d 1195, 1203 (2d Cir. 1981) ("The conflict between the antitrust and patent laws arises in the methods they embrace that were designed to achieve reciprocal goals. While the antitrust laws proscribe unreasonable restraints of competition, the patent laws reward the inventor with a temporary monopoly that insulates him from competitive exploitation of his patented art.").

[35] *Id.; see also* 14A DONALD S. CHISUM, CHISUM ON PATENTS § 5640 (2021) (when a patentholder uses their market to tie a secondary product to the sale of a patented product, they run afoul of the patent misuse doctrine).

[36] United States v. Grinnell Corp., 384 U.S. 563, 571 (1966).

[37] *Id.*

[38] Herbert Hovenkamp, *The Intellectual Property-Antitrust Interface*, *in* 3 ISSUES IN COMPETITION LAW AND POLICY 1979, 1979 (Wayne Dale Collins et al. eds., 2008). *But see* Daryl Lim, *Standard Essential Patents, Trolls, and the Smartphone Wars: Triangulating the End Game*, 119 PENN. ST. L. REV. 1, 71 (2014) (discussing the tension between standard essential patents and antitrust law).

tion is significantly threatened by an intellectual property (IP) practice is there a true conflict between antitrust law and IP.[39]

The public policy undergirding antitrust law is simple at its core: competition between firms in an industry results in innovation, lower prices, and other consumer benefits.[40] The mere existence of a monopoly is not sufficient to warrant action under antitrust law; it is when such a monopoly has a negative impact on consumers that regulators take notice.[41] Conversely, the existence of multiple competitive firms in a marketplace is not enough to prevent antitrust charges from state or federal enforcers. Price fixing amongst firms is a key charge that regulators bring against firms in antitrust enforcement.[42] Therefore, a patentholder's temporary monopoly is neither sufficient nor necessary to bring an antitrust claim against an individual or a firm.[43]

Intellectual property justifications center around motivating innovation to spur economic growth.[44] IP protections encourage innovation by "giving people limited periods of exclusive rights, or freedom from copying."[45] IP protections may give a firm an advantage when engaging in anticompetitive behavior, but the benefits that patentholders enjoy can be exercised without necessarily engaging in anticompetitive conduct.[46]

Recognizing the benefit of IP law to innovation, the Department of Justice and the Federal Trade Commission stepped back from aggressive antitrust enforcement in the 1990s.[47] Previous periods in enforcement and Supreme Court jurisprudence have involved an inverted relationship of this dynamic, with antitrust law being enforced to the detriment of IP law.[48] However, the modern dynamic between antitrust and IP law ensures that there is "no realistic chance"

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[39] Hovenkamp, *supra* note 38, at 1979.

[40] H.R. REP. NO. 51-1707, at 1 (1890).

[41] U.S. DEP'T OF JUST., ANTITRUST ENFORCEMENT AND THE CONSUMER (2015), https://www.justice.gov/atr/file/800691/download [perma.cc/M7J5-E6QN].

[42] *See, e.g.*, Thomas Sullivan, *Teva to Be First Target in Generic Price-Fixing Suit*, POL'Y & MED. (Aug. 18, 2020), https://www.policymed.com/2020/08/teva-to-be-first-target-in-generic-price-fixing-suit.html [perma.cc/T6YV-LCD7] (referencing *In re* Generic Pharms. Pricing Antitrust Litig., No. 16-MD-2724 (E.D. Pa. filed Aug. 5, 2020)).

[43] Sufficiency is clear from the underlying public policy rationale, and the history of antitrust law, largely separate from IP issues, undercuts an argument from necessity.

[44] *Public Policy on IP*, WORLD INTELL. PROP. ORG., https://www.wipo.int/ip-development/en/policy/ip_policy.html [perma.cc/TCM6-NBJZ] (citing other justifications for a robust IP regulatory regime, including promoting tourism, preserving cultural heritage, gaining access to foreign markets, and promoting the dissemination and transfer of technology); *see also* Hovenkamp, *supra* note 38, at 1982 ("At the policy level, antitrust is a more coherent enterprise than the IP regimes.").

[45] Hovenkamp, *supra* note 38, at 1979.

[46] *See id.*

[47] *See id.* at 1980.

[48] *Id.* at 1981.

that copyrighted code will become public while it has economic value remaining.[49]

This issue applies to both copyright and patent: when patentholders engage in anticompetitive behavior, the economic value of such code can be lengthened by firms with monopolistic aims, since they can leverage their patents to extend the use of their good or service beyond its "natural" life.[50] Although IP is rarely at direct odds with antitrust law, the protections that patentholders enjoy can be leveraged to impinge on competitive marketplaces. Some platforms and APIs (software intermediaries that let two programs communicate with each other) are so essential to consumers and competitors that antitrust regulators should consider the use of the essential facilities doctrine to balance intellectual property rights and public policy concerns about competitiveness. In the case of platforms, IP protections are preventing innovation and competitive market alternatives.

II. MODERN CONCERNS

Numerous subindustries within technology rely on platforms for success. Platforms can be generally defined as an underlying computer system that other developers build upon.[51] Examples in modern tech arenas abound: Facebook is a platform in social media, iOS is a platform in mobile operating systems, and YouTube is a platform for independent video creators.[52] Third-party developers and creators rely on access to these platforms in order to access consumers.[53] An analogy for this could be a food court. A single firm owns the real property (the operating system), the cash register (payment processing), the tables in the center (again, the operating system), the advertising (screen real estate), and even the way that customers use the silverware (input control on the OS).

However, unlike a food court, third-party companies on a platform rarely pay money to the owner in rent. Rather, space within the food court is offered for free, provided these firms follow the rules that the food court owner sets out. One last thing: the owner of the food court is running a business too, and third-party firms are their competition. If a consumer comes into a food court, they may not be able to distinguish between the restaurants that are owned by the landlord (as opposed to third-party sellers). They may not be able to directly see that the landlord-owned restaurants are able to offer lower prices because

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[49] *Id.* at 1982. The "market life" of most code is a few years at most. *See id.*

[50] *See id.*

[51] *See* Adrian Bridgwater, *What's the Difference Between a Software Product and a Platform?*, FORBES (Mar. 17, 2015, 6:13 AM), https://www.forbes.com/sites/adrianbridgwater/2015/03/17/whats-the-difference-between-a-software-product-and-a-platform/ [perma.cc/8RCC-PT82].

[52] *See supra* notes 9–11 and accompanying text.

[53] A particularly prominent instance of this is currently making its way through the federal courts. *See* Epic Games, Inc. v. Apple Inc., No. 20-CV-05640, 2021 WL 4128925, at *2 (N.D. Cal. Sept. 10, 2021), *appeal docketed*, No. 21-16695 (9th Cir. Oct. 14, 2021).

they are not paying rent and have lower overhead costs. They certainly will not be able to see the restaurants that were denied a spot at the food court because the landlord already operated, or was planning on launching, a restaurant that serves the same cuisine. These very same problems are replicated on technology platforms.

The anticompetitive use of platform controls by firms that own the platform and compete against other firms that use the platform aggravate the same IP and antitrust tensions described above. Moreover, critical platforms today should cause regulators to consider whether the privileges granted to patentholders go too far, or if they are being leveraged anticompetitively by platform operators.

