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Antitrust and "Big Tech"

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SUMMARY

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Antitrust and "Big Tech"

Over the past decade, Google, Amazon, Facebook, and Apple ("Big Tech" or the "Big Four") have revolutionized the internet economy and affected the daily lives of billions of people worldwide. While these companies are responsible for momentous technological breakthroughs and massive wealth creation, they have also received scrutiny related to their privacy practices, dissemination of harmful content and misinformation, alleged political bias, and—as relevant here—potentially anticompetitive conduct. In June 2019, the Wall Street Journal reported that the Department of Justice (DOJ) and Federal Trade Commission (FTC)—the agencies responsible for enforcing the federal antitrust laws—agreed to divide responsibility over investigations of the Big Four's business practices. Under these agreements, the DOJ reportedly has authority over investigations of Google and Apple, while the FTC will look into Facebook and Amazon.

The DOJ and FTC investigations into Big Tech will likely involve inquiries into whether the relevant companies have illegally monopolized their respective markets or engaged in anticompetitive mergers or acquisitions. Under Section 2 of the Sherman Act, it is illegal for a company with monopoly power to engage in exclusionary conduct to maintain or enhance that power. And under Section 7 of the Clayton Act, companies may not engage in mergers or acquisitions that "substantially lessen" competition.

The scope of the market in which a defendant-company operates is a key question in both monopolization and merger cases. The Supreme Court has identified certain qualitative factors that courts may consider in defining the scope of relevant antitrust markets. The DOJ and FTC have also adopted a quantitative market-definition inquiry known as the "hypothetical monopolist" or "SSNIP" test, according to which a relevant antitrust market consists of the smallest grouping of products for which a hypothetical monopolist could profitably impose a 5% price increase. The application of this quantitative inquiry to certain zero-price technology markets may present courts and regulators with important issues of first impression. However, commentators have proposed a variety of methods by which regulators could assess the scope of the markets in which the Big Four operate.

In addition to demonstrating that a defendant-company possesses monopoly power in a properly defined market, monopolization plaintiffs must show that the defendant engaged in exclusionary conduct to maintain or enhance that power. In investigating allegedly exclusionary behavior by the Big Four, antitrust regulators may be evaluating

- Google Search's alleged discrimination against Google's vertical rivals, certain tying and exclusive-dealing arrangements related to the company's Android mobile operating system, and exclusive and restrictive-dealing arrangements related to the company's ad-brokering platform;
- Amazon's alleged predatory pricing and discrimination against third-party merchants on its online marketplace;
- Facebook's allegedly anticompetitive pattern of acquiring promising potential competitors, including its acquisitions of the photo-sharing service Instagram and the messaging service WhatsApp; and
- Apple's decision to design its mobile-operating system to prevent customers from downloading iPhone apps from any source other than the company's App Store.

While the antitrust action surrounding Big Tech is currently concentrated in the executive branch and the courts, digital competition issues have also attracted the interest of Congress, which may pursue legislation to address anticompetitive conduct by large technology companies. Specifically, some commentators have proposed that Congress adopt changes to certain elements of antitrust law to promote competition in technology markets, including modifications to predatory-pricing doctrine, exclusionary-design law, and merger review. In contrast, other commentators have advocated sector-specific competition regulation for large technology companies that would include data-portability rules, interoperability standards, nondiscrimination requirements, and separation regimes.

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Over the past decade, Google, Amazon, Facebook, and Apple—collectively known as the "Big Four" or "Big Tech"—have revolutionized the internet economy and affected the daily lives of billions of people worldwide. Google operates a search engine that processes over 3.5 billion searches a day (Google Search),[1] runs the biggest online video platform (YouTube),[2] licenses the world's most popular mobile operating system (Android),[3] and is the largest seller of online advertising.[4] Amazon is a major online marketplace, retailer, logistics network, cloud-storage host, and television and film producer.[5] Facebook boasts 2.4 billion monthly active users worldwide, meaning more people use the social network than follow any single world religion.[6] Apple popularized the smartphone, making the device so ubiquitous that consumers have grown accustomed to carrying a supercomputer in their pocket.[7] Collectively, the Big Four generated over $690 billion in revenue in 2018—a sum larger than the annual GDPs of most national economies.[8]

While these companies are responsible for momentous technological breakthroughs and massive wealth creation, they have also received scrutiny related to their privacy practices, dissemination of harmful content and misinformation, alleged political bias, and—as relevant here—potentially anticompetitive conduct.[9] In June 2019, the Wall Street Journal reported that the Department of Justice (DOJ) and Federal Trade Commission (FTC)—the agencies responsible for enforcing the federal antitrust laws—agreed to divide responsibility over investigations of the Big Four's business practices. Under these agreements, the DOJ reportedly has authority over investigations of Google and Apple, while the FTC will look into Facebook and Amazon.[10] The following month, the DOJ announced a potentially broader inquiry into Big Tech. Specifically, the Justice Department's Antitrust Division revealed that it intends to examine possible abuses of market power by unnamed "market-leading online platforms"[11]—an announcement that has led some to

[1] Google Search Statistics, INTERNET LIVE STATS, https://internetlivestats.com/google-search-statistics/ (last accessed Aug. 23, 2019).

[2] YouTube—Statistics & Facts, STATISTA (June 25, 2019), https://statista.com/topics/2019/youtube.

[3] Mobile Operating System Market Share Worldwide, July 2018-July 2019, STATCOUNTER, https://gs.statcounter.com/os-market-share/mobile/worldwide.

[4] Jasmine Enberg, *Digital Ad Spending 2019, Global*, EMARKETER (Mar. 28, 2019), https://www.emarketer.com/content/global-digital-ad-spending-2019.

[5] Paris Martineau & Louise Matsakis, *Why It's Hard to Escape Amazon's Long Reach*, WIRED (Dec. 23, 2018), https://www.wired.com/story/why-hard-to-escape-amazons-long-reach/.

[6] Number of Monthly Active Facebook Users Worldwide as of 2nd Quarter 2019, STATISTA, https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/ (last accessed Aug. 23, 2019); The Changing Religious Landscape, PEW RESEARCH CTR. (Apr. 5, 2017), https://www.pewforum.org/2017/04/05/the-changing-global-religious-landscape/.

[7] *See* David Pierce & Lauren Goode, *The Wired Guide to the iPhone*, WIRED (Dec. 7, 2018), https://www.wired.com/story/guide-iphone/.

[8] *See* Leading Online Companies Ranked by Revenue from 2017 to 2018, STATISTA (July 22, 2019), https://statista.com/statistics/277123/internet-companies-revenue/; Gross Domestic Product 2018, WORLD BANK GRP., https://databank.worldbank.org/data/download/GDP.pdf.

[9] Ryan Tracy, *Tech Giants Draw Fire in Congress*, WALL ST. J. (July 16, 2019), https://www.wsj.com/articles/congress-puts-big-tech-in-crosshairs-11563311754.

[10] Brent Kendall & John D. McKinnon, *Congress, Enforcement Agencies Target Tech*, WALL ST. J. (June 3, 2019), https://www.wsj.com/articles/ftc-to-examine-how-facebook-s-practices-affect-digital-competition-11559576731.

[11] Justice Department Reviewing the Practices of Market-Leading Online Platforms, DEP'T OF JUSTICE (July 23, 2019), https://www.justice.gov/opa/pr/justice-department-reviewing-practices-market-leading-online-platforms.

speculate that a number of the Big Four may face investigations from both agencies despite the previously reported agreements.[12]

Big Tech's business practices have also attracted congressional interest. In May 2019, the Senate Judiciary Committee held a hearing to investigate privacy and competition issues in the digital advertising industry.[13] And in June and July, the House Judiciary Committee held two separate hearings examining the market power of online platforms.[14]

This report provides an overview of antitrust issues involving the Big Four. The report begins with a general outline of the aspects of antitrust doctrine that are most likely to play a central role in the DOJ and FTC investigations—specifically, the case law surrounding monopolization and mergers. Next, the report discusses the application of this doctrine to each of the Big Four. Finally, the report concludes by examining policy options related to the promotion of digital competition.

Legal Background

General Principles

Contemporary antitrust doctrine reflects a commitment to the promotion of economic competition, which induces businesses to cut costs, improve their productivity, and innovate.[15]

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[12] John D. McKinnon & James V. Grimaldi, *Justice Department, FTC Skirmish Over Antitrust Turf*, WALL ST. J. (Aug. 5, 2019), https://www.wsj.com/articles/justice-department-ftc-skirmish-over-antitrust-turf-1156997402.

[13] Understanding the Digital Advertising Ecosystem and the Impact of Data Privacy and Competition Policy: Hearing Before the S. Judiciary Comm., 116th Cong. (2019), https://www.judiciary.senate.gov/meetings/understanding-the-digital-advertising-ecosystem-and-the-impact-of-data-privacy-and-competition-policy.

[14] Online Platforms and Market Power, Part 1: The Free and Diverse Press: Hearing Before H. Judiciary Comm. Subcommittee on Antitrust, Commercial and Administrative Law, 116th Cong. (2019), https://judiciary.house.gov/legislation/hearings/online-platforms-and-market-power-part-1-free-and-diverse-press; Online Platforms and Market Power, Part 2: Innovation and Entrepreneurship: Hearing Before H. Judiciary Comm. Subcommittee on Antitrust, Commercial and Administrative Law, 116th Cong. (2019), https://judiciary.house.gov/legislation/hearings/online-platforms-and-market-power-part-2-innovation-and-entrepreneurship.

[15] Ohio v. Am. Express Co., 138 S. Ct. 2274, 2290 (2018) (explaining that the "primary purpose" of antitrust law is to promote competition) (citation omitted); N.C. State Bd. Of Dental Examiners v. FTC, 135 S. Ct. 1101, 1110 (2015) (explaining that antitrust law embodies "fundamental national values of free enterprise and economic competition") (citation omitted); HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE § 1.1 (5th ed. 2016). While contemporary antitrust doctrine focuses on the promotion of economic competition, early and mid-20th century antitrust case law often reflected a concern with other goals, including the protection of small businesses and preservation of political equality. *See* Thomas E. Kauper, *Influence of Conservative Economic Analysis on the Development of the Law of Antitrust*, *in* HOW THE CHICAGO SCHOOL OVERSHOT THE MARK: THE EFFECT OF CONSERVATIVE ECONOMIC ANALYSIS ON U.S. ANTITRUST 43 (Robert Pitofsky ed., 2008) (describing the Supreme Court's early and mid-20th century antitrust doctrine as "highly interventionist, concerned as much (or more) with the well-being of small entrepreneurs as with efficiency"). Contemporary courts have largely rejected the proposition that antitrust doctrine should incorporate these inquiries and instead follow the lead of the so-called Chicago School of antitrust analysis, which instructs that the promotion of consumer welfare should be the sole purpose of antitrust law. *See, e.g.*, Kirtsaeng v. John Wiley & Sons, Inc., 568 U.S. 519, 539, (2013) ("[T]he principal objective of antitrust policy is to maximize consumer welfare by encouraging firms to behave competitively.") (quoting 1 P. AREEDA & H. HOVENKAMP, ANTITRUST LAW ¶ 100, p. 4 (3d ed. 2006); Leegin Creative Leather Prod., Inc. v. PSKS, Inc., 551 U.S. 877, 902 (2007) (overturning an antitrust precedent because it "hinder[ed] competition and consumer welfare"); Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 221 (1993) (noting that the "traditional concern[s]" of the antitrust laws are "consumer welfare and price competition"); Energy Conversion Devices Liquidation Tr. v. Trina Solar Ltd., 833 F.3d 680, 685 (6th Cir. 2016) ("At their core, the antitrust laws are a

These virtues of competition are often illustrated with the stylized hypothetical of a "perfectly competitive" market with homogenous products, a large number of well-informed buyers and sellers, low entry barriers, and low transaction costs. In such a market, businesses must price their products at marginal cost to avoid losing their customers to competitors.[16] However, real-world markets almost always deviate from this textbook model of perfect competition. When one or more of the structural conditions identified above is absent, individual firms may have *market power*—the ability to profitably raise their prices above competitive levels. At the extreme, a market can be *monopolized* when a single firm possesses significant and durable market power.[17]

According to standard justifications for antitrust law, the exercise of significant market power harms consumers by requiring them to pay higher prices than they would pay in competitive markets, purchase less desirable substitutes, or go without certain goods and services altogether. Moreover, significant market power harms society as a whole by reducing output and eliminating value that would have been enjoyed in a competitive market.[18] Contemporary antitrust doctrine is focused on preventing these harms by prohibiting exclusionary conduct by dominant firms and anticompetitive mergers and acquisitions.[19] The following subsections discuss these prohibitions in turn.

Section 2 of the Sherman Act: Monopolization

Section 2 of the Sherman Antitrust Act of 1890 makes it unlawful to monopolize, attempt to monopolize, or conspire to monopolize "any part of the trade or commerce among the several States, or with foreign nations."[20] However, the statute itself does not define what it means to "monopolize" trade or commerce, leaving the courts to fill out the meaning of that concept through common law decisionmaking. Consistent with this approach, the Supreme Court's interpretation of Section 2 has evolved in response to changes in economic theory and business practice.[21]

In its monopolization case law, the Court has made clear that the possession of monopoly power and charging of monopoly prices do not by themselves constitute Section 2 violations. Instead, the Court has held that a company engages in monopolization if and only if it (1) possesses monopoly power, and (2) engages in exclusionary conduct to achieve, maintain, or enhance that power.[22]

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consumer welfare prescription."); Fishman v. Estate of Wirtz, 807 F.2d 520, 535 (7th Cir. 1986) ("[T]he enhancement of consumer welfare is an important policy—probably the paramount policy—informing the antitrust laws.").

[16] HOVENKAMP, *supra* note 15 § 1.1.

[17] *Id*.

[18] *Id*.

[19] Federal antitrust law also prohibits various forms of anticompetitive agreements between firms. 15 U.S.C. § 1. This report focuses on antitrust law's treatment of monopolization and mergers because of their special relevance to Big Tech companies.

[20] 15 U.S.C. § 2. Although Section 2 creates three distinct offenses—monopolization, attempted monopolization, and conspiracy to monopolize—all three offenses turn on the same general concepts: monopoly power and exclusionary conduct. *See* U.S. DEP'T OF JUSTICE, SINGLE-FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT 1 (2008) (report withdrawn) [hereinafter "DOJ SECTION 2 REPORT"].

[21] *See* HOVENKAMP, *supra* note 15 § 2.2a (explaining that antitrust law "has always been closely tied to prevailing economic doctrine").

[22] United States v. Grinnell Corp., 384 U.S. 563, 570-71 (1966). Section 2 is enforced by the Department of Justice, the Federal Trade Commission (pursuant to Section 5 of the Federal Trade Commission Act), state attorneys general, and private plaintiffs. *See* 15 U.S.C. §§ 4, 15a, 45; FTC v. Cement Institute, 333 U.S. 683, 694 (1948) ("[A]ll conduct

Elements of a Monopolization Claim

To prevail in a Section 2 monopolization case, plaintiffs must show that the defendant

(1) possesses monopoly power, and

(2) engages in exclusionary conduct to achieve, maintain, or enhance that power.

Monopoly Power

To prevail in a Section 2 case, plaintiffs must show that a defendant possesses monopoly power. While the Supreme Court has explained that a firm has *market power* if it can profitably charge supra-competitive prices,[23] the Court has described *monopoly power* as "the power to control prices or exclude competition,"[24] which requires "something greater" than market power.[25] Lower federal courts have held that a firm possesses monopoly power if it possesses a *high degree* of market power.[26]

A Section 2 plaintiff can establish that a defendant possesses monopoly power in two ways. First, plaintiffs can satisfy this requirement with *direct* evidence of monopoly power—that is, evidence that the defendant charges prices significantly exceeding competitive levels.[27] However, such evidence is typically difficult to adduce because of complications in determining appropriate measures of a firm's costs, among other things.[28] As a result, plaintiffs generally attempt to establish that a defendant has monopoly power with *indirect* evidence showing that the defendant (1) possesses a large share of a relevant market, and (2) is protected by entry barriers.[29]

violative of the Sherman Act may likewise come within the unfair trade practice prohibitions" of the Federal Trade Commission Act); HOVENKAMP, *supra* note 15 § 16.

