Monopolization by Exploiting People's Inertia? On the DOJ's 2020 Complaint Against Google and Revenue Sharing Agreements as Non-Compete Arrangements

OMAR VASQUEZ DUQUE[†]

In October 2020, the Department of Justice sued Google for paying Apple and several other search engine distributors to set Google as its users' default. The complaint alleges that Google's agreements constitute de facto exclusive dealing arrangements because people only rarely change defaults. Although the complaint correctly asserts that this arrangement violates antitrust law, it misapprehends the mechanism of the anticompetitive harm.

The Google–Apple agreement is more accurately modeled as an arrangement that deters actual competitors from reaching a significant distribution channel and discourages a key potential competitor from entering search. If a potential competitor is paid for a preferred slot but then decides to compete with Google in the search market, the potential competitor will suffer the punitive effect of losing Google's default provider payments. This last part is neglected in the DOJ's complaint, which also overlooks that a monopolist has incentives to bid higher than any potential competitor for a vital distribution channel—because monopoly profits are higher than duopoly profits. Not every provider is its distributor's potential competitor. This Article offers guidelines to distinguish between sound and speculative potential competition claims, suggesting an actual potential competitor has (i) the objective capability and (ii) strong incentives to enter the relevant market. Apple is Google's potential competitor.

We all pay the cost of a monopolistic ads market with higher prices. Yet given the current state of competition in the search market (in contrast with the competition that might exist in the absence of disincentives caused by these default agreements), the evidence is that most Apple users prefer Google. The default agreements, therefore, direct most consumers to the provider they prefer. Nevertheless, there are less restrictive alternatives to reach said efficiency. While forced choice strategies, such as choice screens, have shown to be ineffective in "leveling the field" among

[†] Lecturer and Research Fellow, Stanford University and Rock Center for Corporate Governance. J.S.D. and M.A. (Econ), Stanford University; LL.M. Harvard Law School. The Author acknowledges the insightful feedback from John Donohue, Jacob Goldin, Joe Grundfest, Mark Lemley, Rob MacCoun, Doug Melamed, Louis Kaplow, Amalia Kessler, Dan Rubinfeld, Steven Salop, and Daniel Sokol. The usual disclaimer applies.

competitors, they can effectively ensure that Google does not hinder potential competition by paying a key potential competitor not to enter the market.

TABLE OF CONTENTS

INTRODUCTION

In a 2017 interview, one of the most influential law and economics scholars suggested antitrust was dead.[1] Back then, there were rumors about enforcement actions against big tech, but it seemed unlikely the United States would follow the European Union's example prosecuting some of the companies many considered the best in the world.[2] In October 2020, however, the Department of Justice (DOJ) filed a complaint against Google for paying several search engine distributors to set Google as their default.[3] This was the most critical monopolization case to be filed in the United States in several decades—as some put it, the "biggest antitrust case in a generation."[4]

The DOJ argues that Google's revenue sharing agreements ("RSAs") with several search engine distributors to set Google as their users' default is de facto exclusive dealing. The complaint deals with various RSAs between Google and different search engine distributors, such as phone manufacturers and internet browsers. This Article focuses on the RSA with Apple due to the prominence of Google's default placement in the DOJ's theory of anticompetitive harm[5] and the overlooked role of Apple as Google's potential competitor.

Despite dealing with the digital economy and the exploitation of a behavioral bias, the DOJ case is far from relying on a novel antitrust theory. In the late nineties, the DOJ sued Microsoft for bundling Internet Explorer ("IE") with its operating system and placing IE as its users' default browser.[6] Part of the anticompetitive harm in the Microsoft case was that back then, app

---

1. Asher Schechter, *Richard Posner: "The Real Corruption Is the Ownership of Congress by the Rich"*, PROMARKET (Mar. 28, 2017), https://promarket.org/2017/03/28/richard-posner-real-corruption-ownership-congress-rich ("Antitrust is dead, isn't it?").

2. *See id.* In the same interview, Richard Posner stated he "was surprised to read that there [were] criticisms being made against Amazon, Microsoft, and Google [which were] the three best companies in the world." *Id.*

3. Complaint at 3–4, United States v. Google, LLC, No. 1:20-cv-03010 (D.D.C. Oct. 20, 2020). This Article focuses on the ad revenue-sharing agreement between Google and Apple due to the prominent role of the default placement in the theory of anticompetitive harm. The theory of harm underlying Google's other agreements is far less debatable.

4. Kari Paul, *Google Is Facing the Biggest Antitrust Case in a Generation. What Could Happen?*, GUARDIAN (Oct. 21, 2020, 4:57 PM EDT), https://www.theguardian.com/technology/2020/oct/21/google-antitrust-charges-what-is-next.

5. The theory of harm underlying Google's other agreements is far less debatable. *See, e.g.*, Fiona M. Scott Morton & David C. Dinielli, *Roadmap for a Monopolization Case Against Google Regarding the Search Market*, OMIDYAR NETWORK 2–4 (June 2020), https://omidyar.com/wp-content/uploads/2020/09/Roadmap-for-a-Monopolization-Case-Against-Google-Regarding-the-Search-Market.pdf.

6. United States v. Microsoft Corp., 56 F.3d 1448, 1451 (D.C. Cir. 1995). Then, it was clear that Microsoft was concerned about Netscape's expansion since the latter could facilitate the development of between-operating-system compatibilities. There is abundant literature analyzing this seminal case. *See, e.g.*, A. Douglas Melamed & Daniel L. Rubinfeld, U.S. v. Microsoft*: Lessons Learned and Issues Raised*, *in* ANTITRUST STORIES 287, 288 (Eleanor M. Fox & Daniel A. Crane eds., 1st ed. 2007); ANDREW I. GAVIL & HARRY FIRST, THE MICROSOFT ANTITRUST CASES: COMPETITION POLICY FOR THE TWENTY-FIRST CENTURY 2 (1st ed. 2014); Daniel L. Rubinfeld, *A Retrospective on* U.S. v. Microsoft*: Why Does It Resonate Today?*, 65 ANTITRUST BULL. 579, 580 (2020); Franklin M. Fisher & Daniel L. Rubinfeld, U.S. v. Microsoft *—An Economic Analysis*, 46 ANTITRUST BULL. 1, 1 (2001).

distributors were not willing to preinstall more than one internet browser, it was difficult for many to handle application settings, and Microsoft made it almost impossible to uninstall IE. Nowadays, consumers are free to switch their defaults from a list of options available in the phone or browser settings.[7] Nonetheless, the DOJ claims that Google's payment to be the default search engine is equivalent to anticompetitive exclusive dealing because "defaults are especially sticky."[8]

This Article assesses the argument that the RSA is tantamount to anticompetitive exclusive dealing. It concludes that the RSA between Google and Apple is better depicted as a more complex monopoly maintenance strategy: an anticompetitive agreement between potential competitors that eliminates Apple's incentives to enter search and makes it irrational for any of Google's competitors to access a key distribution channel. The existence and size of possible status quo effects always require an empirical assessment. From publicly available data, there appear to be non-negligible status quo effects in search. Yet the effect sizes do not seem large enough for default agreements to be tantamount to exclusive dealing. A $12 billion RSA, however, makes it irrational for any of Google's rivals to bid higher than Google expecting competitive and not monopolistic prices in the advertising market after stealing a part of Google's market share. Besides, the RSA ensures that Google's monopoly in search is not only convenient for Google but also for Apple. In fact, the RSA deters Apple's entry to search and advertising. While most of Apple's users automatically get the search engine they prefer, the RSA is not the least restrictive alternative to achieve this efficiency. For instance, a choice screen could achieve the same effect at a minimum cost for Apple's users without hindering Apple's incentives to compete with Google.