A. Big Tech Sets the Terms: Openness in Platforms and APIs

Access to tech platforms requires compliance with the rules of the platform. Apple's App Store requires developers to "align[] with technical, content, and design criteria," as well as promote Apple's Apple Pay and Apple Wallet payment services.[54] One particular requirement that third-party developers take issue with is Apple's requirement that 30 percent of revenue through the app be paid to Apple.[55] Failure to comply with these requirements can result in a developer's app being removed from the App Store, which is the only way for third-party developers to have users install their apps on iOS.[56]

Large technology companies engage in the practice of revoking access to large digital marketplaces. Facebook has removed third-party apps for abusing access to user data.[57] Third-party sellers on Amazon's platform are worried about getting "inexplicably booted."[58] Amazon's practices got the attention of German antitrust regulators, who required Amazon to begin to give thirty days' notice to sellers facing suspension on their platform.[59] Amazon's Jeff Bezos observed that "third-party sellers are kicking [Amazon's] first party butt. Badly."[60]

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[54] *App Store Guidelines*, APPLE, https://developer.apple.com/app-store/guidelines/ [perma.cc/KLT7-NH86].

[55] Jack Nicas, *How Apple's 30% App Store Cut Became a Boon and a Headache*, N.Y. TIMES (Aug. 14, 2020), https://www.nytimes.com/2020/08/14/technology/apple-app-store-epic-games-fortnite.html [perma.cc/B23C-BERR]. Thirty percent is an industry standard; Google takes the same cut from their Play Store. *See id.*

[56] Statt, *supra* note 12.

[57] Fahmida Y. Rashid, *Facebook Changes Developer Rules After Apps Improperly Got User Data*, DUO: DECIPHER (July 2, 2020), https://duo.com/decipher/facebook-changes-developer-rules-after-apps-improperly-got-user-data [perma.cc/56RL-Y2MA].

[58] Eugene Kim, *Amazon's Updated Suspension Policy Still Has Sellers Worried About Getting Inexplicably Booted*, CNBC (July 20, 2019, 4:40 PM), https://www.cnbc.com/2019/07/20/amazons-updated-suspension-policy-still-has-sellers-worried.html [perma.cc/S2FA-MQWC].

[59] *Id.*

[60] Jeff Bezos, *2018 Letter to Shareholders*, ABOUT AMAZON (Apr. 11, 2019), https://www.a

Certainly, third-party developers are not entitled to access to another private firm's platform. However, platforms are a source of growth for many of these firms. Amazon derives 58 percent of sales from third-party sellers.[61] Facebook is relying on third-party developers to expand adoption in markets like Brazil and Asia generally.[62] After relying on others for their exponential growth, what are those firms entitled to? Certainly, companies like Amazon have benefited from third parties on their platform. Amazon's AmazonBasics line of products achieved success by using third-party sellers' data to determine what products were popular and whether they could sell at a profitable margin, and in some cases, Amazon used the same manufacturer as sellers on their platform.[63]

B. State and Federal Antitrust Investigations

U.S. antitrust enforcers began investigations in earnest in 2018 and 2019; however, French and German authorities had begun investigations as early as 2016.[64] Notable efforts within the United States include the Department of Justice's investigation into online platforms in 2019,[65] the House Subcommittee on Antitrust report and recommendations published in 2020,[66] the Federal Trade Commission's investigation into platform companies' acquisitions in 2020,[67] and state Attorneys General's investigations into Google's advertising business and Facebook in 2019.[68]

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boutamazon.com/news/company-news/2018-letter-to-shareholders [perma.cc/VHS6-FBBG].

[61] *Id.*

[62] Jonathan Vanian, *How Facebook Hopes to Make Even Bigger Inroads Worldwide*, FORTUNE (Apr. 18, 2017, 10:50 AM), https://fortune.com/2017/04/18/facebook-developers-f8-tools/ [perma.cc/LK7G-29ZY].

[63] Mattioli, *supra* note 6.

[64] *See* Filippo Lancieri & Patricia Morita Sakowski, *Competition in Digital Markets: A Review of Expert Reports*, 26 STAN. J.L. BUS. & FIN. 65, 69–73 (2021).

[65] Press Release, Dept. of Just., Justice Department Reviewing the Practices of Market-Leading Online Platforms (July 23, 2019), https://www.justice.gov/opa/pr/justice-department-reviewing-practices-market-leading-online-platforms [perma.cc/L7SS-W5CZ].

[66] *See* MAJORITY STAFF OF SUBCOMM. ON ANTITRUST, COM. & ADMIN. L. OF H. COMM. ON THE JUDICIARY, 116TH CONG., INVESTIGATION OF COMPETITION IN DIGITAL MARKETS (Comm. Print 2020) [hereinafter JUDICIARY INVESTIGATION].

[67] Press Release, Fed. Trade Comm'n, FTC to Examine Past Acquisitions by Large Tech Companies (Feb. 11, 2020, 1:00 PM), https://www.ftc.gov/news-events/press-releases/2020/02/ftc-examine-past-acquisitions-large-technology-companies [perma.cc/2Z38-GCBX].

[68] Lauren Hirsch & Lauren Feiner, *States' Massive Google Antitrust Probe Will Expand into Search and Android Businesses*, CNBC (Nov. 14, 2019, 5:02 PM), https://www.cnbc.com/2019/11/14/states-google-antitrust-probe-to-expand-into-search-android-businesses.html [perma.cc/US6Z-KR8J]; Annie Palmer, *47 Attorneys General Are Investigating Facebook for Antitrust Violations*, CNBC (Oct. 23, 2019, 10:04 AM), https://www.cnbc.com/2019/10/22/47-attorneys-general-are-investigating-facebook-for-antitrust-violations.html [perma.cc/7A54-3S43].

These investigations have revealed deficiencies in the state of current antitrust law. The recommendations of the House Subcommittee were characterized as a "vast overhaul" by firms working in this arena, indicating that structural changes are necessary to bring antitrust law up to the task of regulating large tech firms.[69] These issues come from the historic use of antitrust law to break up monopolies in manufacturing and infrastructure, neither of which relies on the digital space.[70] This is the first of two major problems, which I have discussed in more detail above.[71]

The second major issue is that American antitrust law requires harm to come to consumers in the form of increased prices. This is generally called the consumer welfare standard.[72] This method of assessing harm in antitrust does not originate in the language of the Sherman or Clayton Acts, but rather, it originates in legal scholarship as adopted by the Supreme Court.[73]

Some have criticized the consumer welfare standard on both practical and theoretical grounds.[74] A view of harm based solely on consumer harm, as often measured through price, fails to directly account for the harm that monopolists can cause to small businesses, which has downstream effects to consumers.[75] Moreover, the idea that price is an adequate measure of consumer welfare both ignores the nonmonetary harm that can come to consumers in the form of loss of privacy and reinforces a belief, based in Friedrich Hayek's economic theory, that price accurately captures, compiles, and weighs market information.[76]

Conversely, many scholars and courts claim that the consumer welfare standard is adequate for effective antitrust law.[77] While criticism of the con-

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[69] *House Antitrust Digital Markets Report Proposes Vast Overhaul of Antitrust Law and Enforcement*, CROWELL & MORING (Oct. 9, 2020), https://www.crowell.com/NewsEvents/AlertsNewsletters/all/House-Antitrust-Digital-Markets-Report-Proposes-Vast-Overhaul-of-Antitrust-Law-and-Enforcement [perma.cc/7ZCX-XXJP].