[23] NCAA v. Bd. of Regents of the Univ. of Okla., 468 U.S. 85, 109 n.38 (1984); Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 27 n.46 (1984).

[24] United States v. E.I. du Pont de Nemours & Co., 351 U.S. 377, 391 (1956).

[25] Eastman Kodak Co. v. Imagine Technical Servs., Inc., 504 U.S. 451, 481 (1992).

[26] *See, e.g.*, Bacchus Indus., Inc. v. Arvin Indus., Inc., 939 F.2d 887, 894 (10th Cir. 1991) (explaining that a firm possesses monopoly power if it has "substantial" market power); Deauville Corp. v. Federated Dep't Stores, Inc., 756 F.2d 1183, 1192 n.5 (5th Cir. 1985) (explaining that a firm possesses monopoly power if it has an "extreme degree" of market power).

[27] *See* Geneva Pharm. Tech. Corp. v. Barr Lab. Inc., 386 F.3d 485, 500 (2d Cir. 2004); United States v. Microsoft, 253 F.3d 34, 51 (D.C. Cir. 2001); Re/Max Intern., Inc. v. Realty One, Inc., 173 F.3d 995, 1016 (6th Cir. 1999); Coastal Fuels of Puerto Rico, Inc. v. Caribbean Petroleum Corp., 79 F.3d 182, 196-97 (1st Cir. 1996); Rebel Oil Co., Inc. v. Atlantic Richfield Co., 51 F.3d 1421, 1434 (9th Cir. 1995); *but see* Christy Sports, LLC v. Deer Valley Resort Co., 555 F.3d 1188, 1198 (10th Cir. 2009) (noting that the Tenth Circuit has never explicitly accepted or rejected the proposition that monopoly power can be proved directly in a Section 2 case).

[28] *See* Louis Kaplow, *Why (Ever) Define Markets?*, 124 HARV. L. REV. 437, 447 (2010). *See also* McWane, Inc. v. FTC, 783 F.3d 814, 830 (11th Cir. 2015) ("Because . . . direct proof [of monopoly power] is only rarely available, courts more typically examine market structure in search of circumstantial evidence of monopoly power.") (quoting United States v. Microsoft Corp., 253 F.3d 34, 51 (D.C. Cir. 2001); Bailey v. Allgas, Inc., 284 F.3d 1237, 1246 (11th Cir. 2002) ("Because demand is difficult to establish with accuracy, evidence of a seller's market share may provide the most convenient circumstantial measure of monopoly power.").

[29] *See McWane, Inc.*, 783 F.3d at 830; Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 307 (3d Cir. 2007); *Microsoft*, 253 F.3d at 51; Toys 'R' Us, Inc. v. FTC, 221 F.3d 928, 937 (7th Cir. 2000); *Re/Max Intern., Inc.*, 173 F.3d at 1016; W. Parcel Express v. UPS, 190 F.3d 974, 975 (9th Cir. 1999); Am. Council of Certified Podiatric Physicians & Surgeons v. Am. Bd. of Podiatric Surgery, Inc., 185 F.3d 606, 622-23 (6th Cir. 1999); *Rebel Oil Co.*, 51 F.3d at 1434; Ryko Mfg. Co. v. Eden Servs., 823 F.2d 1215, 1232 (8th Cir. 1987).

Market Share

To demonstrate that a defendant possesses a dominant market share, plaintiffs must define the scope of the market in which the defendant operates. Predictably, antitrust plaintiffs typically argue that a defendant operates in a narrow market with few competitors, while defendants ordinarily contend that they operate in a broad market with many rivals. Because the size of the market in which a defendant operates (the denominator in a market-share calculation) is generally harder to determine than its sales or revenue (the numerator in such a calculation), parties in antitrust litigation often vigorously contest the issue of market definition—so much, in fact, that more antitrust cases hinge on that question than on "any other substantive issue" in competition law.[30]

Market Definition: Substitutability and the SSNIP Test. In analyzing market definition, the Supreme Court has explained that a relevant antitrust market consists of the product at issue in a given case and all other products that are "reasonably interchangeable" with it.[31] According to the Court, whether one product is "reasonably interchangeable" with another product depends on demand substitution—that is, the extent to which an increase in one product's price would cause consumers to purchase the other product instead.[32] The Court has further explained that a variety of "practical indicia" are relevant to an assessment of whether goods and services are reasonable substitutes, including

1. industry or public recognition of separate markets;
2. a product's peculiar characteristics and uses;
3. unique production facilities;
4. distinct customers;
5. distinct prices;
6. sensitivity to price changes; and
7. specialized vendors.

These criteria are sometimes called the "*Brown Shoe*" factors based on the name of the 1962 decision in which the Court identified them.[33]

In addition to the *Brown Shoe* factors, the DOJ and FTC have provided specific market-definition guidance in their Horizontal Merger Guidelines. The 2010 version of the Guidelines endorses the "hypothetical monopolist" test for defining markets, which—like the Court's case law—principally focuses on demand substitution.[34] Under this test, a group of products qualifies as a relevant antitrust market if a hypothetical monopolist selling those products would find it profitable to raise their price notwithstanding buyers' incentives to substitute other goods and services in response. Specifically, the test asks whether a hypothetical monopolist would be able to profitably impose a "small but significant and non-transitory increase in price" (SSNIP)—generally, a 5% increase.[35] If buyer substitution to other products would make such a price

[30] Jonathan Baker, *Market Definition: An Analytical Overview*, 74 ANTITRUST L.J. 129, 129 (2007).

[31] Brown Shoe Co. v. United States, 370 U.S. 294, 325 (1962).

[32] *Id*.

[33] *Id*.

[34] U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGERS GUIDELINES § 4 (2010) [hereinafter "2010 HORIZONTAL MERGER GUIDELINES"].

[35] *Id*.

increase unprofitable, then the candidate market must be expanded until a hypothetical monopolist would benefit from such a strategy.[36]

One popular antitrust treatise illustrates the SSNIP test's application by comparing proposed markets consisting of *Ford passenger cars* and *all passenger cars*. Because Ford—which has a "monopoly" over the sale of Ford passenger cars—would likely be unable to profitably raise its prices by 5% because of the business it would lose to other car companies, *Ford passenger cars* are unlikely to qualify as a properly defined antitrust market. However, because a hypothetical firm with a monopoly over *passenger cars* likely could profit from such a price increase, *passenger cars* likely qualify as a distinct antitrust market.[37]

Market Definition and Big Tech: The Challenge of Zero-Price Markets. The SSNIP test's application to certain technology markets raises difficult issues. In a number of technology markets, firms do not charge customers for access to certain services like online search and social networking. The difficulty with applying the SSNIP test to such markets is clear: as one commentator notes, there is "no sound way" to analyze a 5% increase in a price of zero because such an increase would result in a price that *remains zero*.[38] The SSNIP test as traditionally administered is accordingly "inoperable" in a number of zero-price technology markets.[39]

Some courts and commentators have responded to this difficulty in applying the SSNIP test to zero-price markets by concluding that such markets are categorically exempt from antitrust scrutiny. In *Kinderstart.com, LLC v. Google, Inc.*, for example, a federal district court dismissed allegations that Google monopolized the market for online search on the grounds that Google does not charge customers to use its search engine.[40] Several commentators have echoed the general line of reasoning behind the *Kinderstart* decision and questioned whether the provision of free services can result in the type of consumer harm that antitrust law is intended to remedy.[41]

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[36] A number of courts have also accepted the SSNIP test as an appropriate method for defining relevant antitrust markets. *See* FTC v. Whole Foods Mkt., Inc., 548 F.3d 1028, 1038 (D.C. Cir. 2008) ("If a small price increase would drive consumers to an alternative product, then that product must be reasonably substitutable for those in the proposed market and must therefore be part of the market, properly defined."); Theme Promotions, Inc. v. News Am. Mktg. FSI, 546 F.3d 991, 1002 (9th Cir. 2008) ("If a monopolist could not profitably impose a SSNIP, the market definition should be expanded to include those substitute products that constrain the monopolist's pricing."); United States v. Engelhard Corp., 126 F.3d 1302, 1306 (11th Cir. 1997) ("First, when determining the relevant market, the question is whether a hypothetical monopolist could profitably raise price.").

[37] *See* HOVENKAMP, *supra* note 15 § 3.2.

[38] David S. Evans, *The Antitrust Economics of Free*, 7 COMPETITION POL'Y INT'L 71, 72 (2011).

[39] *Id.*; *see also* Assistant Att'y Gen. Makan Delrahim, "I'm Free": Platforms and Antitrust Enforcement in the Zero-Price Economy, Address at Silicon Flatirons Annual Tech. Policy Conference at the Univ. of Co. L. Sch. (Feb. 11, 2019), https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-keynote-address-silicon-flatirons (explaining that the SSNIP test "does not translate directly to a zero-price market").

[40] No. C-06-2057-JF(RS), 2007 WL 831806, at *5 (N.D. Cal. Mar. 16, 2007).

[41] *See* Robert H. Bork, *Antitrust and Google*, CHICAGO TRIBUNE (Apr. 6, 2012) (arguing that any antitrust case against search engines would be "unsupportable" because search engines are "free to consumers"); Catherine Tucker & Alexander Matthews, *Social Networks, Advertising, and Antitrust*, 19 GEO. MASON L. REV. 1211, 1211 (2012) (arguing that "it is not clear" that Facebook's growth raises antitrust issues because consumers do not pay to use its social network); Geoffrey Manne & Joshua Wright, *What's An Internet Monopolist? A Reply to Professor Wu*, TRUTH ON THE MARKET (Nov. 22, 2010), https://truthonthemarket.com/2010/11/22/whats-an-internet-monopolist-a-reply-to-professor-wu/ (questioning whether certain large technology companies possess monopoly power on the grounds that many of them "give away their products for free"). *See also* Nathan Newman, *You're Not Google's Customer—You're the Product: Antitrust in a Web 2.0 World*, HUFFINGTON POST (Mar. 29, 2011) (arguing for greater oversight of Google, while contending that "there is no market" for search engines, mapping software, or online video because Google offers those products for free).

However, others have rejected this argument and maintain that antitrust law has an important role to play in zero-price markets. Some of these commentators have argued that zero-price transactions are not in fact "free" to consumers, and that consumers ultimately "pay" for putatively "free" goods and services with both their attention and personal data.[42] According to this line of argument, many of these consumers may actually be *overpaying*. That is, some observers have argued that certain "free" products and services may have *negative* equilibrium prices under competitive conditions, meaning that firms in the relevant markets would *pay consumers* for their attention and the use of their data if faced with sufficiently robust competition.[43]

Other commentators have argued that firms offering zero-price products and services can compete on a variety of nonprice dimensions such as quality and privacy, and that antitrust law can promote consumer welfare in zero-price markets by ensuring that companies engage in these types of nonprice competition.[44] This argument appears to have persuaded regulators at the DOJ. In a February 2019 speech, Makan Delrahim—the head of the Justice Department's Antitrust Division—contended that antitrust law applies "in full" to zero-price markets because firms offering "free" products and services compete on a variety of dimensions other than price.[45]

While many observers accordingly agree that zero-price markets are not categorically immune from antitrust scrutiny, the optimal approach to defining the scope of such markets remains open to debate. Some commentators have argued that regulators should modify the SSNIP test to account for *quality-adjusted* prices, creating a new methodology called the "small but significant and non-transitory decrease in quality" (SSNDQ) test. According to these academics, decreases in the quality of "free" services (e.g., a decline in the privacy protections offered by a social network) are tantamount to increases in the quality-adjusted prices of those services. Under the SSNDQ test, then, a firm offering "free" goods or services would possess monopoly power if it had the ability to profitably raise its quality-adjusted prices significantly above competitive levels.[46]

In contrast, other analysts have proposed that courts and regulators evaluate the scope of zero-price markets by engaging in *qualitative* assessments of the degree to which various digital

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[42] *See, e.g.*, Tim Wu, *Blind Spot: The Attention Economy and the Law*, ANTITRUST L.J. (forthcoming 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2941094; John M. Newman, *Antitrust in Zero-Price Markets: Applications*, 94 WASH. U. L. REV. 49, 166-72 (2016).

[43] Report, COMM. FOR THE STUDY OF DIGITAL PLATFORMS, MARKET STRUCTURE AND ANTITRUST SUBCOMM., UNIV. OF CHICAGO BOOTH SCH. OF BUS. 15 (May 15, 2019) [hereinafter "Chicago Digital Competition Report"]; ERIC A. POSNER & E. GLEN WEYL, RADICAL MARKETS: UPROOTING CAPITALISM AND DEMOCRACY FOR A JUST SOCIETY 205-49 (2018); Nathan Newman, *Search, Antitrust, and the Economics of Control of User Data*, 31 YALE J. ON REG. 401, 443 (2014).

[44] Newman, *supra* note 42, at 72-73; Daniel L. Rubinfeld & Michael Gal, *The Hidden Costs of Free Goods: Implications for Antitrust Enforcement*, 80 ANTITRUST L.J. 521, 551 (2015-2016); Terrell McSweeny & Brian O'Dea, *Data, Innovation, and Potential Competition in Digital Markets—Looking Beyond Short-Term Price Effects in Merger Analysis*, FED. TRADE COMM'N 2-3 (Feb. 22, 2018); Chicago Digital Competition Report, *supra* note 43, at 32; Unlocking Digital Competition: Report of the Digital Competition Expert Panel, HER MAJESTY'S TREASURY 120 (Mar. 2019) [hereinafter "UK Digital Competition Report"]; Jacques Crémer, Yves-Alexandre de Montjoye & Heike Schweitzer, Competition Policy for the Digital Era, EUROPEAN COMM'N 41-42 (2019) [hereinafter "EC Digital Competition Report"].

[45] Delrahim, *supra* note 39.

[46] Rubinfeld & Gal, *supra* note 44, at 551; EC Digital Competition Report, *supra* note 44, at 45; *The Role and Measurement of Quality in Competition Analysis*, ORG. FOR ECON. COOPERATION AND DEV. 8-9 (2013); *see also* 2010 HORIZONTAL MERGER GUIDELINES § 1 (explaining that market definition focuses "on customers' ability and willingness to substitute away from one product to another in response to a price increase *or a corresponding non-price change such as a reduction in product quality or service*") (emphasis added).

products and services are "reasonably interchangeable." For example, in a 2019 European Commission report on digital competition, a group of commentators proposed a "characteristics-based" approach to market definition for zero-price industries under which regulators would compare the functions of relevant digital services.[47]

This type of qualitative method for defining relevant product markets has some support in U.S. antitrust doctrine. As discussed, under *Brown Shoe*'s "practical indicia" approach, a product's "peculiar characteristics and uses" are relevant factors in determining the appropriate scope of an antitrust market.[48] While lower courts have described such informal methods as "old school" in light of the sophisticated econometric evidence typically produced in contemporary antitrust litigation,[49] they have also recognized that *Brown Shoe* remains good law and have employed its "practical indicia" approach despite its somewhat anachronistic status.[50] As a result, regulators may engage in qualitative comparisons of the functions of various digital services in assessing the scope of certain zero-price markets. Regulators could plausibly supplement such inquiries with surveys or other empirical evidence evaluating which products consumers regard as "reasonably interchangeable" with the product at issue in a given case.[51]

Finally, a number of courts employing the *Brown Shoe* criteria have emphasized "industry recognition" of the scope of certain markets. Specifically, these courts have relied on corporate conduct, internal strategy documents, and expert testimony to determine the types of companies that a defendant regards as competitors.[52] Accordingly, courts and regulators may be able to rely on these types of qualitative evidence to determine the scope of certain zero-price digital markets.

Market Shares: How Much Is Enough? Once a Section 2 plaintiff has defined a relevant antitrust market, it must show that the defendant occupies a dominant share of that market. Courts have recognized that there is no fixed market-share figure that conclusively establishes that a defendant-company has monopoly power.[53] However, the Supreme Court has never held that a party with *less* than 75% market share has monopoly power.[54]

Lower court decisions provide a number of other useful data points. In the U.S. Court of Appeals for the Second Circuit's influential decision in *United States v. Aluminum Co. of America*, Judge Learned Hand reasoned that (1) a 90% market share can be sufficient to establish a prima facie case of monopoly power, (2) a 60% or 64% share is unlikely to be sufficient, and (3) a 33% share

[47] EC Digital Competition Report, *supra* note 44, at 45.