This Article is structured as follows. Part I provides a brief overview of U.S. antitrust law. It focuses on the main categories of anticompetitive conduct and the standards of scrutiny. Part II assesses the use of defaults for anticompetitive purposes. To put the Google case into perspective, it first refers to the seminal Microsoft case. Then, it summarizes the DOJ's 2020 complaint against Google. Part III discusses the economic value of defaults. To provide reasonable estimates, it assesses the effects of choice screens in Europe, the correlation between Microsoft Edge's market share and Bing's, and the effects of a 2014 agreement between Firefox and Yahoo to switch Firefox's default. It also examines economic models that cast doubt on to the possibility that any

7. When dealing with other antitrust investigations, Google has tended to say that "competition is a click away." *See* Miguel Helft, *Google Makes a Case That It Isn't So Big*, N.Y. TIMES (June 28, 2009), https://www.nytimes.com/2009/06/29/technology/companies/29google.html.

8. Complaint, *supra* note 3, at 3 ("For a general search engine, by far the most effective means of distribution is to be the preset default general search engine for mobile and computer search access points. Even where users can change the default, they rarely do. This leaves the preset default general search engine with de facto exclusivity. As Google itself has recognized, this is particularly true on mobile devices, where *defaults are especially sticky*.") (emphasis added).

rival of Google would bid more than the dominant company to become Apple's default. Part IV develops the argument that Apple is Google's potential competitor. To this end, it discusses the concept of potential competition, referring to the recent FTC v. Meta case. Part V assesses the DOJ's complaint, claiming that the RSA is better understood as an anticompetitive agreement that makes it irrational for any of Google's competitors to bid higher than the current monopolist for default status and deters a key potential competitor from entering the market. Part VI concludes by suggesting the RSA between Google and Apple is an unreasonable restraint of trade with both vertical and horizontal effects.

A. ANTITRUST LAW AND JURIDICAL CATEGORIES

Antitrust law is the "Magna Carta of free enterprise."[9] It aims at keeping markets competitive by preventing the unlawful acquisition and/or exercise of monopoly power.[10] Antitrust law does not ban market power by itself. In fact, *monopoly power* is not a synonym for *market power*.[11] The latter is common in markets with differentiated products.[12] Monopoly power is a firm's ability to stifle competition, transforming behavior that would be irrational for firms in a competitive market—such as raising its prices above competitive levels or excluding competitors by charging prices below cost—into rational business strategies.[13] Typically, the starting point for an inference of monopoly power in a legal analysis consists of high barriers to entry plus high market shares.

Competition law does not prohibit monopolies by themselves either.[14] Broadly speaking, antitrust law controls how a firm obtains or exercises its

9. United States v. Topco Assocs., Inc., 405 U.S. 596, 610 (1972).

10. *See, e.g.*, A. Douglas Melamed, Response, *Antitrust Law Is Not That Complicated*, 130 HARV. L. REV. 163, 166 (2016) ("With a couple of refinements, U.S. antitrust law makes it illegal to cause an increase in market power by conduct that is not competition on the merits. For this purpose, 'competition on the merits' means conduct that on balance increases output. Conduct can increase output by reducing costs or (quality-adjusted) prices or by increasing product quality or diversity and thereby shifting the demand curve to the right. This principle has three distinct elements: (i) increased market power, (ii) conduct that is not competition on the merits, and (iii) a causal connection between the two.").

11. DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 117 (4th ed. 2015) ("It is common practice to say that whenever a firm can profitably set its price above its marginal cost without making a loss, it has *monopoly power* or *market power*. One might usefully distinguish between the terms by using *monopoly power* to describe a firm that makes a profit if it sets its price optimally above its marginal cost, and *market power* to describe a firm that earns only the competitive profit when it sets its price optimally above its marginal cost. However, people do not always make this distinction, and generally use the two terms interchangeably, sometimes creating confusion.").

12. The same applies to Cournot models of competition.

13. "The § 2 conduct test is sometimes stated as conduct that is rational (that is, profit-maximizing) only on the premise that it will destroy competition." PHILLIP E. AREEDA, LOUIS KAPLOW & AARON S. EDLIN, ANTITRUST ANALYSIS: PROBLEMS, TEXT, AND CASES 261 (7th ed. 2013). This is sometimes called the "no economic sense" test. *Id.*

14. Section 2 makes it illegal to acquire or maintain monopoly power through improper means. *Id.* The long-standing requirement for monopolization is both "(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident." United States v. Grinnell Corp., 384 U.S. 563, 570–71 (1966).

monopoly power. Most anticompetitive conducts fall under one of the following labels: (i) agreements (horizontal and vertical), (ii) mergers, and (iii) single firm behavior.[15] The categorization of a business practice within one of these labels has significant implications on the applicable test of legality.

1. *Agreements*

As per section 1 of the Sherman Act, "[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is declared to be illegal."[16] Two major direct competitors may agree to charge a higher price for their products or allocate markets to each other. Either agreement allows the companies to behave as monopolists, operating together in the same geographic market[17] or acting as the only—or leading—supplier in each market separately.[18] Naked arrangements—those that restrict competition among direct rivals and are not ancillary to otherwise lawful transactions[19]—are a textbook example of anticompetitive behavior.

Nonetheless, vertical agreements—distribution agreements that restrict competition throughout the supply chain—may also be anticompetitive. For instance, a large widget supplier might ask all the widget manufacturers to sell exclusively to her. By becoming the exclusive seller of the widget, the supplier may raise its price above competitive levels. But the analysis of vertical restraints is usually more complicated. An exclusive seller of cars "A" might be constrained by the prices of other brands. Besides, it is not in the manufacturers' best interest that distributors charge high prices for their products. In fact, exclusivity contracts tend to pursue some sort of efficiency—for example, increased promotional effort—that motivates both manufacturers and distributors to deal exclusively with each other.[20] The fact that a contract may concurrently correct a market failure and restrict competition makes it

15. As Louis Kaplow put it, "[c]ompetition law is aimed primarily at agreements, mergers, and the actions of dominant firms." Louis Kaplow, *The Meaning of Vertical Agreement and the Structure of Competition Law*, 80 ANTITRUST L.J. 563, 563 (2016).