[70] *See supra* notes 24–30 and accompanying text.

[71] *See supra* Section I.A.

[72] *See, e.g.*, Christine S. Wilson et al., *Recalibrating the Dialogue on Welfare Standards: Reinserting the Total Welfare Standard into the Debate*, 26 GEO. MASON L. REV. 1435, 1437–38 (2019).

[73] *Id.* at 1438; Reiter v. Sonotone Corp., 442 U.S. 330, 343 (1979) (quoting ROBERT H. BORK, THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF 66 (1978)).

[74] *See, e.g.*, RICHARD A. POSNER, ANTITRUST LAW 26–27 (2d ed. 2001); SENATE DEMOCRATS, A BETTER DEAL: CRACKING DOWN ON CORPORATE MONOPOLIES 1 (2017), https://www.democrats.senate.gov/imo/media/doc/2017/07/A-Better-Deal-on-Competition-and-Costs-1.pdf [perma.cc/PZY2-U2F6]; Lina M. Khan, Note, *Amazon's Antitrust Paradox*, 126 YALE L.J. 710, 737–39 (2016).

[75] *See* Khan, *supra* note 74.

[76] James C. Cooper, *Privacy and Antitrust: Underpants Gnomes, the First Amendment, and Subjectivity*, 20 GEO. MASON L. REV. 1129, 1129 (2013) (identifying the role that privacy has come to play in the antitrust discussion, though ultimately arguing against privacy as an antitrust consideration); Richard Bronk, *Hayek on the Wisdom of Prices: A Reassessment*, 6 ERASMUS J. PHIL. & ECON. 82, 83 (2013) (Neth.).

[77] *See*, *e.g.*, Joshua D. Wright et al., *Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust*, 51 ARIZ. ST. L.J. 293, 351 (2019); *Reiter*, 442 U.S. at 343.

sumer welfare standard has brought about other proposals and considerations (such as the total welfare standard), these proposals may not be mutually exclusive.[78] Moreover, even if privacy could be incorporated into price with other market considerations, it may raise First Amendment concerns and grant too much latitude to enforcers.[79] Ultimately, the downstream effects of the anticompetitive behavior that is isolated in this Note are cognizable under a consumer welfare standard of harm; however, such harm may sometimes be too attenuated to be made clear under a consumer welfare standard. For example, if a platform were to cut off access to a competitor in its nascent stages, it may have grown and challenged the platform in such a way that provides clear harm under the consumer welfare standard. However, too many "what-ifs" stand in the way of this harm being proven clearly.

Nevertheless, the public and academic debate is moving in favor of stepping up antitrust enforcement against Big Tech.[80] If the law is not well-suited to addressing these problems now, there are certainly a bevy of proposals by lawmakers to change the law.[81] Other proposals for tweaking antitrust law have pointed to a forgotten tool called structural separations, which would limit the lines of business that a company could engage in.[82] Outside the antitrust arena, there are numerous proposals that would address issues discussed concurrently with antitrust. A scheme of data ownership as a property right would alleviate privacy concerns.[83] Amendments to Section 230 of the Communications Decency Act could curtail misinformation on popular social media sites.[84] However, if antitrust has anything to say at all about Big Tech in the short term (and the swiftly multiplying actions by state and federal enforcers suggests it does),[85] then an effort must be made to understand how theories of monopolization that exist today can be applied to contemporary technology firms.

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[78] Alan J. Meese, *Reframing the (False?) Choice Between Purchaser Welfare and Total Welfare*, 81 FORDHAM L. REV. 2197, 2199 (2013).

[79] Cooper, *supra* note 76, at 1135.

[80] *See*, *e.g.*, Derek Thompson, *Should the U.S. Break Up Amazon?*, ATLANTIC (May 17, 2018), https://www.theatlantic.com/technology/archive/2018/05/should-the-us-break-up-amazon/560597/ [perma.cc/77RH-RBEK]; Elizabeth Warren, *Here's How We Can Break Up Big Tech*, MEDIUM (Mar. 8, 2019), https://medium.com/@teamwarren/heres-how-we-can-break-up-big-tech-9ad9e0da324c [perma.cc/H5V9-6SA5]; Nikolas Guggenberger, *Essential Platforms*, 24 STAN. TECH. L. REV. 237, 305 (2021).

[81] *See* JUDICIARY INVESTIGATION, *supra* note 66, at 20–21.

[82] Khan, *supra* note 5, at 980.

[83] Will.i.am, *We Need to Own Our Data as a Human Right—and Be Compensated for It*, ECONOMIST (Jan. 21, 2019), https://www.economist.com/open-future/2019/01/21/we-need-to-own-our-data-as-a-human-right-and-be-compensated-for-it [perma.cc/23ZA-HW9Y].

[84] *See generally* Tim Hwang, *Dealing with Disinformation: Evaluating the Case for CDA 230 Amendment*, STANFORD CTR. ON PHILANTHROPY & CIV. SOC'Y (2017), https://pacscenter.stanford.edu/research/program-on-democracy-and-the-internet/dealing-with-disinformation-evaluating-the-case-for-cda-230-amendment-interventions-2/ [perma.cc/NY8W-2S3R].

[85] *See supra* notes 65, 67, 68, and accompanying text.

III. COURTS HAVE MIXED APPROACHES TO EVALUATING ANTITRUST TECH ISSUES

Platform and API antitrust cases are relatively limited in the status quo. However, cases in telecommunications, cable television, software, and classic monopolization cases provide insight into monopolistic behavior in different, but similar, industries. Moreover, these cases are demonstrative of two major theories of monopolization: the refusal-to-deal theory and the essential facility theory. First, this Note reviews cases employing the refusal-to-deal theory and explains why that theory was rejected in Northern California. Then, it reviews cases using the essential facilities theory and explains why it may be applicable to this investigation.

A. Duty to Deal Theory

A refusal to deal with rivals in a market constitutes attempted monopolization when it involves the (1) unilateral termination of a voluntary and profitable course of dealing, (2) willingness to sacrifice short-term benefits in order to obtain higher profits in the long run from the exclusion of competition, and (3) refusal to provide products or services to their competitors that are otherwise available to consumers on the market.[86] There is a high threshold for satisfying these three factors, as the Supreme Court has said that the duty-to-deal factors outlined in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.* are "at or near the outer boundary of [Sherman Act] § 2 liability."[87]

Satisfying the *Aspen Skiing* factors presents a high bar. In *Aspen Skiing*, the Supreme Court recognized an exception to the general principle that there is "no duty to aid competitors."[88] In that case, a skiing company stopped selling bundled tickets with a competitor in an attempt to monopolize the Aspen market.[89] The *Aspen Skiing* court established a limited exception to the general lack of duty to aid, and courts have strictly applied the factors of (a) unilateral termination, (b) sacrifice of short-term benefits, and (c) refusal to provide products otherwise available when evaluating other monopolization cases brought forward on a duty-to-deal theory.[90]

In 2020, a class of Facebook third-party developers unsuccessfully brought a case against Facebook under the duty-to-deal theory of monopolization.[91] In *Reveal Chat*, the developers were unable to overcome Facebook's motion to

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[86] MetroNet Servs. Corp. v. Qwest Corp., 383 F.3d 1124, 1132–33 (9th Cir. 2004) (summarizing factors from Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585 (1985)).