[48] Brown Shoe Co. v. United States, 370 U.S. 294, 325 (1962).

[49] FTC v. Sysco Corp., 113 F. Supp. 3d 1, 27 n.2 (D.D.C. 2015) (noting that while the *Brown Shoe* factors are "old school" and its analytical framework has been "relegated to the jurisprudential sidelines," the decision remains good law).

[50] *See* Newcal Indus., Inc. v. Ikon Office Solution, 513 F.3d 1038, 1045 (9th Cir. 2008); Rothery Storage & Van Co. v. Atlas Van Lines, Inc., 792 F.2d 210, 218 n.4 (D.C. Cir. 1986) (Bork, J.); United States v. H&R Block, Inc., 833 F. Supp. 2d 36, 51 (D.D.C. 2011); FTC v. Cardinal Health, Inc., 12 F. Supp. 2d 34, 46-49 (D.D.C. 1998); FTC v. Staples, Inc., 970 F. Supp. 1066, 1075-80 (D.D.C. 1997).

[51] *See* Christine Meyer, *Designing and Using Surveys to Define Relevant Markets*, *in* ECONOMICS OF ANTITRUST: COMPLEX ISSUES IN A DYNAMIC ECONOMY 101, 101 (Lawrence Wu ed., 2007) (explaining that where econometric evidence of demand elasticities is unavailable, stated preference surveys are used to delineate the boundaries of relevant antitrust markets).

[52] *See* Todd v. Exxon Corp., 275 F.3d 191, 205-06 (2d Cir. 2001); Henry v. Chloride, Inc., 809 F.2d 1334, 1342 (8th Cir. 1987); *Staples, Inc.*, 970 F. Supp. at 1079-80.

[53] Kolon Indus. Inc. v. E.I. DuPont de Nemours & Co., 748 F.3d 160, 174 (4th Cir. 2014).

[54] *Id. See also* Exxon Corp. v. Berwick Bay Real Estates Partners, 748 F.2d 937, 940 (5th Cir. 1984) (per curiam) ("This Court has noted that monopolization is rarely found when the defendant's share of the relevant market is below 70%.").

is "certainly" insufficient.[55] Similarly, the Tenth Circuit has explained that courts generally require a market share between 70% and 80% to establish monopoly power.[56] And the Third Circuit has reasoned that a defendant's market share must be "significantly larger" than 55%, while holding that a share between 75% and 80% is "more than adequate" to establish a prima facie case of monopoly power.[57]

Entry Barriers

Several courts have held that proof that a defendant occupies a large market share is insufficient on its own to establish that the defendant has monopoly power.[58] Instead, these courts have concluded that a defendant must also be insulated from potential competitors by significant entry barriers to possess the type of *durable* monopoly power necessary for a Section 2 case.[59] Courts and commentators generally use the concept of entry barriers to refer to long-run costs facing new entrants but not incumbent firms, including (1) legal and regulatory requirements, (2) control of an "essential or superior resource," (3) "entrenched buyer preferences for established brands," (4) "capital market evaluations imposing higher capital costs on new entrants," and (5) in certain circumstances, economies of scale.[60]

The significance of any entry barriers shielding Big Tech companies is a fact-intensive question that will depend on the specific evidence that the DOJ and FTC uncover. However, commentators have identified a number of plausible entry barriers in certain digital markets, including:

- ***Network Effects.*** A digital platform benefits from network effects when its value to customers increases as more people use it. A platform exhibits "direct" or "same-side" network effects when its value to users on one side of the market increases as the number of users on that side of the market increases.[61] Social networks arguably exhibit this category of network effects because their value to

[55] United States v. Aluminum Co. of Am., 148 F.2d 416, 424 (2d Cir. 1945). This report references a number of decisions by federal appellate courts from various regional circuits. For purposes of brevity, references to a particular circuit in the body of this report (*e.g.*, the Second Circuit) refer to the U.S. Court of Appeals for that particular circuit.

[56] Colo. Interstate Gas Co. v. Natural Gas Pipeline Co. of Am., 885 F.2d 683, 694 n.18 (10th Cir. 1989) (citation omitted).

[57] United States v. Dentsply Int'l, Inc., 399 F.3d 181, 187-88 (3d Cir. 2005).

[58] *See* Am. Council of Certified Podiatric Physicians & Surgeons v. Am. Bd. of Podiatric Surgery, Inc., 185 F.3d 606, 623 (6th Cir. 1999) (explaining that market share is "only a starting point for determining whether monopoly power exists," and that "the inference of monopoly power does not automatically follow from the possession of a commanding market share"); Tops Mkts., Inc. v. Quality Mkts., Inc., 142 F.3d 90, 98 (2d Cir. 1998) (explaining that courts infer monopoly power "only after full consideration of the relationship between market share and other relevant characteristics").

[59] *See Dentsply Int'l, Inc.*, 399 F.3d at 188-89 ("In evaluating monopoly power, it is not market share that counts, but the ability to *maintain* market share.") (quoting United States v. Syufy Enters., 903 F.2d 659, 665-66 (9th Cir. 1990)); United States v. Microsoft Corp., 253 F.3d 34, 82 (D.C. Cir. 2001) ("[A] firm cannot possess monopoly power in a market unless that market is also protected by significant barriers to entry."); AD/SAT v. Assoc. Press, 181 F.3d 216, 227 (2d Cir. 1999) (defining "monopoly power" as the ability to (1) charge prices "substantially above the competitive level," *and* (2) "persist in doing so for a significant period without erosion by new entry or expansion"); W. Parcel Express v. UPS, 190 F.3d 974, 975 (9th Cir. 1999) (holding that a company with a large market share could not possess monopoly power because it was not protected by significant entry barriers); *Colo. Interstate Gas Co.*, 885 F.2d at 695-96 ("If the evidence demonstrates that a firm's ability to charge monopoly prices will necessarily be temporary, the firm will not possess the degree of market power required for the monopolization offense.").

[60] Los Angeles Land Co. v. Brunswick Corp., 6 F.3d 1422, 1427-28 & n.4 (9th Cir. 1993) (internal quotation omitted).

[61] MICHAEL A. CUSUMANO, ANNABELLE GAWER & DAVID B. YOFFIE, THE BUSINESS OF PLATFORMS: STRATEGY IN THE AGE OF DIGITAL COMPETITION, INNOVATION, AND POWER 16 (2019).

users is dependent on the number of other users that they are able to attract.[62] In contrast, a platform exhibits "indirect" or "cross-side" network effects when its value to users on one side of the market increases as the number of users on *the other side* of the market increases.[63] Search engines arguably benefit from indirect network effects because they become more valuable to advertisers as they attract additional users who can be targeted with ads. Some courts and commentators have concluded that both categories of network effects represent entry barriers that make it difficult for small firms to meaningfully compete with larger incumbents in certain digital markets.[64]

- ***The Advantages of Big Data.*** A number of commentators have argued that the significant volume of user data generated by certain digital platforms confers important advantages on established companies.[65] According to this theory, large firms with access to significant amounts of data can use that data to improve the quality of their products and services (e.g., by increasing the accuracy of a search engine, improving targeted advertising, or offering targeted discounts)—a process that attracts additional customers, who in turn generate more data.[66] Some commentators have accordingly argued that access to "big data" can result in a feedback loop that reinforces the dominance of large firms.[67]
- ***Costs of Switching and Multi-Homing.*** Some commentators have argued that consumers in certain digital markets are unlikely to switch from one platform to another or use multiple platforms simultaneously—a phenomenon that advantages large established companies.[68] These "lock-in" effects can have a variety of causes. A digital platform's customers may be dissuaded from switching to another platform by the prospect of losing their photos, contacts, search history, apps, or other personal data.[69] To similar effect, technology companies may "tie" various products or services together through contractual requirements or technical impediments that prevent customers from

[62] *See* Dina Srinivasan, *The Antitrust Case Against Facebook: A Monopolist's Journey Towards Pervasive Surveillance in Spite of Consumers' Preference for Privacy*, 16 BERKELEY BUS. L.J. 39, 54 (2019) (arguing that Facebook benefits from "direct network effects" whereby "each additional user that chose Facebook made the Facebook network more attractive to the next incremental user").

[63] CUSMANO, ET AL., *supra* note 61, at 17.

[64] For example, in *United States v. Microsoft Corp.*, the D.C. Circuit concluded that Microsoft's monopoly in the market for personal-computer operating systems was protected by entry barriers because software developers preferred to create software for Microsoft's operating system rather than competing operating systems that had fewer users, while users preferred Microsoft's operating system because it supported a wider variety of software than competing operating systems. *See* United States v. Microsoft Corp., 253 F.3d 34, 54-55 (D.C. Cir. 2001); *see also* MAURICE E. STUCKE & ALLEN P. GRUNES, BIG DATA AND COMPETITION POLICY 162-63 (2016); Chicago Digital Competition Report, *supra* note 43, at 15; UK Digital Competition Report, *supra* note 44, at 15; EC Digital Competition Report, *supra* note 44, at 20.

[65] STUCKE & GRUNES, *supra* note 64, at 7; Daniel L. Rubinfeld & Michael S. Gal, *Access Barriers to Big Data*, 59 ARIZ. L. REV. 339, 352-355 (2017); Howard A. Shelanski, *Information, Innovation, and Competition Policy for the Internet*, 161 U. PA. L. REV. 1663, 1678-82 (2013); Chicago Digital Competition Report, *supra* note 43, at 21-28; UK Digital Competition Report, *supra* note 44, at 32-33.

[66] STUCKE & GRUNES, *supra* note 64, at 170-85.

[67] *Id.*; Shelanski, *supra* note 65, at 1681; UK Digital Competition Report, *supra* note 44, at 32-34.

[68] Shelanski, *supra* note 65, at 1683-84; Chicago Digital Competition Report, *supra* note 43, at 18-21; UK Digital Competition Report, *supra* note 44, at 36-37; EC Digital Competition Report, *supra* note 44, at 57-58.

[69] Chicago Digital Competition Report, *supra* note 43, at 18-21; EC Digital Competition Report, *supra* note 44, at 48.

> simultaneously using competing products or services.[70] Finally, some consumers may exhibit behavioral biases that render their initial choice of a platform "sticky," making them unlikely to switch platforms even when presented with superior alternatives.[71] All of these factors can create a powerful "first-mover advantage" for incumbent firms that deters potential competitors.[72]

In contrast, others have questioned whether digital markets exhibit significant entry barriers. For example, Google has repeatedly denied the claim that it is insulated from rivals, arguing that consumers incur low costs in switching to alternative search engines because competition is only "one click away."[73] Similarly, other commentators have argued that the history of upstart rivals supplanting once-dominant technology companies suggests that any monopoly power in dynamic technology markets is unlikely to be durable.[74]

Exclusionary Conduct

In addition to establishing that a defendant possesses monopoly power, Section 2 plaintiffs must demonstrate that the defendant engaged in exclusionary conduct to achieve, maintain, or enhance that power.[75] While the Supreme Court has developed tests for evaluating whether specific categories of behavior qualify as prohibited exclusionary conduct, it has not endorsed a general standard for distinguishing such conduct from permissible commercial activities.[76] However, courts have made clear that exclusionary conduct must involve harm to the *competitive process* and not simply harm to a defendant's *competitors*.[77] The following subsections discuss how courts have evaluated specific categories of behavior under Section 2.

Predatory Pricing

A monopolist can violate Section 2 by pricing its products below cost to eliminate competitors—a practice commonly known as "predatory pricing."[78] However, because price cutting ordinarily

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[70] Chicago Digital Competition Report, *supra* note 43, at 18-21; UK Digital Competition Report, *supra* note 44, at 36-37.

[71] Chicago Digital Competition Report, *supra* note 43, at 18-21.

[72] Shelanski, *supra* note 65, at 1683-84; Chicago Digital Competition Report, *supra* note 43, at 18-21; UK Digital Competition Report, *supra* note 44, at 36-37; EC Digital Competition Report, *supra* note 44, at 57-58.

[73] David McLaughlin, *Did Big Tech Get Too Big? More of the World Is Asking*, WASH. POST (June 9, 2019), https://www.washingtonpost.com/business/did-big-tech-get-too-big-more-of-the-world-is-asking/2019/07/26/eb98bf2e-afb1-11e9-9411-a608f9d0c2d3_story.html.

[74] *See, e.g.*, Ryan Bourne, *Is This Time Different? Schumpeter, the Tech Giants, and Monopoly Fatalism*, CATO INST. (June 17, 2019), https://www.cato.org/publications/policy-analysis/time-different-schumpeter-tech-giants-monopoly-fatalism; Tyler Cowen, *Breaking Up Big Tech Would Be a Mistake*, THE GLOBE AND MAIL (Apr. 12, 2019), https://www.theglobeandmail.com/opinion-article-breaking-up-big-tech-would-be-a-mistake/.

[75] *See, e.g.*, Lenox MacLaren Surgical Corp. v. Medtronic, Inc., 762 F.3d 1114, 1119 (10th Cir. 2014); United States v. Dentsply Int'l, Inc., 399 F.3d 181, 186-87 (3d Cir. 2005); United States v. Microsoft Corp., 253 F.3d 34, 58 (D.C. Cir. 2001).

[76] In *United States v. Grinnell Corp.*, the Court famously distinguished impermissible exclusionary conduct—which it described as "the willful acquisition or maintenance of [monopoly] power"—from permissible "growth or development as a consequence of a superior product, business acumen, or historic accident." 384 U.S. 563, 570-71 (1966). However, some commentators have observed that this description is not an administrable legal standard. *See* 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 651b, at 74 (2d ed. 2002) (characterizing this language from *Grinnell* as "not helpful" and "sometimes misleading").

[77] *See, e.g.*, United States v. Microsoft Corp., 253 F.3d 34, 58-59 (D.C. Cir. 2001).

[78] Cargill, Inc. v. Monfort of Colo., Inc., 479 U.S. 104, 117 (1986).

benefits consumers, the Supreme Court has "carefully limited" the circumstances in which charging low prices qualifies as impermissible exclusionary conduct. Specifically, under the so-called *Brooke Group* test, a plaintiff bringing predatory-pricing claims must show that a monopolist (1) priced the relevant product below an appropriate measure of cost, and (2) had a "dangerous probability" of recouping its losses by raising prices upon the elimination of its competitors.[79] The Court has defended *Brooke Group*'s safe harbor for above-cost pricing on the grounds that courts cannot identify anticompetitive above-cost prices without chilling legitimate price competition.[80] Similarly, the Court has explained that a "dangerous probability" of recoupment is necessary to state a predatory-pricing claim because without recoupment, low prices enhance consumer welfare.[81]

Some commentators have suggested that there may be cognizable affirmative defenses to predatory-pricing allegations even when the two *Brooke Group* requirements are satisfied. Specifically, firms accused of predatory pricing may be able to defend such charges on the grounds that certain below-cost pricing practices are procompetitive. For example, in a DOJ lawsuit targeting collusion in the e-book industry, regulators explained their decision not to pursue predatory-pricing charges against Amazon on the grounds that the company charged below-cost prices for certain categories of e-books because it intended those books to be "loss leaders."[82] Unlike a firm that engages in predatory pricing—which charges below-cost prices for certain products with an eye towards recouping its losses by charging monopoly prices for those products upon the elimination of competitors—a firm that sells a loss-leader charges below-cost prices to induce consumers to purchase *other* goods or services at above-cost prices.[83] Similarly, some commentators have suggested that below-cost prices that are intended to be promotional in nature or develop the type of user base necessary to realize network effects should not be condemned under Section 2.[84]

The application of predatory-pricing doctrine to Big Tech markets is discussed in greater detail in "Amazon" *infra*.

Refusals to Deal and Essential Facilities

Refusals to Deal. The Supreme Court has explained that companies are generally free to choose their business partners and counterparties.[85] However, the Court has held that Section 2 requires monopolists to do business with their rivals in certain limited circumstances.[86] In its key modern refusal-to-deal decision, *Aspen Skiing Co. v. Aspen Highlands Skiing Co.*, the Court affirmed a

[79] Pac. Bell Tel. Co. v. Linkline Commc'ns, Inc., 555 U.S. 438, 451 (2009) (internal quotations omitted) (citing Brooke Grp. Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 224, (1993)). While the *Brooke Group* decision involved predatory-pricing claims brought under the Robinson-Patman Act, the Court explained that the requirements for such claims brought under the Sherman Act are identical to the requirements for claims brought under Robinson-Patman. *Brooke Grp. Ltd.*, 509 U.S. at 222-23.