16. 15 U.S.C. § 1 (2006).

17. *See, e.g.*, United States v. Socony-Vacuum Oil Co., 310 U.S. 150, 253 (1940).

18. *See, e.g.*, Palmer v. BRG of Ga., Inc., 498 U.S. 46, 49 (1990).

19. AREEDA ET AL., *supra* note 13, at 34.

20. *See* A. Douglas Melamed, *Exclusive Dealing Agreements and Other Exclusionary Conduct—Are There Unifying Principles?*, 73 ANTITRUST L.J. 375, 378 (2006). As Judge Breyer explained, exclusive dealing can harm consumers by thwarting entry or inhibiting the growth of existing rivals:

> Exclusive dealing arrangements may *sometimes* be found unreasonable under the antitrust laws because they may place enough outlets, or sources of supply, in the hands of a single firm (or small group of firms) to make it difficult for new, potentially competing firms to penetrate the market. To put the matter more technically, the arrangements may "foreclose" outlets or supplies to potential entrants, thereby raising entry barriers. Higher entry barriers make it easier for existing firms to exploit whatever power they have to raise prices above the competitive level because they have less to fear from potential new entrants.

Interface Grp., Inc. v. Mass. Port Auth., 816 F.2d 9, 11 (1st Cir. 1987) (citations omitted).

challenging to provide clear-cut categorical guidelines about their social desirability.[21] This ambiguity justifies a more lenient treatment, as I explain below.

The distinction between horizontal and vertical agreements is particularly important for determining whether a court should assess the effects of the conduct to appraise its legality. Naked horizontal price fixing is *per se* illegal. This means that no proof of market power is required to condemn the defendant.[22] It does not matter whether the agreement raised prices or restricted competition in any other fashion. The agreement itself is illegal. Determining whether an agreement is naked is not as straightforward as it may seem in theory. In fact, what reads as a categorical distinction between per se and rule of reason assessments is not such in practice.[23] However, a lower standard for condemning business practices that normally harm consumers stems from legal process considerations[24] and is consistent with error cost minimization.[25] Courts restrict the per se rule to cases with which there is sufficient judicial experience.[26] In contrast, courts appraise vertical agreements and non-naked horizontal agreements according to the rule of reason, which mandates proof of market

21. *See* CARLTON & PERLOFF, *supra* note 11, at 449 ("[A] restriction on competition is something that an economist abhors, as it may increase market power. On the other hand, an increase in sales efforts is something that an economist applauds.").

22. The Court has explained:

> There are . . . two complementary categories of antitrust analysis. In the first category are agreements whose nature and necessary effect are so plainly anticompetitive that no elaborate study of the industry is needed to establish their illegality—they are "illegal per se;" in the second category are agreements whose competitive effect can only be evaluated by analyzing the facts peculiar to the business, the history of the restraint, and the reasons why it was imposed. In either event, the purpose of the analysis is to form a judgment about the competitive significance of the restraint; it is not to decide whether a policy favoring competition is in the public interest, or in the interest of the members of an industry.

Nat'l Soc'y of Pro. Eng'rs v. United States, 435 U.S. 679, 692 (1978).

23. *See* DANIEL A. CRANE, ANTITRUST 47 (2014).

24. As Katz and Melamed describe:

> Congress has delegated to the courts the fleshing out of both the normative standards to be applied in assessing conduct and the process by which courts determine whether these standards are violated . . . . The courts have two fundamental functions in such an institutional setting. First, the courts must identify applicable normative rules and principles, both substantive and institutional, to guide antitrust decisions. By substantive, we mean those that further the fundamental objectives of antitrust law, which are encompassed at present in the "consumer welfare standard." By institutional, we mean legal rules and principles that: (a) are administrable by generalist courts; (b) base decisions on matters that are in principle provable by the kinds of evidence that are likely to be available as a practical matter; (c) tend to minimize error costs; and (d) offer predictable guidance for the public.

Michael L. Katz & A. Douglas Melamed, *Competition Law as Common Law:* American Express *and the Evolution of Antitrust*, 168 U. PA. L. REV. 2061, 2063 (2019).

25. For further discussion on error cost analysis in antitrust, see generally Jonathan B. Baker, *Taking the Error Out of "Error Cost" Analysis: What's Wrong with Antitrust's Right*, 80 ANTITRUST L.J. 1 (2015).

26. FTC v. Actavis, Inc., 570 U.S. 136, 159 (2013) ("[A]bandonment of the 'rule of reason' in favor of presumptive rules (or a 'quick-look' approach) is appropriate only where 'an observer with even a rudimentary understanding of economics could conclude that the arrangements in question would have an anticompetitive effect on customers and markets.'" (quoting Cal. Dental Ass'n v. FTC, 526 U.S. 756, 770, 781 (1999) (Breyer, J., concurring in part and dissenting in part))).

power and anticompetitive effects. In principle, a court that analyzes a case under the rule of reason should balance the procompetitive effects with its anticompetitive effects. In practice, most courts appraise whether there is a less restrictive alternative to achieve the same procompetitive effects.[27] The Supreme Court has stated that the quality of the proof required to determine reasonableness (*i.e.*, the existence of unjustified anticompetitive consequences) varies with the circumstances to ensure the analysis is neither too abbreviated nor too comprehensive.[28]

2. *Monopolization and Attempted Monopolization*

Another main category of anticompetitive behavior is single-firm conduct. Section 2 of the Sherman Act makes it unlawful for any person to "monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations . . . ."[29] For instance, a dominant firm may charge prices below its costs to exclude a competitor.[30] In *United States v. Grinnell Corp.*,[31] the Supreme Court defined illegal monopolization to include two elements: "(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."[32] Both elements must be established before the defendant can be found guilty of monopolization. The rule of reason applies to monopolization claims. Two of the most common examples of monopolization are predatory pricing and refusals to deal.

3. *Mergers*

Lastly, antitrust also controls the acquisition or maintenance of monopoly power by banning mergers that substantially lessen competition. The Clayton Act was the first US statute to specifically ban anticompetitive mergers,[33] which the Hart-Scott Rodino Act then complemented.[34] The 2010 Horizontal Merger

27. C. Scott Hemphill, *Less Restrictive Alternatives in Antitrust Law*, 116 COLUM. L. REV. 927, 929 (2016).

28. *Actavis, Inc.*, 570 U.S. at 159 ("To say this is not to require the courts to insist, contrary to what we have said, that the Commission need litigate the patent's validity, empirically demonstrate the virtues or vices of the patent system, present every possible supporting fact or refute every possible pro-defense theory. As a leading antitrust scholar has pointed out, '[t]here is always something of a sliding scale in appraising reasonableness,' and as such 'the quality of proof required should vary with the circumstances.'" (quoting *Cal. Dental Ass'n*, 526 U.S. at 780)).