[87] Verizon Commc'ns Inc. v. Law Offs. of Curtis V. Trinko, LLP, 540 U.S. 398, 409 (2004).

[88] *Id.* at 411 (discussing the evolution of § 2 jurisprudence since *Aspen Skiing*).

[89] *Aspen Skiing*, 472 U.S. at 610.

[90] *See, e.g.*, *Trinko*, 540 U.S. at 399; *MetroNet*, 383 F.3d at 1132–33.

[91] Reveal Chat Holdco, L.L.C. v. Facebook, Inc., 471 F. Supp. 3d 981, 1000–02 (N.D. Cal. 2020).

dismiss because the California court was not persuaded by the allegations brought forward regarding the three *Aspen Skiing* factors.[92] Due to other deficiencies in the case, the court's reasoning on attempted monopolization was not fully explained, and the reasoning constitutes dicta.[93] However, the reasoning provided is helpful.[94]

With respect to the unilateral termination factor, the court found that the plaintiffs alleged that the course of dealing was voluntary and profitable, and Facebook unilaterally terminated it.[95] With respect to the willingness to sacrifice short-term profits factor, the court found that the developers made only conclusory statements supporting it.[96] The court focused the majority of its attention on the third factor, availability, finding that the developers had failed to allege that Facebook did not sell social data that was otherwise available to developers.[97] However, the court acknowledged the developers' claim that Facebook refused to sell that information to any competitive third party in the marketplace.[98] In this case, Facebook is refusing to sell social data to competitive third parties, even though that data is otherwise available to consumers of that data, namely, other developers. The judge appears to have restricted the market to only competitive third-party developers, which resolves the third factor because it means that the data is not available on the market at all.[99]

The duty to deal theory was unsuccessful in forcing a platform company to release information about their platform to competitors in advance of release to the public. In *Novell, Inc. v. Microsoft, Corp.*, a software developer for the Windows operating system sought early access to information on the forthcoming version of Windows in order to release their product in conjunction with the release of the operating system.[100] The software developer argued that Microsoft had a duty to deal by providing developers early access to some components of the operating system, then revoking that access later on.[101] The court held that the software developer failed to prove the second *Aspen Skiing* factor because they could not demonstrate that Microsoft had sacrificed short-term

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[92] *Id.* at 1002.

[93] *Id.* at 998.

[94] *See id.* at 1000–03.

[95] *Id.* at 1002.

[96] *Id.* at 1002–03.

[97] *Id.* at 1002.

[98] *Id.* ("While it appears that Plaintiffs have alleged a unilateral termination of a voluntary and profitable course of dealing, there are no allegations that Facebook refused to provide products to its competitors that were already sold in a retail market to other customers. Indeed, the Complaint alleges that Facebook 'refused to sell its social data to any *competitive* third-party developer,' and does not allege that this data was sold in a retail market to other customers." (internal citations omitted)).

[99] *Id.*

[100] Novell, Inc. v. Microsoft Corp., 731 F.3d 1064, 1068–69 (10th Cir. 2013).

[101] *Id.* at 1069.

profits for long-term, monopoly profits.[102] In fact, the court observed that this would result in higher short-term profits for Microsoft because they would have the only office suite software on the market upon release of the operating system, which would cause increased sales.[103]

Processor manufacturers, who are similar to platform developers in the computer hardware industry, have been required to sell to competitors under duty to deal. In *FTC v. Qualcomm, Inc.*, the Northern District of California held that a chip manufacturer had a duty to sell to competitors in the telecom chip industry.[104] In that case, the manufacturer was responsible for setting standards in the industry that were used by every business in the industry.[105] According to the District Court, all three of the *Aspen Skiing* factors were satisfied, so the manufacturer had a duty to deal.[106] Statements from the company's executives were essential in establishing that the company was sacrificing short-term profits to establish long-term, monopoly profits, as opposed to other justifications for sacrificing short-term profits.[107]

This theory of monopolization is disfavored in the status quo, as evidenced by its reversal by the Ninth Circuit, but still receives some use.[108] However, prospects for future application of the duty-to-deal theory are not bright. The Supreme Court has walked back application of this theory in *Verizon Communications v. Law Offices of Curtis V. Trinko*, stating that it is "at or near the outer boundary of [Sherman Act] § 2 liability."[109] Given the numerous differences between alpine skiing and technology platforms, it is likely that any attempted application of the duty-to-deal theory would be easily distinguished by a court.

Beyond the pure jurisprudential reasons to disfavor the duty-to-deal theory, the underlying rationale behind the theory does not map onto the issues that platform companies present to antitrust enforcers. In a prototypical duty-to-deal case, a company in direct competition with another company refuses to sell their products to the other company in order to prevent them from offering a more attractive product. This was the case in *Aspen Skiing*, where the larger

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[102] *Id.* at 1076.

[103] *Id.*

[104] FTC v. Qualcomm, Inc., 411 F. Supp. 3d 658, 758 (N.D. Cal. 2019), *rev'd*, 969 F.3d 974 (9th Cir. 2020).

[105] *Id.* at 669.

[106] *Id.* at 759–62.

[107] *Id.* at 760.

[108] Donald M. Falk, *Antitrust and Refusals to Deal After* Nynex v. Discon, PRAC. LAW., April 2000, at 25, 25–26; *see* examples of recent, unsuccessful duty-to-deal cases cited *supra* Section III.A.

[109] Verizon Commc'ns, Inc. v. Law Offs. of Curtis V. Trinko, LLP, 540 U.S. 398, 409 (2004). Nikolas Guggenberger, Executive Director of the Yale Information Society Project, called this pronouncement "the deepest of a thousand cuts." Guggenberger, *supra* note 80, at 298.

company left a package ski lift ticket deal, hoping to decrease sales for the smaller skiing company.[110]

However, technology companies are both competitors and facilitators. Returning to the food court metaphor above, a technology company is both the landlord and one of many tenants in the food court. Refusing to lease space to another restaurant would benefit the landlord in the short term because it allows for the landlord's restaurant to have greater market share in the food court's customers, although it may result in long-term disadvantages, such as less interest in the foot court as consumers have access to fewer, perhaps more interesting, options. This is what happened in *Novell*, since Microsoft owned the platform (Windows) and the product (Office).[111] A duty-to-deal theory applies to relatively similarly situated competitors and does not address the fundamental imbalance that results from one competitor being backed by the strength of the platform. Even when the duty-to-deal theory has been successful, as in *Qualcomm*, the platform owner did not sell consumer software that ran on its chips and its applicability to the owner was ultimately reversed by the Ninth Circuit.[112] The essential facilities theory, conversely, states the problem clearly: technology platforms are essential facilities in a digital space.