[80] *Brooke Grp. Ltd.*, 509 U.S. at 223.

[81] *Id*. at 224.

[82] Lina Khan, *Amazon's Antitrust Paradox*, 126 YALE L.J. 710, 758-59 (2016).

[83] *Id*.

[84] DOJ SECTION 2 REPORT, *supra* note 20, at 71.

[85] United States v. Colgate & Co., 250 U.S. 300, 307 (1919) (noting the "the long recognized right of [a] trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal").

[86] *See* Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 601 (1985); Otter Tail Power Co. v. United States, 410 U.S. 366, 368 (1973).

jury verdict holding a dominant ski-service operator liable under Section 2 for refusing to do business with a competitor.[87] The defendant in *Aspen Skiing*—a ski-service operator that owned three of the four mountains in a popular skiing area—terminated a joint venture with the owner of the fourth mountain under which the companies offered a combined four-mountain ski pass.[88] The defendant also refused to sell its daily ski tickets to the competitor to prevent the competitor from creating an alternative ticket package that functionally replicated the previous offering.[89] In affirming the verdict finding the dominant ski operator liable under Section 2, the Court explained that the jury could have reasonably concluded that the defendant elected to forgo short-term benefits from the joint venture and ticket sales to eliminate its rival from the market. According to the Court, this conclusion was reasonable because the defendant had (1) ceased what was presumably a profitable course of dealing, (2) refused to sell its tickets to the competitor at prevailing retail prices, and (3) failed to offer a plausible efficiency-based justification for its conduct.[90]

However, the Court has subsequently construed *Aspen Skiing* narrowly. In *Verizon Communications, Inc. v. Law Offices of Curtis V. Trinko, LLP*, the Court rejected the argument that Section 2 required a monopolist in the market for wholesale local telephone service to offer adequate interconnection services to its downstream rivals in the market for retail phone service.[91] In reaching this conclusion, the Court characterized its previous decision in *Aspen Skiing* as "at or near the outer boundary" of Section 2 liability.[92] The Court then distinguished that case on the grounds that unlike the dominant ski-service operator in *Aspen Skiing*, the wholesale telephone-service monopolist had not ceased a previous course of dealing with its competitors.[93] The Court also observed that unlike the defendant in *Aspen Skiing*, the monopolist in *Trinko* did not refuse to sell its competitors a product that it offered to the public—another factor that can suggest an anticompetitive intent to forgo short-term profits to eliminate rivals.[94] In the absence of these factors, the Court explained, Section 2 did not require the telephone monopolist to do business with its competitors.

Essential Facilities. A number of lower courts have recognized a subset of cases in which monopolists have a duty to deal with rivals under what has been called the "essential-facilities" doctrine.[95] In developing this doctrine, lower courts have relied principally on the Supreme Court's decisions in *United States v. Terminal Railroad Association of St. Louis*[96] and *Otter Tail Power Co. v. United States*.[97] In *Terminal Railroad Association of St. Louis*, the Court held that a

[87] *Aspen Skiing Co.*, 472 U.S. at 605-11.

[88] *Id*. at 587-95.

[89] *Id*.

[90] *Id*. at 605-11.

[91] 540 U.S. 398, 407-09 (2004).

[92] *Id*. at 409.

[93] *Id*.

[94] *Id*. at 410.

[95] *See* MetroNet Servs. Corp. v. Qwest Corp., 383 F.3d 1124, 1128-29 (9th Cir. 2004); Laurel Sand & Gravel, Inc. v. CSX Transp., Inc., 924 F.2d 539, 544-45 (4th Cir. 1991); Del. & Hudson Ry. Co. v. Consolidated Rail Corp., 902 F.2d 174, 179-80 (2d Cir. 1990); City of Malden, Mo. v. Union Elec. Co., 887 F.2d 157, 160 (8th Cir. 1989); MCI Commc'ns Corp. v. AT&T, 708 F.2d 1081, 1132-33 (7th Cir. 1983); Hecht v. Pro-Football, Inc., 570 F.2d 982, 992-93 (D.C. Cir. 1977); Del. Health Care, Inc. v. MCD Holding Co., 893 F. Supp. 1279, 1287-88 (D. Del. 1995); United States v. AT&T, 524 F. Supp. 1336, 1360-61 (D.D.C. 1981).

[96] 224 U.S. 383 (1912).

[97] 410 U.S. 366 (1973).

consortium of railroads that controlled the facilities necessary to carry traffic across the Mississippi River in St. Louis violated Section 2 by refusing to grant other railroads access to those facilities.[98] Similarly, in *Otter Tail Power Co.*, the Court held that a vertically integrated power company violated Section 2 by refusing to transmit wholesale power to municipalities seeking to operate their own retail distribution systems.[99]

According to the leading formulation of the essential-facilities doctrine that has been derived from these decisions, a plaintiff bringing an essential-facilities claim must show that (1) a monopolist controls access to an "essential" facility, (2) competitors cannot "practically or reasonably" duplicate that facility, (3) the monopolist has denied access to the facility to a competitor, and (4) the monopolist can feasibly share access to the facility.[100]

In applying this test, courts have held that a facility need not be "indispensable" to qualify as "essential." Rather, essential-facilities plaintiffs need only establish that duplication of the facility would be "economically infeasible," and that the denial of its use "inflicts a severe handicap on potential market entrants."[101] However, plaintiffs must show more than mere "inconvenience" to prevail on an essential-facilities cause of action,[102] and courts have accordingly rejected Section 2 claims when plaintiffs had reasonable alternatives to the relevant facility.[103] In assessing the third element of the essential-facilities test—which asks whether a dominant firm has denied access to an essential facility—courts have held that although monopolists need not allow competitors "absolute equality of access,"[104] an offer to deal with competitors "only on unreasonable terms and conditions" may violate Section 2 by amounting to "a practical refusal to deal."[105] Finally, in assessing the "feasibility" requirement for essential-facilities claims, several courts have held that the viability of sharing an essential facility must be assessed in the context of a company's "normal business operations," and that monopolists accordingly need not share such facilities if they can identify "legitimate business reasons" for refusing access.[106]

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[98] 224 U.S. at 411.

[99] 410 U.S. at 468-72.

[100] *MCI Commc'ns Corp.*, 708 F.2d at 1132-33.

[101] *Hecht*, 570 F.2d at 992.

[102] Twin Laboratories, Inc. v. Weider Health & Fitness, 900 F.2d 566, 570 (2d Cir. 1990).

[103] *See* Laurel Sand & Gravel, Inc. v. CSX Transp., Inc., 924 F.2d 539, 544-45 (4th Cir. 1991) (holding that an essential-facilities claim failed when the plaintiff did not show that it was unable to "reasonably duplicate or pursue a reasonable alternative to" the allegedly essential facility); *Twin Laboratories, Inc.*, 900 F.2d at 570 (holding that a nutritional-supplement company that also published leading bodybuilding magazines did not have a duty to publish advertisements for a competing supplement company because the competing company had alternative advertising options); City of Malden, Mo. v. Union Elec. Co., 887 F.2d 157, 162 (8th Cir. 1989) (holding that sufficient evidence supported a jury's determination that a city—which had brought an essential-facilities claim against a utility that refused to transmit power to it under favorable tariff rates—had reasonable alternatives to the utility's transmission line).

[104] S. Pac. Commc'ns Co. v. Am. Tel. & Tel. Co., 740 F.2d 980, 1009 (D.C. Cir. 1984).

[105] MetroNet Servs. Corp. v. Qwest Corp., 383 F.3d 1124, 1332 (9th Cir. 2004); *see also* United States v. Terminal Railroad Ass'n of St. Louis, 224 U.S. 383, 409 (1912) (holding that Section 2 required a consortium of railroads that controlled an essential facility to provide other railroads access to that facility "upon such just and reasonable terms and regulations as will, in respect of use, character, and cost of service, place every such company upon as nearly an equal plane as may be"); Del. & Hudson Ry. Co. v. Consolidated Rail Corp., 902 F.2d 174, 179-80 (2d Cir. 1990) (holding that "there need not be an outright refusal to deal in order to find that denial of an essential facility occurred," and that "[i]t is sufficient if the terms of the offer are unreasonable"); United States v. Am. Tel. & Tel. Co., 524 F. Supp. 1336, 1352-53 (D.D.C. 1981) (explaining that companies that control an essential facility violate Section 2 if they fail "to make access to that facility available to its competitors on fair and reasonable terms that do not disadvantage them").

[106] City of Anaheim v. So. Cal. Edison Co., 955 F.2d 1373, 1381 (9th Cir. 1992); *Laurel Sand & Gravel, Inc.*, 924 F.2d

The application of the refusal-to-deal and essential-facilities doctrines to specific Big Tech companies is discussed in greater detail in "Google Search: Refusals to Deal and Essential Facilities" and "Amazon" *infra*.

Tying and Exclusionary Product Design

In certain circumstances, "tying" separate products together—that is, selling one product (the "tying" product) on the condition that buyers also purchase another product (the "tied" product)—can violate Section 2.[107] Firms can tie products together in a variety of ways. In a "bundled tie," a company simultaneously sells two or more products, one of which it does not sell separately. In contrast, "contractual ties" often involve a requirement that a buyer purchase different products at different times. And firms engage in "technological ties" when they physically integrate different products that are not sold separately or design their products in a way that makes them incompatible with products offered by other firms.[108]

According to the Supreme Court, certain tying arrangements can harm competition by allowing a firm with monopoly power in the market for the tying product to extend its dominance into the market for the tied product.[109] Some commentators have also argued that tying arrangements can allow a monopolist to maintain its monopoly in the tying-product market by requiring potential rivals to enter both that market and the market for the tied product, which can act as a formidable entry barrier.[110]

Under contemporary tying doctrine, a plaintiff can establish that a defendant engaged in *per se* illegal tying if it can demonstrate (1) the existence of two separate products, (2) that the defendant conditioned the sale of one product on the purchase the other product, (3) that the arrangement affects a "substantial volume" of interstate commerce, and (4) that the defendant has market power in the market for the tying product.[111] However, plaintiffs can also prevail on tying claims even if they cannot make these showings. When one or more of these conditions is absent, courts evaluate tying claims under a totality-of-the-circumstances approach known as the Rule of Reason. Under this three-step burden-shifting framework, the plaintiff bears the initial burden of establishing that a challenged tying arrangement harms competition. If the plaintiff makes this

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at 544-45. While a number of lower courts have recognized the essential-facilities doctrine and applied the general principles discussed above, the Supreme Court's decision in *Trinko* limited its scope. In *Trinko*, the Court asserted that it had never recognized the essential-facilities doctrine, which it instead characterized as having been "crafted by some lower courts." Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 410-11 (2004). The Court then explained that it did not need to endorse or repudiate the doctrine in *Trinko* because an essential-facilities claim would fail on the facts of that case. Specifically, the Court held that such a claim would fail because the allegedly essential facility—adequate interconnection services for retail local telephone service—was separately regulated by a federal agency with the power "to compel sharing and to regulate its scope and terms," meaning that the facilities were not truly "unavailable" to competitors. *Id.* at 411 (quoting PHILLIP AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 773e, at 150 (2003 Supp.)).

[107] Four provisions of the antitrust laws prohibit certain forms of tying: Sections 1 and 2 of the Sherman Act, Section 3 of the Clayton Act, and Section 5 of the Federal Trade Commission Act. 15 U.S.C. §§ 1, 2, 14, 45(a)(1). However, the standards for evaluating tying arrangements under these provisions have largely converged. *See* DOJ SECTION 2 REPORT, *supra* note 20, at 77.

[108] *See* DOJ SECTION 2 REPORT, *supra* note 20, at 77-78.

[109] Int'l Salt Co. v. United States, 332 U.S. 392, 396 (1947); IBM v. United States, 298 U.S. 131, 140 (1936).

[110] DOJ SECTION 2 REPORT, *supra* note 20, at 84.

[111] *See* United States v. Microsoft Corp., 253 F.3d 34, 85 (D.C. Cir. 2001); Sports Racing Servs., Inc. v. Sports Car Club of America, Inc., 131 F.3d 874, 886 (10th Cir. 1997); De Jesus v. Sears, Roebuck & Co., 87 F.3d 65, 70 (2d Cir. 1996); *see also* Eastman Kodak Co. v. Imagine Technical Servs., Inc., 504 U.S. 451, 461-62 (1992); Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 12-18 (1984).

showing, the burden shifts to the defendant to rebut the plaintiff's case with evidence that the challenged tying arrangement has procompetitive benefits. And if the defendant succeeds in rebutting the plaintiff's prima facie case, the factfinder must weigh the procompetitive benefits of a challenged tying arrangement against its anticompetitive harms.[112]

In addition to these general principles of tying doctrine, lower courts have developed a separate body of case law concerning technological ties—a category of conduct that is sometimes described as "exclusionary product design." The standard exclusionary-design claim alleges that a monopolist changed a product's design in a way that makes the product difficult or impossible to use with complementary products sold by other firms, thereby extending its dominance into the market for the complementary products in a manner that is broadly similar to the effects of other sorts of tying arrangements. One commentator has described the case law on exclusionary design as "somewhat tangled," but certain broad principles can be distilled from the relevant decisions.[113]

Generally courts are "very skeptical" about exclusionary-design claims out of fear that expansive liability for design decisions will chill innovation.[114] In *California Computer Products v. IBM Corp.*, for example, the Ninth Circuit rejected claims that a dominant computer manufacturer violated Section 2 by introducing a new line of computers that were integrated with certain "peripherals" (e.g., disks and memory devices) and incompatible with peripherals sold by other companies.[115] The court rejected this argument on the grounds that the manufacturer's integration of the peripherals lowered its costs and improved the computers' performance.[116] The Second Circuit adopted a standard that is even more deferential toward exclusionary-design defendants in *Berkey Photo, Inc. v. Eastman Kodak Co.*, where it held that a dominant camera manufacturer had not violated Section 2 by launching a new camera and film that were incompatible with products sold by a rival.[117] In that decision, the court held that the defendant had not engaged in exclusionary conduct even when faced with conflicting evidence as to whether the new camera was superior to previous versions. In the face of this evidence, the court opted to defer to market forces, explaining that consumers should be left to determine whether they preferred the new product.[118]

However, the D.C. Circuit's landmark 2001 decision in *United States v. Microsoft Corp.* marked a departure from previous exclusionary-design cases.[119] In that case, the court evaluated Microsoft's integration of its internet-browser software (Internet Explorer) with its dominant personal-computer operating system (Windows OS). Microsoft had effectuated this integration in three ways: by (1) excluding Internet Explorer programs from Windows OS's "Add/Remove Programs" function, (2) programming Windows to sometimes override users' choice to set browsers other than Internet Explorer as their default browsers, and (3) commingling Internet Explorer's code with Windows code so that any attempt to delete Internet Explorer would cripple the operating system.[120] The government alleged that this conduct harmed competition in the

[112] *See, e.g.*, County of Tuolumne v. Sonora Cmty. Hosp., 236 F.3d 1148, 1159 (9th Cir. 2001).

[113] John M. Newman, *Anticompetitive Product Design in the New Economy*, 39 FLA. ST. U. L. REV. 681, 714 (2012).

[114] *Microsoft Corp.*, 253 F.3d at 65.

[115] 613 F.2d 727, 743-44 (9th Cir. 1979).

[116] *Id*. at 744.

[117] 603 F.2d 263, 286-87 (2d Cir. 1979).

[118] *Id*.

[119] *Microsoft Corp.*, 253 F.3d at 64-67.

[120] *Id*. at 64-65.

market for internet browsers by deterring consumers from using browsers other than Internet Explorer.