29. 15 U.S.C. § 2 (2006).

30. *See, e.g.*, Brooke Grp. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 212 (1993).

31. 384 U.S. 563 (1966).

32. *Id.* at 570–72.

33. AREEDA ET AL., *supra* note 13, at 758 ("Before the passage of the Clayton Act in 1914, merger cases had to be brought under the Sherman Act. Even after 1914, however, many early cases [were] brought under the Sherman Act [largely] because Clayton Act § 7 was originally more limited in its application than it is today.").

34. *See, e.g.*, A. DOUGLAS MELAMED, RANDAL C. PICKER, PHILIP J. WEISER, & DIANE P. WOOD, ANTITRUST LAW AND TRADE REGULATION, CASES AND MATERIALS 643 (7th ed. 2018).

Guidelines guide the substantive analysis of mergers.[35] In antitrust, a merger is typically defined as a permanent union of previously separate businesses. Whether the union is accomplished through an exchange of stock or an acquisition of assets was relevant to the original applicability of the Clayton Act's section 7, but it is rarely relevant today.[36] In general, we can refer interchangeably to mergers, consolidations, acquisitions, amalgamations, or other forms of union that replace independent economic institutions with a unified system of control.

B. ON EXCLUSIVE DEALING IN PARTICULAR

Exclusive dealing arrangements are vertical contracts in which one party promises to deal exclusively with another and, as a result, not deal with the other's competitors. Exclusivity contracts between manufacturers and retailers are common, and they are often procompetitive. However, they may raise antitrust concerns because, by denying competitors access to the goods or services provided by the promisor, they may exclude those rivals from the marketplace or materially impair their ability to compete.[37] Exclusivity arrangements are subject to sections 1 and 2 of the Sherman Act, section 3 of the Clayton Act, and section 5 of the Federal Trade Commission Act.[38]

In *Tampa Electric Co. v. Nashville Coal Co.*,[39] the Supreme Court provided a three-prong test to define the legality of exclusive dealing.[40] The first two elements require a court to determine the product and geographic markets.[41] According to the third one, "the competition foreclosed by the contract must be found to constitute a substantial share of the relevant market."[42] While the Court had previously banned procompetitive justifications, the *Tampa Electric* test made it clear that a holistic market analysis was necessary to determine the

35. *See, e.g.*, HERBERT HOVENKAMP, PRINCIPLES OF ANTITRUST 473 (2d ed. 2021).

36. AREEDA ET AL., *supra* note 13, at 749.

37. *See* Melamed, *supra* note 20, at 375.

38. HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY, THE LAW OF COMPETITION AND ITS PRACTICE 564 (6th ed. 2020) ("Exclusive dealing arrangements have been condemned under § 1 of the Sherman Act and § 3 of the Clayton Act, as well as § 5 of the FTC Act. . . . [O]ne important development in the law of exclusive dealing is the application of § 2 of the Sherman Act when the firm imposing it is a "monopolist."). Hovenkamp additionally notes two advantages to this approach: "First, exclusive dealing is likely to be anticompetitive only when the firm is fairly dominant within its market. Second, while § 2 assesses a higher market power requirement it is less categorical about doctrine, asking only whether a practice is unreasonably exclusionary." *Id.*

39. 365 U.S. 320 (1961).

40. *Id.* at 328.

41. *Id.*

42. *Id.*

illegality of exclusive arrangements.[43] Today, most agree that a rule of reason analysis applies to exclusive dealing.[44]

Tampa Electric test and its predecessors rely on a *foreclosure* test.[45] As Jacobson notes, in the early days of the Clayton Act, said test facilitated the analysis of cases by dismissing claims involving defendants with a low market share. And later, cases in which the excluded share of the relevant market was small, regardless of the defendant's market share.[46] The foreclosure theories become more robust when understood as different practices that raise rivals' costs[47] by relegating them to inferior distribution channels—rather than excluding rivals from a market altogether.[48] An exclusivity agreement may reduce the efficiency of competitors if it prevents them from maintaining or expanding their operations to reach an efficient scale.[49] It can also limit competitors' economies of scope if rivals could have offered more efficient products to produce or sell together than separately.[50] In cases where network

43. *Id.* at 329 ("To determine substantiality in a given case, it is necessary to weigh the probable effect of the contract on the relevant area of effective competition, taking into account the relative strength of the parties, the proportionate volume of commerce involved in relation to the total volume of commerce in the relevant market area, and the probable immediate and future effects which pre-emption of that share of the market might have on effective competition therein. It follows that a mere showing that the contract itself involves a substantial number of dollars is ordinarily of little consequence.").

44. EINER ELHAUGE & DAMIEN GERADIN, GLOBAL ANTITRUST LAW AND ECONOMICS 577 (3d ed. 2018) ("Modern courts thus read *Tampa Electric* to overrule *Standard Stations*' exclusion of procompetitive justifications, even when the foreclosure share is large."). Elhauge and Geradin also note:

> Although perhaps not justified by a literal parsing of the precedent, this conclusion [that *Tampa Electric* adopted a Rule of Reason analysis for exclusive dealing] fits a more general policy judgment being made by the courts after the 1960s that antitrust economics did not support the categorical hostility of various legal rules on vertical agreements. But this interpretation seems to make Clayton Act § 3 superfluous because Sherman Act § 1 already condemns agreements that violate the Rule of Reason.

Id.

45. *Tampa Electric*, 365 U.S. at 334; *see also* HOVENKAMP, *supra* note 35, at 423 ("For example, if independent gasoline retailers agree to purchase all of their gasoline needs from a single refiner and no one else, the stations are 'foreclosed' to other gasoline refiners for the duration of their contracts. . . . [T]he Supreme Court found such contracts illegal when they collectively denied the defendant's refiner competitors 6.8% of the gasoline market to the defendant's refiner competitors. Since exclusive dealing arrangements were common in the market, the total percentage of independent stations 'foreclosed' from the market by *all* refiners who used such contracts was considerably higher.")

46. Jonathan M. Jacobson, *Exclusive Dealing, "Foreclosure," and Consumer Harm*, 70 ANTITRUST L.J. 311, 327 (2002).

47. As some have noted, the foreclosure logic does not really target what harms competition. *See, e.g.*, HOVENKAMP, *supra* note 38, at 565 ("Exclusive dealing may inefficiently foreclose competition if the upstream firm has a dominant market position and entry into the downstream market is restricted. As long as new downstream facilities can readily be constructed, effective foreclosure is unlikely. But suppose that geographic location is critical to business survival, and two or three sites for resale locations are substantially better than alternatives. In that case, a dominant upstream firm could 'foreclose' competition—thus making entry more difficult—by entering into exclusive dealing contracts with all of the preferred downstream locations.")

48. *Id.*

49. *See, e.g.*, Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power over Price*, 96 YALE L.J. 209, 244 (1986).