B. Essential Facilities Theory

The essential facilities theory of monopolization provides that attempted monopolization occurs when (1) a monopolist controls an essential facility, (2) a monopolist denies use of that facility to a competitor, (3) it is feasible for the monopolist to provide access to the essential facility, and (4) the monopolist's competitors are unable to practically or reasonably duplicate the essential facility.[113]

The Northern District of California has applied the essential facilities doctrine to online platforms as recently as 2017. In *hiQ Labs, Inc. v. LinkedIn, Corp.*, the Northern District of California endorsed the essential facilities theory in the context of social media monopolization.[114] LinkedIn prevented a third-party developer from accessing publicly available information on user profiles.[115] The third-party developer claimed that LinkedIn had developed a mo-

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[110] Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 610 (1985).

[111] Novell, Inc. v. Microsoft Corp., 731 F.3d 1064, 1068–69 (10th Cir. 2013).

[112] FTC v. Qualcomm Inc., 969 F.3d 974, 982–83, 987, 1005 (9th Cir. 2020) ("Qualcomm's practice of licensing its [patents] exclusively . . . does not amount to anticompetitive conduct in violation of [Sherman Act] § 2, as Qualcomm is under no antitrust duty to license rival chip suppliers.").

[113] MCI Commc'ns Corp. v. Am. Tel. & Tel. Co., 708 F.2d 1081, 1132–33 (7th Cir. 1983) (summarizing the factors from the seminal case, United States v. Terminal R.R. Ass'n of St. Louis, 224 U.S. 383 (1912)). A similar proposal suggests that these factors should be amended to account for tech platforms. Guggenberger, *supra* note 80, at 306.

[114] hiQ Labs, Inc. v. LinkedIn, Corp., 273 F. Supp. 3d 1099, 1117 (N.D. Cal. 2017), *aff'd*, 938 F.3d 985 (9th Cir. 2019).

[115] *Id.* at 1118.

nopoly in the market of professional networking and restricted access to data in order to prevent competition.[116] The Court granted hiQ Labs a preliminary injunction against LinkedIn, preventing their access to data, under the standard of being likely to succeed on the merits of the case.[117] On the question of whether LinkedIn's data constituted an essential facility for professional networking, the District Court "agree[d] that hiQ . . . raised serious questions with respect to its claim that LinkedIn . . . unfairly leverage[ed] its power in the professional networking market for an anticompetitive purpose."[118] Although the judge did not specify what serious questions were raised by hiQ's complaints, this was sufficient to satisfy the Ninth Circuit standard for a preliminary injunction, which requires that serious questions going to the merits of the case are raised and the balance of hardships tips sharply in the plaintiff's favor.[119]

Exclusive control over the platform must be proven in order to establish monopolization under the essential facilities doctrine. In *Sumotext Corp. v. Zoove, Inc.*, the Northern District of California denied summary judgment for the defendant, a company providing a platform for "StarStar numbers."[120] The court held that the StarStar provider failed to demonstrate that it was not a monopolist with control over an essential facility, namely, exclusive control of the national StarStar registry of phone numbers.[121] The platform owner resold numbers to companies that provided auxiliary services to StarStar numbers, but was then acquired by a company that sought to provide those auxiliary services themselves.[122] After the acquisition, the platform owner cancelled contracts with auxiliary service providers that resold StarStar numbers with additional features and offered new contracts with severely disadvantageous terms.[123] The court ruled that all four factors of the essential facility doctrine were the subject of factual dispute and denied the platform owner's motion for summary judgment.[124] No updates to this case are publicly available, including a settlement or further trial proceedings.

In *In re Microsoft Antitrust Litigation*, Microsoft denied software developers early access to the specifications of their forthcoming operating system, which the developers claimed allowed Microsoft to beat them to market in the development of programs for their new operating system.[125] The developers

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116 *Id.*

117 *Id*.

118 *hiQ Labs*, 273 F. Supp. 3d at 1117.

119 *Id.* at 1120.

120 Sumotext Corp. v. Zoove, Inc., No. 16-CV-01370, 2020 WL 127671, at *1 (N.D. Cal. Jan. 10, 2020). StarStar numbers are a telephone calling shortcut that would connect phone users to particular businesses when they entered number combinations represented such as "**LAW" or "**PIZZA." *Id.*

121 *Id*. at *11.

122 *Id.* at *1.

123 *Id.*

124 *Id.* at *13.

125 *In re* Microsoft Corp., 274 F. Supp. 2d 743, 744 (D. Md. 2003).

contended that the operating system was an essential facility for the development of applications.[126] The court granted Microsoft's partial motion to dismiss because the developers failed to prove that early access to operating system standards was necessary to compete in the software development industry, thereby failing to satisfy the requirements to bring an antitrust action.[127] Importantly, the court acknowledged a feedback effect between a platform owner and third-party developers, observing that the platform owner needed a developer to write programs for their platform, otherwise end users would ultimately choose another platform more amenable to developers, as those developers added substantial value to the platform.[128]

It is simple to imagine technology platforms as essential facilities. In a digital space, the websites one visits, particularly search and social media websites, will exert tremendous control over which companies and products a consumer sees. Many platform companies, like Amazon, Facebook, Google, Netflix, and YouTube, all host a mix of their own products and services and those of third-party companies. Therefore, the essential facilities theory is a promising option to evaluate whether a platform company is engaging in anticompetitive conduct.

IV. TECH PLATFORMS AND APIS ARE ESSENTIAL FACILITIES

In order for a platform to be characterized as an essential facility under antitrust law, it must satisfy the following elements: (1) a monopolist controls an essential facility, (2) a monopolist denies use of that facility to a competitor, (3) it is feasible for the monopolist to provide access to the essential facility, and (4) the monopolist's competitors are unable to practically or reasonably duplicate the essential facility.[129] This theory further requires explanation regarding what an essential facility is. An essential facility is one that is necessary to pursuing an enterprise in a given market.[130] The essential facility doctrine was established in *United States v. Terminal Railroad Ass'n*, where the facility in question was a railroad terminal facility in St. Louis, Missouri.[131] Due to the centralized nature of the terminal facility and its placement along the Mississippi River, it was impossible for a competitor to build a new facility to compete against the monopolist's terminal facility.[132]

Widespread adoption of particular platforms by consumers has created a similar effect. Consumers are centralized at a small number of websites, and in order for companies to reach their audiences, they must promote their products

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[126] *Id.*

[127] *Id.* at 745.

[128] *Id.* at 746.

[129] MCI Commc'ns Corp. v. Am. Tel. & Tel. Co., 708 F.2d 1081, 1132–33 (7th Cir. 1983)

[130] *See* Hecht v. Pro-Football, Inc., 570 F.2d 982, 992–93 (D.C. Cir. 1977).

[131] United States v. Terminal R.R. Ass'n of St. Louis, 224 U.S. 383, 391, 411 (1912).