In evaluating Microsoft's product design, the D.C. Circuit employed the Rule of Reason. At the first step of that inquiry, the court concluded that the government had made a prima facie case that each of the challenged practices harmed competition in the market for internet browsers, shifting the burden to Microsoft to identify procompetitive justifications for its actions.[121] The D.C. Circuit proceeded to conclude that Microsoft successfully rebutted the government's case against the second category of challenged conduct—programming Windows to sometimes override default browser choices—because the company proffered valid technical reasons for its programming decisions. However, the court held that because Microsoft failed to establish that the remaining categories of conduct had procompetitive benefits, that conduct violated Section 2.[122]

In contrast, some post-*Microsoft* decisions from other federal circuits have been more favorable to exclusionary-design defendants. In *Allied Orthopedic Appliances, Inc. v. Tyco Health Care Group LP*, the Ninth Circuit eliminated the third step of the Rule-of-Reason test and refused to "balance" a challenged design's procompetitive benefits against its anticompetitive harms.[123] Instead, the court rejected exclusionary-design claims on the grounds that it was "undisputed" that the new product had improved upon previous versions in certain respects.[124] In such cases, the court explained, a monopolist's design change is "necessarily tolerated by the antitrust laws" irrespective of its anticompetitive effects.[125] The lower federal courts are accordingly split on the proper analytical approach to exclusionary-design claims.

The application of tying and exclusionary-design doctrine to specific Big Tech companies is discussed in greater detail in "Android: Tying and Exclusive Dealing" and "Apple" *infra*.

Exclusive Dealing

In certain circumstances, a monopolist can violate Section 2 by entering into "exclusive-dealing" agreements with its customers or suppliers—that is, agreements in which a buyer agrees to purchase certain goods or services only from the monopolist or a seller agrees to sell certain goods and services only to the monopolist for a certain time period. Such agreements can be anticompetitive when they allow a monopolist to harm competition by "foreclosing" potential sources of supply or distribution.[126] For example, if a dominant widget manufacturer enters into exclusive-dealing arrangements with a significant number of large widget retailers, other widget manufacturers may be unable to secure an adequate distribution network. However, exclusive-dealing arrangements can also be procompetitive. For example, some exclusive-dealing agreements allow manufacturers to overcome free-rider problems by enabling them to train their distributors without fearing that the distributors will use that training to sell rival products.[127] In

[121] *Id*. at 59, 67.

[122] *Id*. at 66-67.

[123] 592 F.3d 991, 1000 (9th Cir. 2010).

[124] *Id*.

[125] *Id*. (citation omitted).

[126] *See* Interface Grp., Inc. v. Mass. Port Auth., 816 F.2d 9, 11 (1st Cir. 1987) (Breyer, J.).

[127] DOJ SECTION 2 REPORT, *supra* note 20, at 138-40.

other cases, exclusive-dealing arrangements may serve the procompetitive objective of allowing a company to guarantee a secure source of supply or distribution.[128]

Lower federal courts evaluate exclusive-dealing agreements under the Rule of Reason and accordingly weigh their anticompetitive harms against their procompetitive benefits. In conducting this analysis, courts have required plaintiffs to demonstrate that a challenged exclusivity provision resulted in "substantial foreclosure" of supply or distribution.[129] The exclusive-dealing case law does not provide definitive guidance on the degree of foreclosure that qualifies as "substantial," as courts have varied considerably in the degree of foreclosure that they consider unlawful.[130] However, an author of the leading antitrust treatise has argued that single-firm foreclosure of less than 30% is unlikely to harm competition.[131] In addition to requiring that plaintiffs demonstrate substantial foreclosure, courts have evaluated a range of other factors in exclusive-dealing cases, including the duration of specific exclusivity provisions, the strength of the defendant's procompetitive justification for the provisions, whether the defendant has engaged in coercive behavior, and the use of exclusive-dealing agreements by the defendant's competitors.[132]

The application of exclusive-dealing doctrine to Big Tech markets is discussed in greater detail in "Android: Tying and Exclusive Dealing" and "Google AdSense: Exclusive Dealing" *infra*.

Section 7 of the Clayton Act: Mergers and Acquisitions

While Section 2 of the Sherman Act is concerned with unilateral exclusionary conduct, Section 7 of the Clayton Antitrust Act of 1914 prohibits mergers and acquisitions that may "substantially lessen" competition.[133] Section 7 applies to both "horizontal" mergers between competitors in the same market and "vertical" mergers between companies at different levels of a distribution chain.[134] In evaluating horizontal mergers, the DOJ and FTC typically evaluate the merged firm's market share and the resulting level of concentration in the relevant market, in addition to any efficiencies that the combined company will likely realize as a result of the proposed merger.[135]

In contrast, vertical mergers may raise competition concerns when they involve a firm with significant power in one market entering an adjacent market, which may foreclose potential sources of supply or distribution and raise entry barriers by requiring the firm's potential competitors to enter both markets to be competitive. For example, if a dominant widget manufacturer acquires a widget retailer, it may have incentives to discriminate against competing widget retailers by charging them higher prices or refusing to deal with them altogether. As a

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[128] *Id*.

[129] McWane, Inc. v. FTC, 783 F.3d 814, 835 (11th Cir. 2015); ZF Meritor, LLC v. Eaton Corp., 696 F.3d 254, 271 (3d Cir. 2012); U.S. Healthcare, Inc. v. Healthsource, Inc., 986 F.2d 589, 597 (1st Cir. 1993); *see also* United States v. Microsoft, 253 F.3d 34, 69 (D.C. Cir. 2001).

[130] *See* R.J. Reynolds Tobacco Co. v. Philip Morris Inc., 199 F. Supp. 362, 388 (M.D.N.C. 2002) (collecting cases).

[131] 11 HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1821c, at 176 (2d ed. 2005); *see also* Stop & Shop Supermarket Co. v. Blue Cross & Blue Shield of R.I., 373 F.3d 57, 68 (1st Cir. 2004) (explaining that "foreclosure levels are unlikely to be of concern where they are less than 30 or 40 percent"); Minn. Mining & Mfg. Co. v. Appleton Papers Inc., 35 F. Supp. 2d 1138, 1143 (D. Minn. 1999) ("Generally speaking, a foreclosure rate of at least 30 percent to 40 percent must be found to support a violation of the antitrust laws.").

[132] *See ZF Meritor, LLC*, 696 F.3d at 271-72 (collecting cases).

[133] 15 U.S.C. § 18.

[134] *See* HOVENKAMP, *supra* note 15 §§ 9.4, 12.1.

[135] *See generally* 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 34.

result of this vertical discrimination, such a merger may force prospective widget retailers to also enter widget manufacturing to be competitive, raising entry barriers in the retail market.[136] Despite these potential concerns with certain vertical mergers, the DOJ and FTC police such mergers far less aggressively than horizontal mergers, largely on the basis of academic work suggesting that vertical integration can result in significant efficiencies and only rarely threatens competition.[137] However, whether the antitrust agencies should scrutinize vertical mergers more closely remains a subject of ongoing debate.[138]

The DOJ and FTC apply Section 7 by reviewing large proposed mergers before they are finalized, though the agencies also have the authority to unwind consummated mergers. Under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 (the HSR Act), parties to certain large mergers and acquisitions must report their proposed transactions to the antitrust agencies and wait for approval before closing.[139] If the agencies determine that a proposed merger threatens to "substantially lessen" competition, they can sue to block the merger or negotiate conditions with the companies to safeguard competition.[140] Section 7 of the Clayton Act also gives the agencies the authority to challenge previously closed mergers that "substantially lessen" competition, though lawsuits to unwind consummated mergers have been "rare" since the enactment of the HSR Act.[141]

The application of Section 7 to Big Tech markets is discussed in greater detail in "Facebook" *infra*.

Antitrust and Big Tech: Possible Cases Against the Big Four

Applying the general legal principles discussed above to specific technology companies is a highly fact-intensive enterprise that will depend on the specific evidence that the DOJ and FTC uncover during their investigations.[142] Moreover, the agencies have yet to publicly release details on the categories of conduct that they are evaluating in the course of their Big Tech inquiries, making it difficult to confidently assess the strength of antitrust cases against the relevant companies. With these caveats in mind, the following subsections discuss certain categories of conduct that the antitrust agencies may be investigating at each of the Big Four.

[136] *See* Steven C. Salop, *Invigorating Vertical Merger Enforcement*, 127 YALE L.J. 1962, 1975 (2018).

[137] *Id*. at 1966-71.

[138] *Id*. at 1972-94.

[139] Pub. L. No. 94-435, 90 Stat. 1383 (1976) (codified at 15 U.S.C. § 18a). The current reporting threshold under the HSR Act is $90 million. *See* FTC Announces Annual Update of Size of Transaction Thresholds for Premerger Notification Filings and Interlocking Directorates, FED. TRADE COMM'N (Feb. 15, 2019), https://www.ftc.gov/news-events/press-releases/2019/02/ftc-announces-annual-update-size-transaction-thresholds-premerger.

[140] 15 U.S.C. § 25.

[141] Scott A. Sher, *Closed But Not Forgotten: Government Review of Consummated Mergers Under Section 7 of the Clayton Act*, 45 SANTA CLARA L. REV. 41, 41 (2004).

[142] *See* Nat'l Cable Television Ass'n, Inc. v. Broadcast Music, Inc., 772 F. Supp. 614, 628 (D.D.C. 1991) ("Antitrust questions are always fact-specific.").

Google

Google is no stranger to antitrust scrutiny. The technology giant—which runs Google Search, licenses the Android mobile operating system, and owns a major online ad-brokering platform (AdSense)—has found itself in the crosshairs of competition authorities several times over the past decade. In 2013, the FTC concluded a wide-ranging investigation into the company's business practices, including its alleged discrimination against vertical rivals, copying of content from other websites, restrictions on advertisers' ability to do business with competing search engines, and exclusivity agreements with websites that used AdSense.[143] While agency staff had recommended that the FTC bring a lawsuit challenging some of these activities,[144] the Commission unanimously declined to pursue such an action after Google committed to make certain changes to its business practices.[145]

In contrast, European antitrust authorities have pursued three separate investigations of Google that have each resulted in large fines.[146] In June 2017, the European Commission (EC) fined Google 2.4 billion euros for antitrust violations related to Google Search's preferential treatment of the company's comparison-shopping service, Google Shopping.[147] The EC later levied an additional 4.3 billion-euro penalty in July 2018 for tying and exclusive-dealing arrangements related to Android.[148] And in March 2019, the EC imposed a further 1.49 billion-euro penalty for exclusive- and restrictive-dealing agreements involving AdSense.[149]

While the focus of the DOJ's inquiry into Google's conduct remains somewhat obscure, the investigation is likely to implicate some of the same practices that have occupied the attention of European antitrust authorities. The subsections below discuss these issues in turn.

Google Search: Refusals to Deal and Essential Facilities

Google Search's allegedly preferential treatment of Google content has long been the subject of government investigations and academic discussion. The basic concern of these "search bias" allegations is the familiar worry about vertically integrated monopolists harming competition by discriminating against rivals who depend on a monopolized input or distribution channel. According to some critics, Google Search has monopoly power in the market for *general-purpose*

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[143] Statement of the Fed. Trade Comm'n Regarding Google's Search Practices, In the Matter of Google, Inc., No. 111-0163 (Jan. 3, 2013) [hereinafter "2013 FTC Google Search Statement"].

[144] *See The FTC Report on Google's Business Practices*, WALL ST. J. (Mar. 24, 2015), http://graphics.wsj.com/google-ftc-report [hereinafter "FTC Google Memo"].

[145] *See* 2013 FTC Google Search Statement, *supra* note 143.

[146] EU antitrust law differs from U.S. antitrust law in a number of important respects. *See generally* Maureen K. Ohlhausen, U.S.-E.U. Convergence: Can We Bridge the Atlantic?, Remarks at the 2016 Georgetown Global Antitrust Symposium Dinner (Sept. 19, 2016), https://www.ftc.gov/system/files/documents/public_statements/985133/ohlhausen_dinner_speech_09192016.pdf. This report discusses the EC's enforcement actions against Google to illustrate the general categories of conduct that the DOJ may be investigating.

[147] Antitrust: Commission Fines Google €2.42 Billion for Abusing Dominance as Search Engine by Giving Illegal Advantage to Own Comparison Shopping Service, EUROPEAN COMM'N (June 27, 2017), https://europa.eu/rapid/press-release_IP-17-1784_en.htm [hereinafter "EC Google Shopping Fine"].

[148] Antitrust: Commission Fines Google €4.34 Billion for Illegal Practices Regarding Android Mobile Device to Strengthen Dominance of Google's Search Engine, EUROPEAN COMM'N (July 18, 2018), https://europa.eu/rapid/press-release_IP-18-4581_en.htm [hereinafter "EC Android Fine"].

[149] Antitrust: Commission Fines Google €1.49 billion for Abusive Practices in Online Advertising, EUROPEAN COMM'N (Mar. 20, 2019), https://europa.eu/rapid/press-release_IP-19-1770_en.htm [hereinafter "EC AdSense Fine"].

("horizontal") online search—power that Google has used to harm competition in the markets for various forms of *specialized* ("vertical") search by privileging its own vertical properties over those of its downstream competitors.[150]

The FTC evaluated these "search bias" complaints during its 2011-2013 investigation, which examined whether Google unfairly promoted its own vertical properties like Google Maps, Google Local, and Google Trips over competitors like MapQuest, Yelp, and Expedia.[151] Specifically, these complaints alleged that Google Search privileged Google's vertical content by (1) introducing a "Universal Search" box that prominently displayed that content above rival websites, and (2) manipulating its search algorithms to demote vertical competitors in its search results. However, the FTC ultimately declined to pursue a lawsuit related to these practices after concluding that Google's "primary goal" in privileging its own content was to quickly answer users' search queries and improve the quality of its search results.[152] In contrast, the EC concluded in June 2017 that Google's preferential treatment of Google Shopping violated EU antitrust law by harming competition in the market for comparison-shopping services.[153]

If the DOJ were to reevaluate Google's alleged search bias, it would face the threshold question of whether Google in fact possesses monopoly power in the market for horizontal search. During the FTC's previous investigation, agency staff concluded that horizontal search "likely" constituted a properly defined antitrust market and that Google had monopoly power in that market in light of its 71% market share.[154] More recent estimates place Google's share of the horizontal search-engine market even higher.[155] Moreover, certain academic reports on digital competition suggest that Google Search may be protected by significant entry barriers in the form of high fixed costs and access to the "big data" necessary to develop accurate search algorithms.[156]

However, several commentators have disputed the proposition that Google Search has monopoly power. Some of these observers have argued that the relevant market in an antitrust lawsuit based on Google's alleged "search bias" would be larger than the market for horizontal search, because users of horizontal search engines have reasonable alternatives to obtain information on the internet, including websites like Facebook, Twitter, and Amazon.[157] Some skeptics have also argued that even if horizontal search is a properly defined antitrust market, Google's large share of that market does not necessarily give it monopoly power. According to these commentators, the low costs that consumers incur in switching to alternative search engines and the ability of

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[150] *See* Lina M. Khan, *The Separation of Platforms and Commerce*, 119 COLUM. L. REV. 973, 997-1000 (2019); Jeffrey Katz, *Google's Monopoly and Internet Freedom*, WALL ST. J. (June 7, 2012), https://www.wsj.com/articles/SB10001424052702303830204577448792246251470; *Traffic Report: How Google is Squeezing Out Competitors and Muscling Into New Markets*, CONSUMER WATCHDOG (June 2, 2010), https://consumerwatchdog.org/sites/default/files/2018-11/Traffic_Report.pdf.

[151] 2013 FTC Google Search Statement, *supra* note 143, at 1-2.

[152] *Id*. at 2-3.

[153] *See* EC Google Shopping Fine, *supra* note 147.

[154] FTC Google Memo, *supra* note 144, at 64, 68.

[155] *See* Search Engine Market Share United States of America, STATCOUNTER, http://gs.statcounter.com/search-engine-market-share/all/united-states-of-america (last accessed Aug. 23, 2019) (estimating that Google has an 88 percent share of the U.S. search-engine market).

[156] *See* "Entry Barriers" *supra*.