50. ELHAUGE & GERADIN, *supra* note 44, at 550.

effects[51] are present, exclusive arrangements can hinder rival efficiency by preventing rivals from gaining access to the number of buyers necessary to enhance their product value. Rather than raising rivals' costs, this strategy lowers the rivals' product value.[52]

The rule of reason analysis of exclusive dealing implies that to determine its legality, one must consider both the conduct's efficiencies and its exclusionary consequences.[53] Modern courts require anticompetitive effects to be either directly proven or inferred as likely as a result of a large substantial foreclosure share, and courts allow defendants to rebut any anticompetitive effects with evidence of procompetitive justifications.[54] If the efficiencies outweigh the anticompetitive costs, or if there is a less restrictive alternative to achieve the same benefits,[55] the conduct will be found anticompetitive. The likelihood that efficiencies will offset any anticompetitive effects resulting from exclusive arrangements is determined by the extent to which those undertakings face competition from other providers their customers see as reasonable substitutes. All the above foreclosure theories necessitate not only a substantial foreclosure of a properly defined market, but also significant entry and expansion barriers in the foreclosed market.[56]

I. DEFAULTS THAT RESTRICT COMPETITION

Defaults are ubiquitous and usually provide substantial efficiencies. Choosing an application to open a file or do a query is burdensome. It seems reasonable to assume that most users prefer a world with sensible defaults. However, developers can benefit from increased visibility when their applications are set as the default. Similarly, app distributors may profit from agreements that designate a specific application as the default, thereby earning a share of the advertising revenue generated. The potential misalignment between the interests of developers and distributors, and those of the users suggests that default agreements could be detrimental to consumers.

So far, this Article has referred to default or status quo effects but has not defined them. The DOJ's complaint did neither develop what "stickiness" means nor how to measure it. But both ideas are critical to analyze the case properly.

One of the most cited findings of behavioral economics is that people tend to stick to their current situation.[57] Default effects are a bias because of people's

51. *See, e.g.*, CARLTON & PERLOFF, *supra* note 11, at 415–17.

52. ELHAUGE & GERADIN, *supra* note 44, at 550.

53. *See* Melamed, *supra* note 20, at 383–403 (suggesting how to assess the costs and benefits of exclusive dealing).

54. ELHAUGE & GERADIN, *supra* note 44, at 577.

55. *See* Hemphill, *supra* note 27.

56. ELHAUGE & GERADIN, *supra* note 44, at 552. Exclusive dealing arrangements may also increase the risks of collusion in oligopolistic markets. *Id.* By effectively allocating the market among oligopolists, it becomes less likely to increase market share by decreasing prices. *Id.*

57. *See* William Samuelson & Richard Zeckhauser, *Status Quo Bias in Decision Making*, 1 J. RISK & UNCERTAINTY 7, 8 (1988).

inclination to adhere to the status quo more often than the canonical rational choice model predicts.[58] This is formally represented as: $P(a|d) > P(a|c)$, where $P(a|d)$ is the probability of choosing application a when it is the default, and $P(a|c)$ is the probability of choosing application a when users are forced to choose. The difference in market share under the default with a but-for world of forced choice is the size of default effects $P(a|d) - P(a|c)$.

However, default effects may be positive or negative, and sometimes a preset option has no effect on people's choices.[59] When people do not trust the choice architect (*i.e.*, whoever sets the default), they are likely to opt out and be less inclined to stick to the preset setting than if they had been forced to choose in the first place. For instance, an online retailer may automatically subscribe customers to promotional emails during checkout. Customers who did not intend to subscribe may feel manipulated after receiving the first follow-up email, causing them to unsubscribe immediately. If the number of customers who had opted in to receive promotional emails was higher than the number of those who did not opt out, the default would trigger a negative effect. Negative default effects are rare but possible.[60] Other times, a default correctly identifies what people would choose. As Sunstein puts it, "choosers might actually prefer the default and stick with it because they do so."[61] For example, most people might want to share their social media content exclusively with friends. If this were the default privacy setting in social media, it would just identify the users' privacy preferences. This case—usually referred to as "deliberate defaulting"[62]—illustrates that sometimes preset settings do not change people's preferences. It is important to note that while positive default effects are common, their effect sizes vary substantially.[63]

Defaults may well hinder competition in a variety of business relationships. A dominant vertically integrated player or a big player in a vertical chain—either buyer or seller—may impose defaults to hinder competition. This is what Microsoft did in the nineties to exclude Netscape from the market by preinstalling Internet Explorer (IE) in its operating system and setting IE as its users' default internet browser, as discussed below. Besides, firms may agree with dominant application suppliers to set one of the latter's products as their users' default to foreclose the entry or expansion of the dominant firm's competitors. This is the DOJ's interpretation of the revenue sharing agreement between Google and Apple. The *Microsoft* and *Google* cases discussed below show, however, that defaults are usually combined with other restrictions, such

58. *Id.*

59. *See* Jon M. Jachimowicz, Shannon Duncan, Elke U. Weber & Eric J. Johnson, *When and Why Defaults Influence Decisions: A Meta-Analysis of Default Effects*, 3 BEHAV. PUB. POL'Y 159, 173 (2019).

60. *See id.*

61. Cass R. Sustein, *Deciding by Default*, 162 U. PA. L. REV. 1, 23 (2013).

62. *Id.* at 23.

63. Jachimowicz et al., *supra* note 59, at 175.

as the impossibility of uninstalling applications, to effectively restrict users' choices.[64]

A. *UNITED STATES V. MICROSOFT*

In the 1990s, the Justice Department claimed that Microsoft's tying of IE with Windows, among other conducts, intended to drive Netscape out of the market.[65] Back then, Netscape and Java middleware threatened Microsoft's OS monopoly by potentially promoting the interoperability between operating systems.[66] The DOJ did not question the legality of Microsoft's historical success, which led to its OS monopoly, but instead asserted that Microsoft was using its monopolistic position to stifle new competition, thereby threatening consumers with higher prices and less innovation in the future.[67]

In particular, the government claimed that Microsoft's principal tactics of excluding Netscape were commingling files, modifying the Add/Remove utility to prevent its users from uninstalling IE, and blocking OEMs from removing the IE icon from the desktop. Microsoft argued that it was not a monopoly because it faced significant competitive threats in a highly dynamic industry, and that its behavior was pro-competitive because it brought innovations to consumers and aided in the distribution of those innovations—such as integrating IE with Windows' OS. The defendant contended that imposing antitrust penalties for its actions would reduce incentives for intense competition and result in less, rather than more, innovation.

The Court of Appeals for the D.C. Circuit found that Microsoft violated section 2 of the Sherman Act by commingling the computer code for its Windows operating system with IE.[68] When certain aspects of Microsoft's product design tended to exclude competitors, the court required Microsoft to

---

64. This was the case in *United States v. Microsoft*, yet many accessory restrictions are evident in the DOJ's 2020 complaint too. *See infra* Part I.B.