[132] *Id.* at 391, 397. Nikolas Guggenberger has also noted the similarities between technology platforms and railroads. Guggenberger, *supra* note 80, at 240–41.

on the platforms where consumers already spend their time.[133] This creates a compounded problem for companies that would seek to advertise products on a platform that might result in consumers spending less time on the original platform.[134] This is at the essence of the attention economy. Companies like Facebook seek to monopolize attention, not a discrete industry like social media, messaging, gaming, event-planning, streaming video, or any other of the numerous activities one can do on Facebook.[135] In this Part, this Note evaluates each of the essential facilities elements in turn and establishes that tech platforms are suitable candidates for application of the essential facilities doctrine.

A. Monopolist Control of an Essential Facility

A platform company exerts control over their platform in a number of ways. First, patents and copyright secure proprietary code and inventions necessary to make the platform function. For example, Amazon's third-party retailers rely on the company's Selling Partner API, which is protected under the common Apache License 2.0.[136] The Apache license contains a provision interfering with third parties' patent rights.[137]

Amazon further secures control over third-party sellers with its restrictive code of conduct for sellers.[138] This is the second method that platform companies use to control essential facilities. Other companies like Facebook and Apple (through their App Store) have similar policy restrictions.[139]

Control over an essential facility must be such that a monopolist has the ability to "eliminate competition in a downstream market."[140] For many products, this is straightforward. Control over a booking service impacts the air travel market.[141] Control over railroad terminal facilities impacts the freight shipping market.[142] Even for some platforms, the downstream market is clear. Amazon's seller platform affects consumer product sales, and Netflix and YouTube's streaming video platforms affect film and television.[143] However,

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133 Guggenberger, *supra* note 80, at 241.

134 *See id.* at 243–44.

135 Ally Mintzer, *Paying Attention: The Attention Economy*, EQUILIBRIUM, May 2020, at 8, 8–9.

136 *See* Amazon, *Selling-Partner-API-Docs/License*, GITHUB (July 27, 2020), https://github.com/amzn/selling-partner-api-docs/blob/main/LICENSE [perma.cc/P8WM-JNW4].

137 *Copyright Policy*, OPENBSD, http://www.openbsd.org/policy.html [perma.cc/777V-VN64].

138 *See Selling Policies and Seller Code of Conduct*, AMAZON SELLER CENTRAL, https://sellercentral.amazon.com/gp/help/external/G1801 [perma.cc/T379-UD9J].

139 *See Developer Policies*, META FOR DEVS. (Sept. 17, 2021), https://developers.facebook.com/devpolicy [perma.cc/EB7D-FF7V]; *App Store Review Guidelines*, APPLE DEV., https://developer.apple.com/app-store/review/guidelines [perma.cc/ZV8H-FPDA].

140 Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536, 543 (9th Cir. 1991).

141 *Id.* at 538.

142 United States v. Terminal R.R. Ass'n of St. Louis, 224 U.S. 383, 393 (1912).

143 Mattioli, *supra* note 6; *see also* Wu, *supra* note 7, at 792.

some platforms' downstream markets are less clear. Facebook is a prime example of the difficulty in defining a downstream market in the attention economy, as other antitrust commentators like Tim Wu have noted.[144]

Some platforms have taken measures to reduce the level of control that they have over their own platform's governance. For example, Facebook has established a "supreme court" for moderation of content on their platform.[145] In fact, Facebook's effort includes financial independence; the board manages its own $130 million independent trust.[146] However, these moves often mask the competitiveness problem. Other commentators have observed that tech self-governance is often a façade designed to delay or prevent regulation.[147] Facebook's example demonstrates the difficulty in understanding what exactly the downstream market is for some platform companies. Although the Facebook "supreme court" has the ability to review certain decisions, such as taking down posts that might violate the company's content policy, the court certainly does not have control over which companies have access to underlying data and API integration, two factors that are important to establishing a competitive alternative to a platform company.[148] The Facebook court may impact some of the harms discussed above, such as deplatforming, but does not reach anticompetitive conduct.

It is necessary to refine the definition of the downstream market to account for the indefinite market spaces that these firms occupy. Given the incontrovertible control that platform companies exert, courts and regulators ought to rework this element to better capture anticompetitive behavior by potential monopolists. However, it is not necessary in order to use the essential facilities theory in antitrust investigations of technology platforms.

B. Monopolist Denial of Use of a Facility to a Competitor

Platform companies rely on third-party developers, sellers, and producers to create content to populate their platforms.[149] Absent this content, platform companies would have to manufacture all of their own content, excluding them from the very definition of a platform company.[150] Therefore, outright denial of the use of a platform to a competitor is a self-defeating notion for many platform companies. However, state Attorneys General have described a strategy

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144 Wu, *supra* note 7.

145 Kate Klonick, *Inside the Making of Facebook's Supreme Court*, NEW YORKER (Feb. 12, 2021), https://www.newyorker.com/tech/annals-of-technology/inside-the-making-of-facebooks-supreme-court [perma.cc/Y94J-CEAN].

146 *Id.*

147 Taylor Owen, Opinion, *The Era of Big Tech Self-Governance Has Come to an End*, GLOBE & MAIL (Toronto) (Apr. 11, 2018), https://www.theglobeandmail.com/opinion/article-the-era-of-big-tech-self-governance-has-come-to-an-end/ [perma.cc/EGX4-6MAK].

148 *Id.*

149 *See supra* notes 60–62 and accompanying text.

150 *See In re* Microsoft Corp., 274 F. Supp. 2d 743, 746 (D. Md. 2003).

called "open first-closed later" (OFCL) for platforms.[151] OFCL occurs when a platform company encourages third-party development on their platform early in the life cycle of a platform, using third-party content to attract users, and gradually closes off the platform to third-party developers once the platform has achieved a critical mass of users. Returning to the food court, this would be as if a landlord expanded access for restaurants, food trucks, and pop-ups to come in and generate interest in the property. Once the property became well known as a place where consumers could come to try interesting food, the landlord might restrict access to the property for restaurants, instead populating the food court with their own restaurants and events.

Denial of use of a facility to a competitor need not be universal.[152] For platforms, it is necessary that they allow some third-party content and development in order to maintain their user base.[153] Therefore, platforms can attempt to create or maintain a monopoly by denying access to competitors who present a viable threat to the platform's market share or by denying access to companies that seek to use third-party development tools or APIs to scrape data that could allow them to create an alternative to the platform.[154] The vagueness inherent to the attention economy, the broad market of services (particularly social media and streaming video) designed to capture and hold consumers' attention,[155] further means that it is challenging for antitrust enforcers to determine whether the revocation of a third-party developer's access to an API or platform is based on a pretextual violation of terms of service or done with anticompetitive goals. In its most brazen form, OFCL involves a platform developer using a third-party seller or developer's content to attract users to the platform, then cutting off their access once the platform achieves a critical mass. This has anticompetitive implications because of high switching costs from one platform to another, sunk costs in developing one's presence on a platform, or general "stickiness," as detailed in the Facebook State AG complaint.[156]

Many large platforms have registered developer programs.[157] Therefore, it is straightforward to determine whether an attempted monopolist has denied access to an essential facility if those developer credentials have been revoked or if a third-party developer or seller has had their products or services removed

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[151] Complaint at ¶ 14, New York v. Facebook, Inc., No. 20-CV-03589, 2020 WL 7348667, at *10 (D.D.C. Dec. 9, 2020).