[157] *See* Marina Lao, *Search, Essential Facilities, and the Antitrust Duty to Deal*, 11 NW. J. TECH. & INTELL. PROP. 275, 293 (2013); Geoffrey Manne & William Rinehart, *The Market Realities that Undermined the FTC's Antitrust Case Against Google*, HARV. J. L. & TECH. OCCASIONAL PAPER SERIES 9 (July 2013).

those competing search engines to immediately increase "output" cast doubt on the claim that Google has monopoly power.[158]

If the DOJ could establish that Google has monopoly power, it would then need to show that Google's allegedly preferential treatment of its vertical properties represents an anticompetitive abuse of that power.[159] Such a showing may be difficult under existing monopolization doctrine. In *Aspen Skiing*, the Supreme Court held that a monopolist's refusal to deal with a competitor can violate Section 2 where the evidence suggests that the refusal was motivated by a desire to sacrifice short-term profits in order to eliminate the competitor from the market.[160] In that case, the Court held that a jury could have reasonably found such a desire because the defendant had terminated what was presumably a profitable course of dealing with its rival and refused to sell its daily ski tickets to the rival at prevailing retail prices.[161] However, in *Trinko*, the Court narrowly construed *Aspen Skiing*, describing it as "at or near the outer boundary" of Section 2 liability.[162] The *Trinko* Court proceeded to reject refusal-to-deal claims because the defendant in that case had not ceased a previous course of dealing or refused to sell its competitors a product that it sold to the public.[163]

The Court's decision in *Trinko* makes a refusal-to-deal case against Google difficult for several reasons. First, Google did not have previous courses of dealing with the websites that received high placement in its search results before the company implemented its allegedly discriminatory policies. While Google's search algorithm ranked these websites highly before this alleged discrimination, the websites did not pay Google for their high placement. Moreover, even if Google's relationships with these websites qualify as established courses of dealing, it is unlikely that Google's termination of those dealings involved a sacrifice of short-term profits that the company intends to recoup with long-term monopoly prices. Instead, Google's decision to give its own content premium placement likely maximizes the company's short-term profits by generating more user clicks, even if such actions also harm its vertical competitors. As a result, the factors that *Trinko* appears to have identified as necessary conditions for a refusal-to-deal claim would likely be absent in a case challenging Google's alleged search bias.[164]

A lawsuit challenging Google's vertical discrimination would also face difficulties under the essential-facilities doctrine. First, it is unclear whether high placement in Google's search results represents an "essential" facility. One court has held that a facility can qualify as "essential" when the denial of its use "inflicts a severe handicap on potential market entrants."[165] However, plaintiffs must show more than mere "inconvenience" in order to prevail on an essential-facilities cause of action,[166] and courts have accordingly rejected Section 2 claims when plaintiffs had reasonable alternatives to the relevant facility.[167] While premium placement in Google's search

[158] Lao, *supra* note 157, at 295-96; Geoffrey A. Manne & Joshua D. Wright, *Google and the Limits of Antitrust: The Case Against the Case Against Google*, 34 HARV. J. L. & PUB. POL'Y 171, 195 (2011).

[159] *See* United States v. Grinnell Corp., 384 U.S. 563, 570-71 (1966).

[160] *See* Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 605-11 (1985).

[161] *Id*.

[162] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407-11 (2004).

[163] *Id*.

[164] *See* Lao, *supra* note 157, at 304-06.

[165] Hecht v. Pro-Football, Inc., 570 F.2d 982, 992 (D.C. Cir. 1977).

[166] Twin Laboratories, Inc. v. Weider Health & Fitness, 900 F.2d 566, 570 (2d Cir. 1990).

[167] *See* Laurel Sand & Gravel, Inc. v. CSX Transp., Inc., 924 F.2d 539, 544-45 (4th Cir. 1991) (holding that an essential-facilities claim failed when the plaintiff did not show that it was unable to "pursue a reasonable alternative to" the allegedly essential facility); *Twin Laboratories, Inc.*, 900 F.2d at 570 (holding that a nutritional-supplement

results was likely an important benefit for some of Google's vertical rivals, it is uncertain whether such placement would qualify as "essential" under these standards given the other ways in which vertical search engines can reach potential customers. Moreover, it is unlikely that a plaintiff could demonstrate that Google can "feasibly" share this allegedly essential facility. As one commentator has argued, only one website can receive the highest ranking in Google's search results,[168] meaning that Google cannot give top placement to its own vertical properties *and* their competitors.[169] Finally, Google may be able to identify legitimate business reasons for giving its own content premium placement. After its 2011-2013 investigation of Google's search bias, the FTC declined to pursue a lawsuit on the grounds that the company's use of the "Universal Search" box and privileging of its own content were motivated by a desire to quickly answer users' search queries.[170] Google is therefore likely to rely on similar arguments in any actions challenging its search practices.

Android: Tying and Exclusive Dealing

In addition to evaluating Google's alleged search bias, the DOJ may follow the lead of European antitrust authorities in investigating the company's practices involving its Android mobile operating system. In a July 2018 press release announcing a record-setting antitrust fine, the EC concluded that Google occupied a dominant position in three markets related to the Commission's Android investigation. First, the EC concluded that Google occupied a dominant position in the market for "general licensable smart mobile operating systems" through Android. Second, the EC determined that Google occupied a dominant position in the market for "app stores for the Android operating system" through its app store Google Play. Finally, the EC concluded that Google occupied a dominant position in the market for "general Internet search" through Google Search.[171] After identifying these markets in which Google is dominant, the EC determined that Google had abused its monopoly positions by engaging in three separate categories of behavior:

- *First*, the EC concluded that Google illegally "tied" the Google Search app and Google Chrome web browser to the Google Play store. Specifically, the EC determined that Google harmed competition in the online-search market by requiring mobile device manufacturers who pre-install Google Play to also pre-install Google Search and Google Chrome (which uses Google Search as its default search engine). According to the EC, this type of mandated pre-installation can create a "status quo bias" that discourages consumers from downloading competing search engines and web browsers.

company that also published leading bodybuilding magazines did not have a duty to publish advertisements for a competing supplement company because the competing company had alternative advertising options); City of Malden, Mo. v. Union Elec. Co., 887 F.2d 157, 162 (8th Cir. 1989) (holding that sufficient evidence supported a jury's determination that a city—which had brought an essential-facilities claim against a utility that refused to transmit power to it under favorable tariff rates—had reasonable alternatives to the utility's transmission line).

[168] Lao, *supra* note 157, at 302-04.

[169] *See* City of Anaheim v. So. Cal. Edison Co., 955 F.2d 1373, 1381 (9th Cir. 1992) (holding that a monopolist utility company did not have to share access to an allegedly essential facility when the monopolist intended to use the facility's entire capacity itself in certain circumstances).

[170] 2013 FTC Google Search Statement, *supra* note 143, at 2-3.

[171] EC Android Fine, *supra* note 148.

- *Second*, the EC concluded that Google made illegal payments to certain large device manufacturers in exchange for their agreement to *exclusively* pre-install Google Search on all of their Android devices.
- *Third*, the EC concluded that Google illegally obstructed the development and distribution of competing Android operating systems by requiring that device manufacturers who pre-install Google Play and Google Search refrain from selling any devices that ran alternative versions of Android that Google had not approved ("Android forks").[172]

Google is currently appealing the EC's decision.[173]

Tying. A DOJ lawsuit targeting Google's "tying" of Google Search and Google Chrome to Google Play would raise a number of complex issues. First, a court evaluating such a lawsuit would have to determine whether this conduct is *per se* illegal or instead subject to Rule-of-Reason scrutiny. As discussed, plaintiffs can establish a *per se* tying violation by demonstrating (1) the existence of two separate products, (2) that the defendant conditioned the sale of one product on the purchase the other product, (3) that the arrangement affects a "substantial volume" of interstate commerce, and (4) that the defendant has market power in the market for the tying product.[174] However, courts have applied these requirements narrowly,[175] and the D.C. Circuit held in *Microsoft* that the unique features of software platforms makes *per se* liability inappropriate for ties involving such platforms and related products.[176]

The general trend away from *per se* tying liability and the D.C. Circuit's *Microsoft* decision suggest that a court would likely evaluate Google's tying arrangements under the Rule of Reason. As an initial matter, it is unclear whether mandatory *pre-installation* of the relevant apps represents the type of "forced sale" necessary to trigger *per se* liability under the relevant case law. During its Android enforcement action, the EC contended that mandatory pre-installation had significant effects on consumer behavior by discouraging Android users from downloading alternative search engines and web browsers.[177] However, this allegation is an empirical claim about a relatively novel business practice, and the Supreme Court has explained that *per se* antitrust liability is appropriate only when courts have sufficient experience with a challenged practice to conclude that it lacks significant redeeming virtues.[178] Limited judicial experience with the effects of mandatory pre-installation (as opposed to conditional *sales*) may accordingly counsel against *per se* liability for Google's Android ties.

Moreover, this hesitance to extend *per se* antitrust rules to novel business arrangements caused the D.C. Circuit to conclude in *Microsoft* that ties involving software-platform products are

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[172] *Id*.

[173] Sam Schechner, *Google Appeals $5 Billion EU Fine in Android Case*, WALL ST. J. (Oct. 9, 2018), https://www.wsj.com/articles/google-appeals-5-billion-eu-fine-in-android-case-1539109713.

[174] *See* United States v. Microsoft Corp., 253 F.3d 34, 85 (D.C. Cir. 2001); Sports Racing Servs., Inc. v. Sports Car Club of America, Inc., 131 F.3d 874, 886 (10th Cir. 1997); De Jesus v. Sears, Roebuck & Co., 87 F.3d 65, 70 (2d Cir. 1996); *see also* Eastman Kodak Co. v. Imagine Technical Servs., Inc., 504 U.S. 451, 461-62 (1992); Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2, 12-18 (1984).

[175] *See* Christopher Leslie, *The End of* Per Se *Illegal Tying*, COMPETITION POLICY INT'L ANTITRUST CHRONICLE (Dec. 2010) (describing how lower courts are reluctant to condemn tying arrangements as *per se* illegal).

[176] *Microsoft Corp.*, 253 F.3d at 89-95.

[177] EC Android Fine, *supra* note 148 (explaining that the EC found that more than 95% of search queries on Android devices were made with Google Search, compared to less than 25% on Windows Mobile devices).

[178] *See* Broad. Music, Inc. v. CBS, 441 U.S. 1, 9 (1979).

subject to Rule-of-Reason scrutiny.[179] While Google's Android ties differ from the ties at issue in *Microsoft* in certain respects, commentators have observed that a tying case against Google would raise issues that are "very similar" to those the D.C. Circuit confronted roughly two decades ago.[180] As a result, a court evaluating Google's tying of Google Search and Google Chrome to Google Play may follow the D.C. Circuit and evaluate such conduct under the Rule of Reason.

In balancing the anticompetitive harms of these ties against their procompetitive benefits under the Rule of Reason, courts will likely focus on the general concern that motivated the EC's enforcement action—namely, the worry that Android users who find Google Search and Google Chrome pre-installed on their devices are unlikely to download and use alternative search engines. The magnitude of this concern is a fact-intensive question that will depend on the specific evidence concerning the effects of pre-installation that the DOJ can uncover.

If the DOJ produces evidence that Google's tying arrangements harm competition, a Section 2 case will depend on the strength of the company's procompetitive justifications for these practices. During the EC litigation, Google argued that the relevant ties ultimately benefitted consumers because the revenue the company derived from increased use of Google Search by Android users allowed it to license Android to device makers for free. However, the EC rejected this claim and concluded that Google can monetize its investment in Android by other means.[181]

U.S. regulators and courts have the benefit of additional information on this issue. After the EC's decision, Google announced that instead of offering a suite of apps to device makers for free, it will charge manufacturers licensing fees for Google Play and certain other apps to make up for the revenue it previously earned as a result of the challenged tying arrangements.[182] Some commentators have argued that this development raises questions about whether the EC's decision will ultimately benefit consumers, who may face higher device prices because of the new licensing fees.[183] But the legal relevance of this argument—that a decision attempting to promote competition in one market (online search) will harm consumers in another market (mobile devices)—remains open to debate. In horizontal-restraint and merger cases, some courts have rejected the proposition that competitive harms in one market can be balanced against competitive benefits in another market.[184] However, other courts have taken a different approach, concluding that it is appropriate to consider such cross-market tradeoffs in certain instances,

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[179] *Microsoft Corp.*, 253 F.3d at 89-95.

[180] Ben Remaly, *How Might Delrahim's DOJ Challenge Google?*, GLOBAL COMPETITION REVIEW (June 26, 2019), https://www.globalcompetitionreview.com/article/usa/1194518/how-might-delrahims-doj-challenge-google.

[181] *Id*.

[182] Jacob Kastrenakes & Nilay Patel, *Google Will Start Charging Android Device Makers a Fee for Using its Apps in Europe*, THE VERGE (Oct. 16, 2018), https://www.theverge.com/2018/10/16/17984074/google-eu-android-licensing-bundle-chrome-search/.

[183] *See* Pinar Akman, *A Preliminary Assessment of the European Commission's* Google Android *Decision*, COMPETITION POLICY INT'L ANTITRUST CHRONICLE 17, 22-23 (Dec. 2018); Julian Morris, *The European Commission's* Google Android *Decision Takes a Mistaken, Ahistorical View of the Smartphone Market*, TRUTH ON THE MARKET (July 23, 2018), https://www.truthonthemarket.com/2018/07/23/the-european-commissions-google-android-decision-takes-a-mistaken-ahistorical-view-of-the-smartphone-market/.

[184] *See* United States v. Topco Assoc., Inc. v. 405 U.S. 596, 610 (1972) (concluding in a Section 1 case that competition "cannot be foreclosed with respect to one sector of the economy because certain private citizens or groups believe that such foreclosure might promote greater competition in a more important sector of the economy"); United States v. Philadelphia Nat'l Bank, 374 U.S. 321, 270 (1963) (concluding in a merger case that anticompetitive effects in one market cannot be justified on the basis of procompetitive consequences in another market); Miss. River Corp. v. FTC, 454 F.2d 1083, 1089 (8th Cir. 1972) (explaining that "the anticompetitive effects of an acquisition in one market cannot be justified by procompetitive effects in another market").

including tying cases.[185] Antitrust commentators also continue to debate whether and in what circumstances courts should balance harms in one market against benefits in another.[186] As a result, it is difficult to predict whether a court would accept the argument that any harm caused by Google's tying arrangements in the market for online search should be balanced against benefits in the market for mobile devices. Antitrust regulators, by contrast, may engage in such balancing in deciding whether to bring a case, whether or not cross-market tradeoffs would be relevant during subsequent litigation.[187]

Exclusive Dealing. Like a potential tying case, a challenge to Google's exclusivity agreements with device manufacturers would depend on the specific facts the DOJ uncovers during its investigation. In evaluating any payments Google has made to U.S. device makers in exchange for their agreement to pre-install only Google Search, a court would likely assess the impact of pre-installation on consumer behavior, the share of the market "foreclosed" by such agreements, the ability of competing search engines to offer such payments, and the strength of Google's procompetitive justifications for the payments.[188]

Similarly, a court evaluating Google's requirement that device manufacturers who pre-install Google Play and Google Search refrain from selling any devices that run Android forks would apply the Rule of Reason and balance the anticompetitive harms of that restriction against its procompetitive benefits. On the "harm" side of the ledger, U.S. regulators might follow the EC in arguing that such a restriction obstructs the development of Android forks, which may serve as important channels for the distribution of search engines and other apps that compete with Google products. In contrast, Google may respond (as it argued in the EC litigation) that this restriction is necessary to prevent a "fragmentation" of the Android ecosystem in which consumers would impute the poor technical standards of nonapproved Android forks to Android. However, the EC rejected this argument after concluding that Google failed to produce evidence suggesting that Android forks would suffer from serious technical problems.[189] U.S. antitrust regulators may also be able to rebut this "fragmentation" argument by demonstrating that Google could brand Android in a way that would adequately distinguish it from Android forks and thereby achieve the relevant procompetitive benefit by less restrictive means.[190]

Google AdSense: Exclusive Dealing

Finally, the DOJ may be investigating Google's agreements with websites that use its ad-brokering platform AdSense, which connects advertisers with "publisher" websites seeking ad revenue. During the FTC's 2011-2013 investigation, agency staff concluded that clauses in these

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[185] *See* Sullivan v. NFL, 34 F.3d 1091, 1112 (1st Cir. 1994) (collecting cases).