65. United States v. Microsoft Corp., 253 F.3d. 34, 47 (D.C. Cir. 2001).

66. *See, e.g.*, Melamed & Rubinfeld, *supra* note 6, at 292.

67. The DOJ claimed that Microsoft did everything possible to preserve the incompatibility between different operating systems. HOVENKAMP, *supra* note 35, at 309. Hovenkamp nicely summarizes the main practices that the government challenged:

> (a) Microsoft "commingled" Windows and Internet Explorer code, giving IE a decisive advantage over Netscape in people's choice of a web browser; (b) it prevented computer manufacturers from removing Microsoft icons, including Internet Explorer icons, from the desktop or start menu of the computers they sold, or from modifying the "boot," or startup sequence so as to favor non-Microsoft products; (c) it prevented computer manufacturers from altering the Windows desktop, or interface that shows the various icons for the programs that the system includes; (d) it induced software developers by various contractual devices to favor Internet Explorer over Netscape as a web browser choice; (e) it pressured Apple Computer to use Internet Explorer rather than another browser in its own office systems; (f) it placed pressure on Intel, a major chip manufacturer, to withdraw developmental support for chips that ran the Java multi-platform computing language.

Id.

68. *Microsoft*, 253 F.3d. at 71. The parties then entered a consent decree, which was approved by the United States Court of Appeals for the D.C. Circuit. Massachusetts v. Microsoft Corp., 373 F.3d 1199, 1203–04, 1250 (D.C. Cir. 2004).

provide a pro-competitive justification. The court ruled that commingling browsing code with other code in the same file and excluding Internet Explorer from the Add/Remove Programs' utility were unlawful because said conduct tended to exclude Netscape, and Microsoft provided no justification for it.[69] Because computer manufacturers were unwilling to support two versions of the same program, commingling effectively eliminated Netscape from the original distribution portion of the browser market. As a result, Netscape found it much more difficult to create tools that would have made computers compatible with a wide range of operating systems. The Court of Appeals upheld other aspects of Microsoft's product design that served legitimate purposes.[70] Interestingly, the court did not provide a resolution concerning the tying claims.[71]

B. THE DOJ'S 2020 COMPLAINT AGAINST GOOGLE

The US government rarely brings monopolization cases. The DOJ's 2020 complaint against Google only pales in comparison to the DOJ's previous complaint against AT&T, which resulted in AT&T's divestiture, and its complaint against Microsoft,[72] which became a global antitrust landmark and heavily influenced the 2020 Complaint.

1. *The Facts*

Google pays billions of dollars annually to distributors, such as Apple, LG, Motorola, and Samsung; major U.S. wireless carriers, such as AT&T, T-Mobile, and Verizon; and browser developers, such as Mozilla, Opera, and UCWeb, to secure default status for its general search engine.[73] Some of these agreements also require distributors to feature a collection of Google apps, including its search apps, in prominent positions on devices where consumers are most likely to initiate internet searches, and/or prohibit the preinstallation of competing search engines, denying market access to Google's search competitors.[74] But this is not Apple's case. Google's agreements cover slightly less than 60 percent of all general search queries.[75] Almost half of the remaining queries are routed through Google-owned-and-operated properties (for example, Google's browser, Chrome).[76]

---

69. *Microsoft*, 253 F.3d. at 66.

70. See Melamed and Rubinfeld's analysis, Melamed & Rubinfeld, *supra* note 6, at 302.

71. *Id.*

72. *Microsoft*, 253 F.3d. at 34. *Microsoft* was the government's first major Section 2 case since the settlement of the *AT&T* case nearly 20 years earlier. MELAMED ET AL., *supra* note 34, at 527.

73. Lauren Feiner, *Google Paid $26 Billion in 2021 to Become the Default Search Engine on Browsers and Phones*, CNBC (Oct. 27, 2023, 3:07 PM EST), https://www.cnbc.com/2023/10/27/google-paid-26-billion-in-2021-to-become-a-default-search-engine.html.

74. Complaint, *supra* note 3, at 4.

75. *See* Omar Vásquez Duque, Taking Behavioral Antitrust Seriously: On Default Agreements as Exclusive Dealing and Default Randomization as a Remedy to Promote Competition 27–29, (Aug. 22, 2023) (unpublished manuscript) (https://papers.ssrn.com/abstract=4548662).

76. *Id.*

The Justice Department explicitly alleged that Google "has entered into exclusionary agreements, including tying arrangements, and engaged in anticompetitive conduct to lock up distribution channels and block rivals."[77] As discussed in the previous section, in the Microsoft case, the court unanimously found that the defendant had monopolized the operating systems market because Microsoft did not provide procompetitive justifications for (i) commingling Internet Explorer (IE) with Windows, (ii) setting IE as the default browser for users, and (iii) making IE undeletable, among other restrictions.[78] In the DOJ's complaint, the three conduct elements are present concerning the Android licensees—yet not by Google itself but because of the allegedly exclusionary agreements Google signed with its main distributors. However, only (i) and (ii) apply in the Google-Apple agreement.

2. *The Relevant Market*

According to the government, the main relevant market in the case is "general search" instead of "specialized search engines," such as Expedia and Priceline. By utilizing specialized data or information gathered from users or supplied by third parties, specialized search engines can frequently provide users with more in-depth topical results than general search engines. This is the critical difference that leaves specialized search outside of the relevant market.

The DOJ claims that "[l]argely as a result of Google's exclusionary agreements and anticompetitive conduct, Google in recent years has accounted for nearly 90 percent of all general-search-engine queries in the United States, and almost 95 percent of queries on mobile devices."[79] Figure 1 below shows Google's market share in general search from 2009 to 2022. It is patent that Google has been the dominant player in both desktop and mobile segments throughout the whole period.

77. Complaint, *supra* note 3, at 3.
78. *See supra* Part I.A.
79. Complaint, *supra* note 3, at 4.

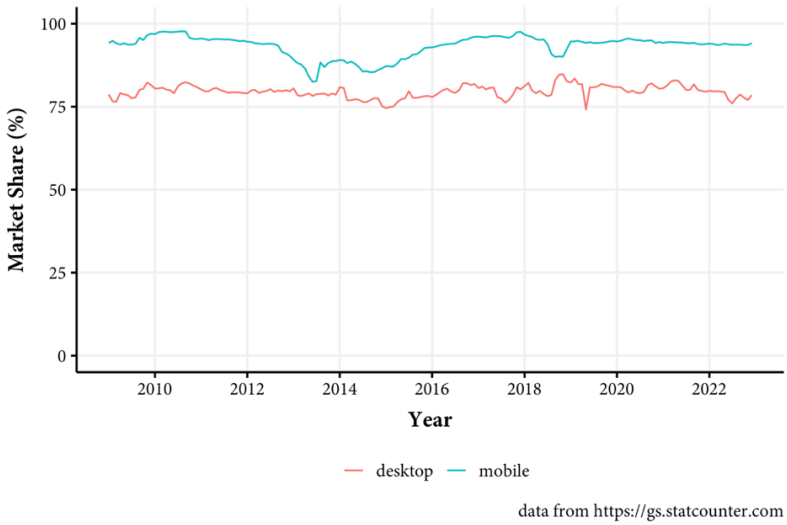

Figure 1: Google's market share in search in the U.S. 2009-2022

3. *Theory of Harm*

The government notes that Google effectively owns or controls search distribution channels accounting for roughly 80 percent of general search queries in the United States through exclusionary contracts and owned-and-operated properties.[80] Thus, "Google has . . . foreclosed competition for internet search . . . [because] [g]eneral search engine competitors are denied vital distribution, scale, and product recognition—ensuring they have no real chance to challenge Google."[81] The government states that Google's strategy is to "monetize[] this search monopoly in the markets for search advertising and general search text advertising, both of which Google has also monopolized for many years."[82]