[152] Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536, 539 (9th Cir. 1991).

[153] *See supra* notes 60–62 and accompanying text.

[154] *See, e.g.*, Kim Lyons, *Facebook Wants the NYU Ad Observer to Quit Collecting Data About Its Ad Targeting*, THE VERGE (Oct. 23, 2020, 7:29 PM), https://www.theverge.com/2020/10/23/21531232/facebook-nyu-ads-politics-data-election [perma.cc/U5XR-QSLL].

[155] Lexie Kane, *The Attention Economy*, NIELSEN NORMAN GRP. (June 30, 2019), https://www.nngroup.com/articles/attention-economy [perma.cc/V27K-BFBM].

[156] Complaint, *supra* note 151, at ¶¶ 43–44.

[157] *E.g.*, *Apple Developer Program*, APPLE DEV., https://developer.apple.com/programs [perma.cc/PYL7-FS25].

from the platform.[158] However, platform companies would argue that there are hosts of legitimate reasons why a third-party developer or seller should have their credentials revoked, such as violation of the terms of service. A dogmatic approach here would require companies to tolerate the Cambridge Analyticas of the world, despite their malfeasance.[159] Moreover, regulators would have their roles complicated as pretextual termination of access to the platform may rise, such as what occurs in other areas like employment law.[160] However, just as in employment law, regulators would be able to take a nuanced approach and determine whether revocation of a developer's credentials was pretextual or not and take appropriate action.

C. Feasibility to Provide Access to the Facility

In the case of platform services, providing access is trivially simple. As discussed above, providing access to the platform is an inherent part of operating a platform.[161] However, when a platform attains a critical mass of users, it certainly takes more resources to maintain access to the platform. When a third-party developer gains enough users and influence to attract the ire of platform operators, a platform operator may attempt to justify excluding them from the platform on the basis of high costs for hosting and delivering their services. For example, YouTube hosts 500 or more new hours of video every minute.[162] Some of that content includes advertisements for rival streaming video company Nebula, which was founded by third-party video makers on YouTube.[163] Unlike a space-limited facility like a food court, digital platforms are generally not constrained in size. They are able to scale to meet consumer demand in a way that brick-and-mortar industries are unable to do.

A platform company may face revenue and funding challenges that force them to limit the amount of support that they provide to third-party developers,

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158 This is often highly visible, as in the case of Parler. *See, e.g.*, Kim Lyons, *Parler Is Gone for Now as Amazon Terminates Hosting*, THE VERGE (Jan. 11, 2021, 5:22 PM), https://www.theverge.com/2021/1/11/22223335/parler-amazon-terminates-web-hosting-aws-google-apple-capitol [perma.cc/22NV-5MZ4].

159 *See* Nicholas Confessore, *Cambridge Analytica and Facebook: The Scandal and the Fallout so Far*, N.Y. TIMES (Apr. 4, 2018), https://www.nytimes.com/2018/04/04/us/politics/cambridge-analytica-scandal-fallout.html [perma.cc/EGV8-8G5D].

160 *See, e.g.*, Eric Bachman, *When Is an Employer's Reason for Firing You Actually a Pretext for Age Discrimination?*, FORBES (July 2, 2019, 11:45 AM), https://www.forbes.com/sites/ericbachman/2019/07/02/when-is-an-employers-reason-for-firing-you-actually-a-pretext-for-age-discrimination/ [perma.cc/GTA6-TDBS].

161 *See supra* Sections IV.A, IV.C.

162 *YouTube for Press*, YOUTUBE: OFFICIAL BLOG, https://blog.youtube/press [perma.cc/9PL7-PBKC].

163 James Hale, *Creators Can't Always Take Risks with Their Content. That's Why YouTuber Community Standard Built Nebula—a Platform for Its Creators to Experiment*, TUBEFILTER (June 10, 2019), https://www.tubefilter.com/2019/06/10/standard-nebula-youtube-streaming-service/ [perma.cc/VYH2-HV8E].

even though those developers are instrumental to their own success. However, platform companies are some of the most profitable in the world, and the marginal benefit of revoking a single third-party developer's access to a platform is extremely small from the perspective of cost to the platform company, so arguments by these companies regarding feasibility are likely to be viewed with suspicion by the courts.[164]

D. Inability to Duplicate the Facility

If a competitor is able to duplicate the facility of an attempted monopolist, they are not entitled to access to their facility under the essential facility theory.[165] In fact, this would preclude the facility from being essential at all. Historically, geographical and logistical constraints have driven the inability to duplicate a facility, such as St. Louis's terminal facility.[166] Returning to the food court, it may be possible to replicate the physical structure of the building, the neighborhood, and the related amenities. For technology companies, physical issues are not a concern. However, other constraints prevent some platforms from being duplicated, including intellectual property protections and user base.

Intellectual property protections may prevent some platforms from being duplicated. If a platform relies on an essential piece of copyrighted code or patented technology, then it would be impossible for the facility to be duplicated.[167] This would be as if a food court landlord had a patent on a novel way of organizing the property, how to pay for food from multiple restaurants, or something similar. Public policy justifications for intellectual property law might prevent antitrust enforcers from making too much headway in these instances. In some instances, the anticompetitive implications of a benefit that a company has gained through intellectual property protections may be so great as to warrant limiting those rights, such as in standard essential patent litigation.[168] However, many platforms rely on simple ideas, such as social media communications, ecommerce, or streaming video, which can be duplicated without the exact code or technology that dominant platforms rely on.

User base provides a more salient issue for challengers of dominant platforms. Even if a facility is duplicated successfully, a rival platform is only able to pose a serious competitive threat to a dominant platform if they are able to attract businesses and individuals to use their platform.[169] State Attorneys Gen-

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[164] *See* List of Fortune 500 Companies in 2021, FORTUNE, https://fortune.com/fortune500/2021/search/?f500_profits=desc [perma.cc/V83X-RLMU] (ranking Apple, Alphabet, Amazon, Facebook, and Microsoft in the 90th percentile).

[165] MCI Commc'ns Corp. v. Am. Tel. & Tel. Co., 708 F.2d 1081, 1132–33 (7th Cir. 1983).

[166] United States v. Terminal R.R. Ass'n of St. Louis, 224 U.S. 383, 397 (1912).

[167] *See* Hovenkamp, *supra* note 38, at 1982.

[168] Lim, *supra* note 38, at 3–4 (discussing the tension between standard essential patents and antitrust law).