[186] *Compare* JONATHAN BAKER, THE ANTITRUST PARADIGM: RESTORING A COMPETITIVE ECONOMY 190-93 & n.51 (2019) (arguing that current antitrust doctrine does not permit cross-market tradeoffs and that this rule is justified on administrability and political-economy grounds), *with* Gregory J. Werden, *Cross-Market Balancing of Competitive Effects: What is the Law, and What Should It Be?*, 43 J. CORP. L. 119, 127-32 (2017) (arguing that a categorical rule against cross-market balancing is inconsistent with current tying doctrine and that courts should engage in such balancing in certain circumstances).

[187] *See* BAKER, *supra* note 186, at 190 (noting that while current antitrust doctrine forbids *courts* from engaging in cross-market tradeoffs, antitrust *regulators* "may permit benefits in one market to offset harms in another when the two are inextricably linked").

[188] *See* "Exclusive Dealing" *supra*.

[189] EC Android Fine, *supra* note 148.

[190] *See* Nicholas Banasevic, *The European Commission's* Android *Decision and Broader Lessons for Article 102 Enforcement*, COMPETITION POLICY INT'L ANTITRUST CHRONICLE 12, 15 (Dec. 2018).

agreements that prohibited or restricted publisher websites from doing business with competing ad-brokering platforms violated Section 2.[191] However, the FTC did not address this issue in announcing its unanimous decision not to charge Google with antitrust violations.[192]

In contrast, the EC concluded in March 2019 that similar clauses in Google's agreements with publisher websites violated EU antitrust law. In a press release announcing its conclusions, the EC identified three factual findings from its investigation:

- *First*, the EC found that from 2006-2009, some of Google's agreements with publisher websites contained "exclusivity" clauses prohibiting the websites from doing business with competing ad-brokering platforms.
- *Second*, the EC found that after 2009, Google began to replace these "exclusivity" clauses with "Premium Placement" clauses that required publisher websites to reserve the most visited and profitable spaces on their search results pages for ads brokered by AdSense.
- *Third*, the EC found that after 2009, some of Google's agreements with publisher websites required the websites to seek Google's written approval before making changes to the way that ads brokered by rival platforms were displayed, allowing Google to control how attractive those ads would be.[193]

The EC concluded that by engaging in these practices, Google used its dominant position in the market for "online search advertising intermediation" to illegally suppress competition.[194] Google is currently appealing the EC's decision.[195]

The analysis of these sorts of agreements in a U.S. antitrust case would involve the same type of inquiry as an analysis of the Android exclusivity provisions discussed above. That is, in evaluating a challenge to these types of provisions, a court would likely assess the share of the market "foreclosed" by such agreements, the duration of the agreements, whether competing ad-brokering platforms enter into these types of contracts with publisher websites, and the strength of Google's procompetitive justifications for the challenged provisions.[196]

Amazon

Commentators have identified a variety of competition-related issues surrounding Amazon. However, most of the antitrust discussion involving the e-commerce giant has concerned two general categories of conduct: discrimination against vertical rivals and predatory pricing.[197] In addressing Amazon's alleged vertical discrimination, a number of analysts have focused on the company's dual role as both the operator of Amazon Marketplace—a platform on which

[191] FTC Google Memo, *supra* note 144, at 102.

[192] *See* 2013 FTC Google Search Statement, *supra* note 143.

[193] EC AdSense Fine, *supra* note 149.

[194] *Id*.

[195] Elizabeth Schulze, *Google Appeals $1.7 Billion EU Antitrust Fine Over 'Illegal' Advertising Practices*, CNBC (June 5, 2019), https://www.cnbc.com/2019/06/05/google-appeals-eu-antitrust-fine-over-illegal-advertising-practices/html.

[196] *See* "Exclusive Dealing" *supra*.

[197] *See* BAKER, *supra* note 186, at 125-28, 137-38; Shaoul Sussman, *Prime Predator: Amazon and the Rationale of Below Average Variable Cost Pricing Strategies Among Negative-Cash Flow Firms*, 7 J. ANTITRUST ENFORCEMENT 1, 11-17 (2019); Khan, *Platforms*, *supra* note 150, at 985-97; Khan, *Amazon's Antitrust Paradox*, *supra* note 82, at 722 (2016).

merchants can sell their products directly to consumers—and as a merchant that sells its own private-label products on the Marketplace. Some commentators have alleged that Amazon exploits this dual role by implementing policies that privilege its own products over competing products offered by other sellers.[198] According to a 2016 ProPublica investigation, for example, Amazon has designed its Marketplace ranking algorithm—which determines the order in which products appear to consumers—to favor its own products and products sold by companies that buy Amazon's fulfillment services.[199] Similarly, certain merchants have complained that Amazon has revoked their ability to use its Marketplace after deciding to move into the relevant markets with its own private-label products or products it distributes on behalf of other companies.[200]

Some observers have also raised the possibility that Amazon may engage in predatory pricing by selling certain products at below-cost prices to eliminate rivals.[201] A number of these allegations involve Amazon's 2010 acquisition of Quidsi—the parent company of the online baby-products retailer Diapers.com and several other online-retail subsidiaries. According to some commentators, Amazon aggressively cut its prices for baby products after Quidsi rebuffed its initial offer to purchase the company.[202] When Amazon's below-cost prices began to impede Quidsi's growth, the company ultimately accepted Amazon's subsequent acquisition offer.[203] And after the Quidsi acquisition, Amazon allegedly raised its prices for baby products.[204] Other predatory-pricing allegations leveled against Amazon concern the company's sale of certain e-books. Specifically, some observers have argued that when it entered the e-book market in 2007, Amazon priced some categories of e-books below cost to eliminate potential competitors, ultimately securing 90% of the market by 2009.[205]

A monopolization case grounded in Amazon's alleged discrimination against third-party merchants would raise several issues. As a threshold matter, regulators bringing such a case would need to show that Amazon possesses monopoly power. While Amazon is significantly larger than its e-commerce rivals, most estimates place its share of the U.S. online retail market at below 50%.[206] However, the company's share of a narrower market for online marketplaces connecting third-party merchants with consumers may be considerably larger. Moreover, reports indicate that Amazon has very large shares of the markets for online sales of certain categories of products, including home-improvement tools, batteries, skin-care products, and (as discussed) e-books.[207]

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[198] Khan, *Platforms*, *supra* note 150, at 988-89.

[199] *See* Julia Angwin & Surya Mattu, *Amazon Says It Puts Customers First. But Its Pricing Algorithm Doesn't*, PROPUBLICA (Sept. 20, 2016), https://www.propublica.org/article/amazon-says-it-puts-customers-first-but-its-pricing-algorithm-doesnt. *But see* Lauren Feiner, *Amazon Exec Tells Lawmakers the Company Doesn't Favor Own Brands Over Products Sold By Third-Party Merchants*, CNBC (July 16, 2019) (noting that an Amazon executive has denied that the company's ranking algorithm discriminates against third-party merchants).

[200] *See* Jason Del Ray, *An Amazon Revolt Could Be Brewing as the Tech Giant Exerts More Control Over Brands*, RECODE (Nov. 29, 2018), https://www.vox.com/2018/11/29/18023132/amazon-brand-policy-changes-marketplace-control-one-vendor.

[201] Sussman, *supra* note 197, at 11-17; Khan, *Amazon's Antitrust Paradox*, *supra* note 82, at 756-68.

[202] *See* Khan, *Amazon's Antitrust Paradox*, *supra* note 82, at 768-770.

[203] *See id*.

[204] *See id*.

[205] *See id*. at 757.

[206] *See* Matt Day & Spencer Soper, *Amazon U.S. Online Market Share Estimate Cut to 38% From 47%*, BLOOMBERG (June 13, 2019), https://www.bloomberg.com/news/articles/2019-06-13/emarketer-cuts-estimate-of-amazon-s-u-s-online-market-share.

[207] *See* Amy Gesenhues, *Amazon Owns More Than 90% Market Share Across 5 Different Product Categories*,

If regulators could show that Amazon has monopoly power in a properly defined antitrust market, they would then need to establish that Amazon used that power to harm competition. Such a showing may be difficult under existing refusal-to-deal doctrine for some of the reasons discussed above in connection with Google's alleged search bias.[208] As discussed, in *Trinko*, the Supreme Court rejected Section 2 claims where it was unable to infer that a monopolist's refusal to deal with a competitor involved a desire to sacrifice short-term profits to eliminate the competitor from the market. Specifically, the Court was unable to discern such an intent because the monopolist in *Trinko* (unlike its counterpart in *Aspen Skiing*) had not terminated a previous course of dealing with the competitor or refused to sell the competitor a product that it offered to the public.[209]

The Court's reasoning in *Trinko* suggests that one type of refusal-to-deal claim against Amazon for its alleged vertical discrimination would be unlikely to succeed. If such a claim concerned Amazon's preferential ranking of its own private-label products on its Marketplace, it would be difficult to demonstrate that the challenged practice involves a sacrifice of short-term profits. Rather, just as Google likely maximizes its short-term profits by ranking its own vertical properties above those of competing websites, Amazon likely maximizes its short-term profits by giving its private-label products premium placement. A claim targeting this type of vertical discrimination is also unlikely to be viable under the essential-facilities doctrine, because Amazon cannot feasibly share access to the allegedly "essential" facility of top placement in its Marketplace product rankings.

In contrast, a refusal-to-deal claim premised on Amazon's decision to revoke certain merchants' ability to use its Marketplace altogether may present courts with a closer question. Such an action could involve termination of a previously profitable course of dealing, which can suggest an intent to sacrifice short-term profits in order to eliminate competitors.[210] This conduct may also provide the basis for an essential-facilities claim, as one commentator has argued that Amazon's Marketplace is dominant enough in certain online-retail markets to justify the conclusion that it qualifies as "essential" under the case law.[211] While a court's assessment of this argument would depend on a fact-intensive evaluation of the alternatives available to specific categories of third-party sellers, it is conceivable that lack of access to Amazon's Marketplace would inflict a "severe handicap" on merchants in at least some online-retail markets.[212] As a result, Amazon's outright termination of profitable relationships with certain third-party merchants may raise harder questions about the application of Section 2 doctrine.

Amazon may also be vulnerable to predatory-pricing claims. To the extent that commentators have accurately characterized the conduct surrounding the company's acquisition of Quidsi, Amazon may have engaged in below-cost pricing and exhibited a "dangerous probability" of recouping its losses by eliminating a key competitor from the market for online sales of certain baby products.[213] However, other predatory-pricing allegations against Amazon may raise more

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MARKETINGLAND (May 31, 2018), https://marketingland.com/amazon-owns-more-than-90-market-share-across-5-different-product-categories-report-241135.

[208] *See* "Google Search: Refusals to Deal and Essential Facilities."

[209] Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 409-10 (2004).

[210] *See* Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 605-11 (1985).

[211] Khan, *Amazon's Antitrust Paradox*, *supra* note 82, at 800-02.

[212] Hecht v. Pro-Football, Inc., 570 F.2d 982, 992 (D.C. Cir. 1977).

[213] *See* Khan, *Amazon's Antitrust Paradox*, *supra* note 82, at 768-71 (arguing that Amazon used below-cost pricing to pressure Quidsi to accept its acquisition offer and later raised prices after the company accepted the offer).

complicated issues. Amazon may be able to defend certain predatory-pricing charges on the grounds that the company intended certain products to be "loss leaders" that induced customers to purchase other products at above-cost prices.[214] A court's assessment of this defense would depend on a fact-intensive inquiry into the motivations behind Amazon's pricing of specific products.

Facebook

Most of the antitrust commentary directed toward Facebook has focused on its acquisitions of potential competitors—in particular, its 2012 acquisition of the photo-sharing service Instagram and its 2014 acquisition of the messaging service WhatsApp. In a March 2019 letter to the FTC, the Chairman of the House Antitrust Subcommittee urged the Commission to examine whether these acquisitions—which according to some estimates have resulted in Facebook owning three of the top four and four of the top eight social media applications—violated Section 7 of the Clayton Act.[215] Other legislators and commentators have echoed calls for regulators to unwind these acquisitions.[216]

The FTC appears to be taking these arguments seriously. In August 2019, the Wall Street Journal reported that Facebook's acquisition practices are a "central component" of the agency's investigation of the company.[217] In addition to potentially focusing on the Instagram and WhatsApp deals, the Journal reported that the FTC could also be evaluating Facebook's 2013 acquisition of Onavo Mobile Ltd.—a mobile-analytics company that may have allowed Facebook to identify fast-growing social media companies and purchase them before they became competitive threats.[218] Depending on the evidence that the FTC uncovers, Facebook's general acquisition strategy could plausibly serve as the basis for a Section 2 monopolization case to the extent that it suppressed competition.

The success of a case to unwind some of Facebook's acquisitions may depend on an assessment of the relevant market in which Facebook competes. Because Facebook does not charge users of its social network, this inquiry would require regulators to confront difficult conceptual issues with defining zero-price markets.[219] If the FTC views "social networks" or "social media platforms" as the relevant market in an action to unwind Facebook's key acquisitions, the strength of the agency's case would likely depend on the other companies that are included in the relevant market and the appropriate methodology for calculating market shares.[220] Because estimates of Facebook's dominance vary widely based on differences in each of these factors, the

[214] *See* "Predatory Pricing."

[215] Letter from David N. Cicilline to Hon. Joseph J. Simons, Chairman, Fed. Trade Comm'n, et al. 2-3 (Mar. 19, 2019) [hereinafter "Cicilline Letter"].

[216] *See* TIM WU, THE CURSE OF BIGNESS: ANTITRUST IN THE NEW GILDED AGE 132-33 (2018); Chris Hughes, *It's Time to Break Up Facebook*, N.Y. TIMES (May 9, 2019), https://www.nytimes.com/2019/05/09/opinion/sunday/chris-hughes-facebook-zuckerberg.html; 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.

[217] Brent Kendall, John D. McKinnon & Deepa Seetharaman, *FTC Antitrust Probe of Facebook Scrutinizes Its Acquisitions*, WALL ST. J. (Aug. 1, 2019), https://www.wsj.com/articles/ftc-antitrust-probe-of-facebook-scrutinizes-its-acquisitions-11564683965?mod=e2tw.

[218] *Id*.

[219] *See* "Market Share" *supra*.

[220] A company's share of a zero-price "social media platform" market could conceivably be calculated based on its share of total daily active users in that market, its share of total user visits, or its share of the total time spent on the relevant platforms, for example.

company's market share would likely be vigorously litigated in an action to unwind its major acquisitions.[221]

However, regulators may seek to sidestep this process with direct evidence that the relevant acquisitions harmed competition. As discussed, while antitrust plaintiffs typically rely on indirect market-share evidence to show that a defendant has monopoly power, several courts have held that plaintiffs can also establish monopoly power with direct evidence of supra-competitive prices.[222] One commentator has sketched a general outline of the form such direct evidence might take, arguing that Facebook began to "degrade" user privacy only after the disappearance of major rivals.[223] While there is little case law on direct proof of monopoly power,[224] such evidence of quality degradation abruptly following the elimination of key competitors could plausibly serve as the type of "natural experiment" that allows regulators to establish that Facebook has monopoly power without defining the precise boundaries of the market in which it operates.[225]

If the FTC could establish that Facebook's acquisitions had anticompetitive effects either directly or indirectly, a court would then need to weigh those harms against any merger-specific efficiencies that Facebook can identify. In defending an enforcement action, Facebook might argue that its large post-acquisition investments in the relevant companies have improved their performance and accordingly benefited consumers.[226] However, the FTC may be able to rebut such a defense with evidence that these companies could have secured adequate funding through the capital markets or by showing that the anticompetitive harms of the acquisitions outweigh any investment-related benefits.

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[221] *Compare* Srinivasan, *supra* note 62, at 69-80 (estimating that in 2018, U.S. users of "social networks"—a category that included Snapchat and Twitter but not YouTube— spent approximately 83% of their time using "social networks" on Facebook or Instagram, with 66% spent on the former and 17.5% on the latter), *with* Jay Shambaugh, Ryan Nunn, Audrey Breitwieser & Patrick Liu, *The State of Competition and Dynamism: Facts About Concentration, Start-Ups, and Related Policies*, THE HAMILTON PROJECT, THE BROOKINGS INST. 10 (June 2018) (estimating that in 2018, Facebook had a 42.1% share of the U.S. market for "social media platforms"—a category that included YouTube, Twitter, and Reddit—based on total user visits).