Computers and mobile devices generally have *search access points* preinstalled, including browsers, search apps, and voice assistants. Mobile devices may also have hardware features, such as a home button that activates a voice assistant, which consumers can use to launch search-capable applications. Each search access point can and almost always has a preset default general search engine.

80. *Id.*
81. *Id.*
82. *Id.*

The specific relevance of each search access point differs in computer and mobile devices. Most *computer users* access a general search engine via a browser, either by (1) typing a query directly into the address bar at the top of the browser or (2) visiting a general search engine's web page and entering a query.[83] This provides users with a convenient way to initiate a search session. Google Chrome is the most popular web browser in the United States, with nearly 60 percent market share. Safari's market share on computers is approximately 17 percent. Mozilla's Firefox has a market share of about 7 percent, while Microsoft's Edge and Internet Explorer have a combined market share near 15 percent.[84] Except for Microsoft, most browser developers have agreed to set Google as their default search engine.

General search services can be delivered to *mobile-device users* via a variety of search access points, such as: (1) a browser; (2) a static search bar (search widget); (3) a search app; (4) voice assistants; and (5) other apps that link to general search engines. General search service providers typically enter into licensing and distribution agreements with mobile device manufacturers and carriers that distribute search access points.[85]

Google shares a portion of its search advertising revenue with Android device manufacturers, mobile phone carriers, competing browsers, and Apple in exchange for Google becoming the default general search engine for the most crucial search access points on computer and mobile devices. In the case of Apple, it must make Google's search engine the default for Safari and use Google for Siri and Spotlight in response to general search queries. Google pays Apple billions of dollars in advertising revenue each year for this privileged access to Apple's massive consumer base,[86] with public estimates ranging between $8 and $12 billion. According to the DOJ, Google's revenue share with Apple accounts for approximately 15-to-20 percent of Apple's total net income.[87] The DOJ asserts that Google's exclusionary agreements on mobile devices cover more than 80 percent of all U.S. search queries, and almost half of the remaining search queries not covered by Google's exclusionary contracts occur on Google-owned search access points.[88]

---

83. *Id.* at 17.

84. *See Desktop Browser Market Share United States of America 2020-2021*, STATCOUNTER, https://gs.statcounter.com/browser-market-share/desktop/united-states-of-america/#yearly-2020-2021-bar (last visited Feb. 21, 2023).

85. Complaint, *supra* note 3, at 18.

86. Daisuke Wakabayashi & Jack Nicas, *Apple, Google and a Deal That Controls the Internet*, N.Y. TIMES (Oct. 25, 2020), https://www.nytimes.com/2020/10/25/technology/apple-google-search-antitrust.html; Hemant K. Bhargava, *Google Antitrust Case Suggests Apple Should Be in the Department of Justice's Crosshairs Too*, CONVERSATION (Oct. 29, 2020, 8:30 AM EDT), http://theconversation.com/google-antitrust-case-suggests-apple-should-be-in-the-department-of-justices-crosshairs-too-148691.

87. Complaint, *supra* note 3, at 37.

88. *Id.* at 18. Google's distribution agreements are classified into three types. First, Google requires Android device manufacturers that want to preinstall Google's proprietary apps to sign an "anti-forking" agreement, which limits the manufacturers' ability to sell Android devices that do not meet Google's technical

The government concludes that while it is possible to change the search default, "few people do, making Google the de facto exclusive general search engine. That is why Google pays Apple billions on a yearly basis for default status." [89] In the next Part, I review the DOJ's theory in more detail and the evidence of default effects in search.

II. WHAT'S THE VALUE OF DEFAULTS?

A. DEFAULTS TO BENEFIT FROM PEOPLE'S INERTIA?

The most straightforward explanation of Google's RSA with Apple is that a default position increases Google's market share in search, which Google monetizes with higher ad revenue. The DOJ's complaint suggests that this is Google's main aim to contract with Apple.[90] And the government cites several statements to back this hypothesis.

One is from a Google employee, which noted that "Google's browser agreements [could] be 'a good way to keep [browsers] away from Bing.'"[91] Besides, one of Google's competitors said that "[f]or the most part, despite the simplicity of changing a default setting to enable customer choice, experience shows us that users accept the default search experience that comes with their device or the browser."[92] The value of evidence provided by competitors is particularly ambiguous.[93] But the DOJ complements the statement with a 2018 Google strategy document that asserts that "[p]eople are much less likely to change [the] default search engine on mobile."[94] And internal documents reviewed by the European Commission revealed that a senior Google employee

---

and design standards. Next, Google provides access to its proprietary apps and application program interfaces (APIs) for preinstallation to Android device manufacturers that sign an anti-forking agreement, but only if the manufacturers contractually agree to (1) take a bundle of other Google apps, (2) make certain apps undeletable, and (3) give Google the most valuable and important place on the default home screen. *Id.* at 18–19.

89. *Id.* at 38. The DOJ also states that "[b]eing the preset default general search engine is particularly valuable because consumers rarely change the preset default." *Id.* at 15.

90. *See id.* at 47 ("[O]ne Google executive acknowledged that exclusivity is 'the general philosophy of the RSA or one of the tenets of the value exchanged in the RSA.' Another Google executive noted, 'our philosophy is that we are paying revenue share *in return for* exclusivity.' These agreements are, as that executive further explained, 'really important' because 'otherwise Bing or Yahoo can come and steal away our Android search distribution at any time.'").

91. *Id.* at 50.

92. *Id.* at 17.

93. *See* AREEDA ET AL., *supra* note 13, at 843 ("In 1981, former Stanford Law Professor and then Assistant Attorney General, William Baxter, testified to the US Senate that 'the most useful thing we can know about a merger is what the competitors think about it,' and that when competitors oppose it, 'my instinctive reaction is to approve the merger.' In contrast, when competitors say that they favor the merger, Baxter concluded 'it is a very clear signal . . . that they are looking forward to a lessening of competition.'" (quoting *Federal Antitrust Policy, Hearing Before the Committee on Small Business*, 97th Cong. 111 (1981) (statement of William Baxter, Assistant Att'y General))).