[169] Complaint, *supra* note 151, at ¶ 40.

eral observed that Facebook is able to maintain dominance in the personal social networking market because of network effects.[170] Network effects concern the density of friends, family, and colleagues that one has on a particular social media service.[171] If a social media platform purports to connect one to their friends, family, and colleagues, but those people are not on the platform, it will fail of its essential purpose. Similarly, an e-commerce platform without interesting products or services to buy, or a streaming video platform without entertaining videos to watch, will be unable to compete against a dominant platform. Even if a platform can be functionally duplicated without violating intellectual property protections, its success is not guaranteed and remains dependent on its adoption by the public at large. Even if a platform offers better services, privacy, or convenience than a dominant platform, the lack of meaningful connections, commerce, or entertainment on the rival platform is likely to inhibit growth. Some rival platforms have observed this concern and attempted to remedy it by paying people to use their platform, but this presents obvious questions of long-term sustainability.[172]

Platform companies may contend that the inertia of public opinion that allows for them to maintain and grow large user bases is outside of their control. Moreover, they may claim that regulators would have to change public behavior, not private platform companies, in order to resolve this harm. However, large platform companies are able to prevent this from occurring in the nascent stages of a rival's development by cutting off a competitor's access to resources at an early stage. Moreover, many startup companies that may pose an eventual challenge to a big technology company are often acquired by a larger company before they have the ability to pose a realistic threat.[173]

Viability of duplicating a platform is an extremely fact-dependent situation, and it would be impossible to determine whether a contemporary dominant platform is duplicable or not. However, factors like the presence of copyrighted code or patented technology or the development of a critical mass of users should all be considered when evaluating this possibility, as the states Attorneys General Facebook suit has established.[174]

CONCLUSION

Antitrust law is a product of the industries that provoked the passage of the Sherman Act. Oil, sugar, and rail monopolies arose from geographic factors

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[170] *Id.* at ¶ 41.

[171] *Id.*

[172] Taylor Lorenz, *Snapchat Wants You to Post. It's Willing to Pay Millions*., N.Y. TIMES (Jan. 19, 2021), https://www.nytimes.com/2021/01/15/style/snapchat-spotlight.html [perma.cc/4E68-SSJ7].

[173] Walter Frick, *Big Tech's 15-Year Acquisition Spree Had a Hidden Cost*, QUARTZ (July 22, 2020), https://qz.com/1883377/how-big-techs-acquisition-strategies-suppress-entrepreneurship/ [perma.cc/DRL9-XSGS].

[174] Complaint, *supra* note 151, at ¶¶ 40–41.

and mergers.[175] Although novel techniques arose during the same period as these monopolies, they were not essential to the monopolies' power.[176] Moreover, intellectual property protections do not necessarily result in consumer-level harm, as is required under American antitrust law based on the consumer welfare standard.[177] Although there is scholarly debate regarding the consumer welfare standard, and other proposals are currently being considered, IP protections do not inherently conflict with antitrust principles, and some remedies like the standard-essential patents and patent misuse doctrine have arisen in cases of deep conflict with competition.[178] As the recent state Attorneys General lawsuit against Facebook has established, factors like consumer adoption of a platform can have a more influential effect on monopoly power than intellectual property law and may be more difficult to solve, considering the remedies available under IP law, although both factors complicate antitrust enforcement in this area compared to traditional analogue areas of antitrust enforcement, such as rail or steel.[179]

Two theories of single-firm monopolization may be applicable to platform companies: duty-to-deal and essential facilities. Although duty-to-deal has been historically successful, the Supreme Court has significantly narrowed its applicability to future cases.[180] Moreover, duty-to-deal does not map onto the harms that may arise from dominant platform companies, as evidenced in Facebook's successful defense against this theory in the past.[181] Essential facilities theory is more effective in addressing the harms of platform companies because it mirrors the scenarios where essential facilities theory has been used in the analogue world, although it is complicated by intellectual property and other issues.[182]

A dominant platform is controlled by its company in a number of ways, including intellectual property protections and operations.[183] The dominant platform company has the ability to deny the use of a facility to a competitor through the use of registered developer programs, allowing them to revoke the credentials of third-party developers.[184] Not only is it feasible for platform companies to provide access to their platform, but it is necessary to their long-term viability that they do so.[185] Finally, the duplication of a dominant platform is difficult due to intellectual property protections and the potential inability to

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[175] *See supra* Section I.A.
[176] *See supra* text accompanying notes 28–32.
[177] *See supra* text accompanying notes 36–43.
[178] *See supra* notes 44–46 and accompanying text.
[179] *See supra* text accompanying notes 147–51.
[180] *See supra* text accompanying notes 100–09.
[181] *See supra* text accompanying notes 91–94.
[182] *See supra* text accompanying notes 129–35.
[183] *See supra* text accompanying notes 136–39.
[184] *See supra* text accompanying notes 157–58.
[185] *See supra* text accompanying notes 149–50.

create a user base on a new platform.[186] All of these factors establish that essential facilities theory should be employed by antitrust enforcers and private actors seeking to bring a case under Sherman Act Section 2 or other antitrust enforcement tools.

Essential facilities theory has faced challenges in application in some previous cases. Although not every dominant platform is liable under applicable antitrust laws for monopolization or anticompetitive behavior, essential facilities theory has been comparatively successful in the past.[187] Ultimately, this may be a moot point in the future. The House of Representatives has expressed its concern with the state of contemporary antitrust law and proposed sweeping overhauls.[188] However, in the interim, the essential facilities theory offers a method for pursuing antitrust investigations against technology platforms until such changes arise. Ongoing litigation by states and the federal government will need to use a theory of antitrust law that is able to capture the specific harm that is occurring in order to access a remedy that solves the root of the problem, rather than the symptoms, albeit anticompetitive ones, that arise as a result of behavior that is anticompetitive but difficult to cognize under current antitrust law. The historic origin of antitrust law does not make contemporary enforcement impossible, but it does present new and novel problems for antitrust enforcers.

An antitrust enforcement regime that recognizes the power of modern technology companies is necessary in order to achieve the goals set forth in the Sherman Act and other pieces of historic antitrust legislation. Whether or not the consumer welfare standard survives, it is clear that monopolization and consolidation of the technology industry has captured the attention of regulators, the media, and the general public. The essential facilities theory offers the best path forward under the current antitrust enforcement regime to ensure that digital platforms remain in robust competition and guarantee that the competition that takes place on these platforms is fair and that consumers can maintain trust in markets. The importance of ensuring competition in platforms is paramount because these platforms play host to other economies: Facebook hosts a social media platform, YouTube hosts independent video creators, and Amazon hosts many sellers.[189] Therefore, anticompetitive behavior in platforms has a multiplicative effect: not only does it reduce competition amongst platforms, it also reduces competition on the platform itself, such as Amazon's cannibalization of markets with its AmazonBasics line.[190] Interdependence between markets is not a new phenomenon, and the effect that monopolization can have on downstream markets is well documented.[191] However, third-party developers

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[186] *See supra* text accompanying notes 167–68.

[187] *Compare supra* Section III.A *with supra* Section III.B.

[188] *See supra* text accompanying notes 65–71.

[189] *See supra* notes 7–11 and accompanying text.

[190] Mattioli, *supra* note 6.

[191] Alaska Airlines, Inc. v. United Airlines, Inc., 948 F.2d 536, 543 (9th Cir. 1991).

and sellers that rely on a platform for business feel these effects in a very direct way. The food court of technology platforms demonstrates this problem clearly: if the landlord evicts a restaurant, it would be impossible for the restaurant to compete. As technology platforms become more consolidated, there are fewer places where the restaurant can go elsewhere to set up their business. The essential facilities doctrine provides a way of articulating the vulnerability that these third parties feel on platforms, and it offers a way to resolve this harm to the benefit of businesses and consumers, whether in the form of lower consumer prices or some other metric of harm that may be adopted by Congress in the future.