[222] *See* note 27 *supra*.

[223] Srinivasan, *supra* note 62, at 69-80.

[224] *See* Daniel A. Crane, *Market Power Without Market Definition*, 90 NOTRE DAME L. REV. 31, 45 (2014) (identifying a "baffling potpourri" of factors that courts have recognized as relevant to direct proof of monopoly power).

[225] *See In re* Crude Oil Commodity Futures Litig., 913 F. Supp. 41, 51 (S.D.N.Y. 2012) (holding that Section 2 plaintiffs had adduced sufficient direct evidence of monopoly power to survive a motion to dismiss by alleging that a commodities trading firm could abruptly shift prices in the West Texas Intermediate crude oil futures market by acquiring and later selling a large position in the physical market); 2010 HORIZONTAL MERGER GUIDELINES § 2.1.2 (explaining that when assessing horizontal mergers, the DOJ and FTC "look for historical events, or 'natural experiments,' that are informative regarding the competitive effects of the merger," including "the impact of recent mergers, entry, expansion, or exit in the relevant market"); *see also* EC Digital Competition Report, *supra* note 44, at 46 (arguing that in certain digital markets, regulators should place less emphasis on market definition and instead focus on "theories of harm and identification of anti-competitive strategies"); Shelanski, *supra* note 65, at 1673 ("While there is no panacea for the difficulties of competition analysis in technologically dynamic markets, regulators can avoid the basic difficulties of market definition in many cases by focusing first, and more directly, on the competitive effects of conduct and transactions.").

[226] *See* Amit Singh, *How Instagram Became a Great Strategic Fit for Facebook*, MARKET REALIST (May 24, 2016), https://www.marketrealist.com/2016/05/instagram-became-great-strategic-fit-facebook/.

Apple

Like Google, Apple has faced antitrust claims related to its mobile-device software. Specifically, the iPhone maker has faced separate class-action lawsuits related to its design of the device's operating system, iOS. In these lawsuits, classes of customers who purchased iPhone apps through the company's App Store and app developers claim that Apple has illegally monopolized the market for iPhone apps by designing iOS as a closed system and installing security measures to prevent customers from purchasing apps outside of the App Store.[227] In May 2019, the Supreme Court rejected Apple's contention that App Store customers lacked standing to challenge this conduct, allowing their lawsuit to proceed.[228] While these cases will accordingly continue to work their way through the courts, the DOJ may also be contemplating a similar action challenging Apple's design of iOS.

The outcome of these exclusionary-design cases against Apple will depend on the specific findings that emerge over the course of litigation. Like the *Microsoft* case, these lawsuits involve a fact pattern that appears to suggest strong prima facie evidence of anticompetitive harm. If "iPhone apps" represent a properly defined antitrust market, Apple's decision to design iOS in a manner that requires users to purchase apps only from the App Store limits competition in that market to one seller/distributor.[229] Section 2 claims challenging this conduct would accordingly depend on Apple's procompetitive justification for its design choices and the proper standard for evaluating that justification. If a court were to follow the D.C. Circuit's approach to these questions, it would balance the anticompetitive harms of Apple's product-design choices against their procompetitive benefits.[230] In contrast, a court following the more deferential standards applied by the Ninth Circuit in *Tyco Health Care Group* or the Second Circuit in *Berkey Photo* would likely side with Apple as long as the company could identify a plausible reason to conclude that the challenged design choices represent product improvements.[231] Such a justification may involve claims that the relevant security measures improve iPhone users' overall experience by preventing them from downloading technically unsound apps from non-App Store sources. However, the precise form that this type of argument would take remains to be seen.

The current circuit split on the appropriate analytical framework for exclusionary-design claims may be a factor that prompts the DOJ to bring its own lawsuit challenging Apple's design of iOS. Both of the pending lawsuits have been brought in the Ninth Circuit, which will presumably follow its defendant-friendly precedent in *Tyco Health Care Group*.[232] If the DOJ were to pursue litigation against Apple, regulators may accordingly choose to sue in a different circuit with more favorable case law. Although it is still early days, a DOJ lawsuit that further entrenches the circuit

[227] *See* Class Action Complaint, Cameron v. Apple Inc., No. 5:19-cv-03074 (N.D. Cal. June 4, 2019); Second Amended Class Action Complaint, *In re* Apple iPhone Antitrust Litig., 2013 WL 6387366, No. C-11-06714 (N.D. Cal. Sept. 5, 2013).

[228] *See* Apple Inc. v. Pepper, 139 S. Ct. 1514 (2019).

[229] *See* Jon Swartz, *The Antitrust Suspects: Facebook and Apple Appear to be Most at Risk*, MARKETWATCH (June 24, 2019), https://www.marketwatch.com/story/the-antitrust-suspects-facebook-and-apple-appear-to-be-most-at-risk-2019-06-18 (quoting a leading antitrust commentator's assessment that "[t]here is a pretty good claim against Apple" related to its App Store).

[230] United States v. Microsoft Corp., 253 F.3d 34, 64-67 (D.C. Cir. 2001).

[231] 592 F.3d 991, 1000 (9th Cir. 2010); 603 F.2d 263, 286-87 (2d Cir. 1979).

[232] United States v. Vasquez-Ramos, 531 F.3d 987, 991 (9th Cir. 2008) (explaining that the Ninth Circuit is bound by its own circuit precedent unless there has been "a substantial change in relevant circumstances," or a subsequent en banc or Supreme Court decision that is "clearly irreconcilable" with its prior holding).

split surrounding exclusionary-design analysis may ultimately cause the Supreme Court to step in and clarify the doctrine.[233]

Options for Congress

While the antitrust action surrounding the Big Four is currently concentrated in the executive branch and the courts, digital competition issues have also attracted the interest of Congress, which may pursue legislation to address anticompetitive conduct by large technology companies.[234] Such legislation could take two general forms. First, some commentators have proposed that Congress enact certain changes to existing antitrust doctrine to promote digital competition.[235] Second, a number of lawmakers and academics have advocated legislation that would impose sector-specific competition regulation on large technology companies.[236] The subsections below discuss each category of potential legislation in turn.[237]

Changes to Antitrust Law

A number of commentators have proposed that Congress adopt certain changes to existing antitrust doctrine to promote competition in technology markets. These proposals include:

- ***Changes to Predatory-Pricing Doctrine.*** Some observers have proposed changes to predatory-pricing doctrine with an eye toward addressing the pricing practices of dominant technology firms like Amazon. Specifically, one commentator has criticized *Brooke Group*'s "recoupment" requirement on the grounds that it does not adequately deter predatory pricing by dominant online platforms.[238] According to this line of criticism, *Brooke Group*'s requirement that plaintiffs demonstrate a "dangerous probability" of recoupment fails to account for dominant platforms' unique ability to persist in charging below-cost prices for years and employ difficult-to-detect recoupment strategies like price discrimination among different categories of customers. As a result, this commentator has advocated a presumption that below-cost pricing by dominant platforms qualifies as prohibited exclusionary conduct.[239]

  Other academics have criticized the first *Brooke Group* requirement, which demands that predatory-pricing plaintiffs show that a monopolist charged below-

[233] *See* SUP. CT. R. 10 (explaining that the Supreme Court considers, among other things, the existence of a circuit split in deciding whether to grant a petition for a writ of certiorari).

[234] *See* Tracy, *supra* note 9.

[235] *See* "Changes to Antitrust Law" *infra*.

[236] *See* "Sector-Specific Regulation" *infra*.

[237] A number of commentators have rejected the proposition that the Big Four raise unique competition concerns that justify changes in public policy. *See, e.g.*, Eric Boehm, *The Justice Department's 'Big Tech' Antitrust Investigation Is Unnecessary Political Theater*, REASON (July 24, 2019), https://www.reason.com/2019/07/24/the-justice-departments-big-tech-antitrust-investigation-is-unnecessary-political-theater/; John Lopatka, *Big Tech and Antitrust*, TRUTH ON THE MARKET (July 19, 2019), https://www.truthonthemarket.com/2019/07/19/big-tech-and-antitrust/; Bourne, *supra* note 74. This report catalogues several legislative options concerning the promotion of digital competition without assessing the arguments offered against such regulation.

[238] Khan, *Amazon's Antitrust Paradox*, *supra* note 82, at 791-92.

[239] *Id*.

cost prices.[240] These commentators argue that pricing-cutting can be anticompetitive even when a firm prices its products above cost, especially in cases where a monopolist aggressively cuts prices in order to prevent a new rival from recovering its entry costs or realizing economies of scale.[241] To address this concern, these observers contend that courts should evaluate whether challenged price-cutting strategies exclude potential entrants without screening predation claims with a price-cost test.[242] Congress could accordingly remedy this alleged defect in current predatory-pricing doctrine with legislation eliminating the first *Brooke Group* requirement.

- ***Enhanced Merger Review for Dominant Technology Companies.*** Some commentators have advocated stricter scrutiny for mergers and acquisitions by dominant technology companies, including a rebuttable presumption that mergers and acquisitions between certain monopolist technology companies and their potential competitors are unlawful.[243] A number of academics have also suggested that because promising technology startups often fall below the minimum-size thresholds that trigger DOJ and FTC review under the HSR Act, Congress should consider lowering or eliminating those thresholds for deals involving dominant technology companies.[244]
- ***Enhanced Scrutiny of Product Design Decisions.*** Finally, some observers have argued that courts should be less deferential toward defendants' justifications of allegedly exclusionary product designs, arguing that product-design decisions are often "key elements" of large technology companies' business strategies.[245] Congress could accordingly consider legislation to clarify the appropriate standards for evaluating exclusionary-design claims, perhaps by making clear that such claims are subject to full Rule-of-Reason scrutiny rather than the more permissive tests adopted by certain lower federal courts.[246]

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[240] BAKER, *supra* note 186, at 147-49; Aaron S. Edlin, *Stopping Above-Cost Predatory Pricing*, 111 YALE L.J. 941, 941-49 (2002).

[241] Edlin, *supra* note 240, at 941-49.

[242] BAKER, *supra* note 186, at 147-49; *see also* Chicago Digital Competition Report, *supra* note 43, at 76 (arguing that predatory-pricing doctrine has become overly rigid and should accordingly "be modified so that it will be better able to combat anticompetitive pricing by digital platforms and other firms").

[243] Chicago Digital Competition Report, *supra* note 43, at 78. According to these commentators, the relevant characteristics that should trigger enhanced scrutiny are factors that suggest that a firm possesses "bottleneck power," a phenomenon whereby a firm possesses significant market power because consumers "single home" and use only one service provider. *Id*. at 84-85. However, legislation adopting enhanced merger standards for technology monopolists could plausibly rely on a variety of other standards for identifying the companies subject to heightened scrutiny. *See, e.g.*, Harold Feld, *The Case for the Digital Platform Act: Market Structure and Regulation of Digital Platforms*, ROOSEVELT INST. 30 (May 2019) (proposing a three-part test for identifying dominant "digital platforms" that should be subject to sector-specific competition regulation); Khan, *Platforms*, *supra* note 150, at 1080-82 (proposing a nonexhaustive five-factor test for identifying firms with "bottleneck power").

[244] Chicago Digital Competition Report, *supra* note 43, at 78.

[245] *Id*. at 77.

[246] *See* "Tying and Exclusionary Product Design" *supra*.

Sector-Specific Regulation

As discussed, academic commentators have argued that certain digital markets possess structural characteristics that advantage large incumbent firms.[247] In some cases, dominant firms in these markets can enhance such entry barriers by making it difficult for consumers to "multi-home" or use complementary products offered by competitors, and courts evaluating challenges to these product-design choices hesitate to hold companies liable under existing antitrust doctrine.[248] Moreover, vertically integrated technology monopolists do not face general nondiscrimination rules requiring them to deal evenhandedly with rivals in adjacent markets.[249] Some analysts have accordingly argued that large technology platforms require sector-specific regulations to address these competition concerns. These proposed regulations include "data mobility" rules giving consumers greater ability to control their data and move it to competing platforms, "interoperability" standards requiring companies to minimize technical impediments to the use of complementary products, and nondiscrimination requirements prohibiting vertically integrated technology monopolists from discriminating against rivals who use their platforms.[250] Congress could legislate such requirements, direct an existing federal agency to develop them through rulemaking, or create a new agency tasked with regulating the technology industry.

A number of lawmakers and academics have also argued that the infrastructure-like features of certain digital services justify separation regimes prohibiting monopolists that provide those services from entering adjacent markets.[251] Such separation regimes are not without precedent. Historically, Congress and federal regulators have imposed a variety of structural prohibitions limiting the lines of business in which certain categories of firms—including railroads, banks, television networks, and telecommunications companies—can engage.[252] Commentators have justified these separation regimes on the grounds that they eliminate conflicts of interest that lead companies in key infrastructure-like sectors to discriminate against their vertical rivals.[253] While the nondiscrimination requirements discussed above represent one means of addressing this concern, categorical separation rules are an alternative to such requirements that may prove easier to administer.

In March 2019, Senator Elizabeth Warren proposed one type of separation regime for dominant technology companies, arguing that large "platform utilities"—including "online marketplaces," "exchanges," and "platforms for connecting third parties"—should be prohibited from owing

[247] *See* "Entry Barriers" *supra*.

[248] *See* "Tying and Exclusionary Product Design" *supra*.

[249] *See* "Refusals to Deal and Essential Facilities," "Google Search: Refusals to Deal and Essential Facilities," and "Amazon" *supra*.

[250] *See* Feld, *supra* note 243, at 105-16; Chicago Digital Competition Report, *supra* note 43, at 79-98; UK Digital Competition Report, *supra* note 44, at 5; EC Digital Competition Report, *supra* note 44, at 83-87.

[251] Khan, *Platforms*, *supra* note 150, at 1065-74; James Kim, *Draft Legislation Seeks to "Keep Big Tech Out of Finance,"* NAT.'L L. REV. (July 18, 2019), https://www.natlawreview.com/article-draft-legislation-seeks-to-keep-big-tech-out-of-finance; Warren, *supra* note 216; Kiran Stacy, *Senior Democrat Suggests 'Glass-Steagall' Law for Tech Companies*, FIN. TIMES (Mar. 4, 2019), https://www.ft.com/content/561b8546-355c-11e9-bd3a-8b2a211d90d5; *see also* Feld, *supra* note 243, at 94-97 (advocating stricter scrutiny of vertical integration by dominant digital platforms).

[252] Khan, *Platforms*, *supra* note 150, at 1037-51.

[253] *Id*. at 1052-54.

companies that participate on their platforms.[254] The Chairman of the House Antitrust Subcommittee has also expressed support for similar separation requirements.[255]

Congress may also be interested in broader separation regimes prohibiting dominant technology platforms from entering other types of markets. Specifically, many lawmakers have expressed concern about Facebook's announcement that it intends to develop a new cryptocurrency.[256] These worries have generated a legislative proposal to prevent any large technology platform from entering the financial industry, with Members on the House Financial Services Committee circulating draft legislation titled the Keep Big Tech Out of Finance Act.[257] This draft bill would prohibit "large platform utilities" from (1) affiliating with financial institutions, or (2) establishing, maintaining, or operating digital assets intended to be "widely used as a medium of exchange, store or value, or any other similar function."[258]

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[254] Warren, *supra* note 216.

[255] *See* Stacy, *supra* note 251.

[256] *See* Dave Michaels, Kate Davidson & Sam Schechner, *Facebook Faces Bipartisan Resistance to Cryptocurrency Plans*, WALL ST. J. (July 16, 2019), https://www.wsj.com/articles-facebook-says-libra-cryptocurrency-to-be-regulated-by-swiss-financial-authorities-11563208951.

[257] *See* Discussion Draft, H.R. _, Keep Big Tech Out of Finance Act (116th Cong.), https://financialservices.house.gov/uploadedfiles/bills-116hr____ih-bigtech.pdf. Under the discussion draft, the term "large platform utility" is defined to mean a "technology company" that (1) has global annual revenue of $25 billion or more, and (2) is "predominately engaged in the business of offering to the public an online marketplace, an exchange, or a platform for connecting third parties." *Id*. § 2(f)(9).

[258] *Id*. § 2(a)-(b).