94. Complaint, *supra* note 3, at 17.

conveyed that the value of "preloading" (that is, pre-installation) was that "users just use what comes on the device" and "rarely change defaults."[95]

Nonetheless, strong evidence supports a competing hypothesis: that Google's current market shares largely reflect consumers' preferences (*i.e.*, a case of "deliberate defaulting"). In a recent submission to the Australian Competition Authority, Google notes that 91 percent of searches on Windows desktop devices are conducted using Google Search, despite Bing being the default search engine on Microsoft's pre-installed Edge and Internet Explorer browsers.[96] According to Google, this is evidence that default settings do not lock users in, and "can and do override defaults in [favor] of their preferred service."[97] This argument suggests that, at least for the *computer access points*, defaults people do not prefer have limited power to stick.[98]

Another experience that sheds light on this respect is a recent agreement between Firefox and Yahoo, by which the latter became Firefox's default search engine in Firefox's mobile and desktop versions starting in December 2014.[99] The deal was for five years, but Firefox terminated the contract less than two years after it took effect.[100] According to an expert, "[w]hile [the new default] was a small change, it was part of a number of moves that turned users against Firefox because it didn't always feel as if Mozilla had the user's best interests in mind."[101] The deal apparently hurt Firefox, but it may have benefited Yahoo. Considering search queries from *desktop devices*, Yahoo's market share did go up right when the new contract started (by 2 percent).[102] Because Yahoo's

95. Commission Decision, Case AT.40099 – Google Android, Relating to a Proceeding Under Article 102 of the Treaty on the Functioning of the European Union (the Treaty) and Article 54 of the EEA Agreement (C 2018) 4761 final (July 18, 2018) 1, 171–72.

96. GOOGLE, SEPTEMBER 2021 REPORT ON MARKET DYNAMICS AND CONSUMER CHOICE SCREENS IN SEARCH SERVICES AND WEB BROWSERS 16 (May 7, 2021), https://www.accc.gov.au/system/files/Google_1.pdf. This is Google's Response to an ACCC Issues Paper. *See* DIGITAL PLATFORM SERVICES INQUIRY, AUSTL. COMPETITION & CONSUMER COMM'N (2021), https://www.accc.gov.au/system/files/DPB%20-%20DPSI%20-%20September%202021%20-%20Full%20Report%20-%2030%20September%202021%20%283%29_1.pdf.

97. *Id.* at 10.

98. Internet Explorer was another default that did not stick. *See* Omar Vásquez Duque, *Active Choice vs. Inertia? An Exploratory Assessment of the European Microsoft Case's Choice Screen*, 19 J. COMPETITION L. & ECON. 60, 71 (2023).

99. Chris Beard, *New Search Strategy for Firefox: Promoting Choice & Innovation*, MOZILLA BLOG (Nov. 19, 2014), https://blog.mozilla.org/en/mozilla/promoting-choice-and-innovation-on-the-web; Frederic Lardinois, *Yahoo Will Become the Default Search Engine in Firefox*, TECHCRUNCH (Nov. 19, 2014, 2:09 PM PST), https://techcrunch.com/2014/11/19/mozilla-partners-with-yahoo-which-will-become-the-default-search-engine-in-firefox-next-month (last visited Feb. 27, 2024).

100. Frederic Lardinois, *Mozilla Terminates Its Deal with Yahoo and Makes Google the Default in Firefox Again*, TECHCRUNCH (Nov. 14, 2017, 12:07 PST), https://techcrunch.com/2017/11/14/mozilla-terminates-its-deal-with-yahoo-and-makes-google-the-default-in-firefox-again.

101. *Id.*

102. *See Desktop Search Engine Market Share United States of America June 2013–Mar 2018*, STATCOUNTER, https://gs.statcounter.com/search-engine-market-share/desktop/united-states-of-america/#monthly-201306-201803 (last visited Jan. 30, 2024). This trend is not visible in search queries from mobile devices. *See Mobile & Tablet Search Engine Market Share United States of America June 2014–Dec 2017*, STATCOUNTER, https://gs.statcounter.com/search-engine-market-share/mobile-tablet/united-states-of-america/#monthly-201406-201712 (last visited Jan. 30, 2024).

market share does not appear to change in countries where Yahoo's penetration followed a similar pattern prior to the contract's implementation, it appears reasonable to assume that Yahoo's higher market share resulted from its default status.[103] And since Firefox's market share was close to 20 percent in the browsers market, a status quo effect of 10 percent explains Yahoo's 2 percent higher market share in search. Nevertheless, by December 2015, Yahoo's market share would return to baseline levels.[104]

The correlation between Edge's market share and Bing's is a strong argument in the sense that Bing does not benefit from a substantial status quo effect. It also shows that default *internet browsers* do not necessarily stick.[105] The Firefox-Yahoo agreement shows, however, that if default effects existed for Yahoo, they were relatively small and virtually disappeared in less than a year.

Another important data point comes from Europe. Because of the recent European Android case—which has important similarities with the DOJ's 2020 complaint—the European competition authorities mandated Google to display a choice screen that forced all Android users to choose the search engine they wanted as their default. Google displayed this choice screen in March 2020. As Figure 2 below shows, there was no variation in Google's market share after the intervention took place. One may hypothesize that Google's market share could have increased without the choice screen. But such a trend is not visible in other developed countries that the figure depicts as a control group.[106]

103. This is still a crude analysis that does not account for changes in Firefox's market share. However, Firefox' market penetration is relatively stable during the period. *See* Omar Vásquez Duque, Taking Behavioral Antitrust Seriously: On Default Agreements as Exclusive Dealing and Default Randomization as a Remedy to Promote Competition 27–29, (Aug. 22, 2023) (unpublished manuscript) (https://papers.ssrn.com/abstract=4548662).

104. Yahoo's market share in mobile devices did not show any meaningful variation after December 2014, but Firefox has had a negligible market share in the mobile segment of internet browsers. *See Mobile Browser Market Share United States of America Jan 2015–Jan 2017*, STATCOUNTER, https://gs.statcounter.com/browser-market-share/mobile/united-states-of-america/#monthly-201501-201701 (last visited Jan. 30, 2024).

105. This was also the case with Internet Explorer. *See* Vasquez Duque, *supra* note 98, at 66.

106. A recent study with richer data finds that the choice screen lowered Google's market share in Russia and Turkey but had negligible effects in the rest of Europe. Francesco Decarolis & Muxin Li, *Regulating Online Search in the EU: From the Android Case to the Digital Markets Act and Digital Services Act*, 90 INT'L J. INDUS. ORG., Sept. 2023, at 1. As of June 2024, there is no evidence showing meaningful effects of choice screens in democratic free-market economies.

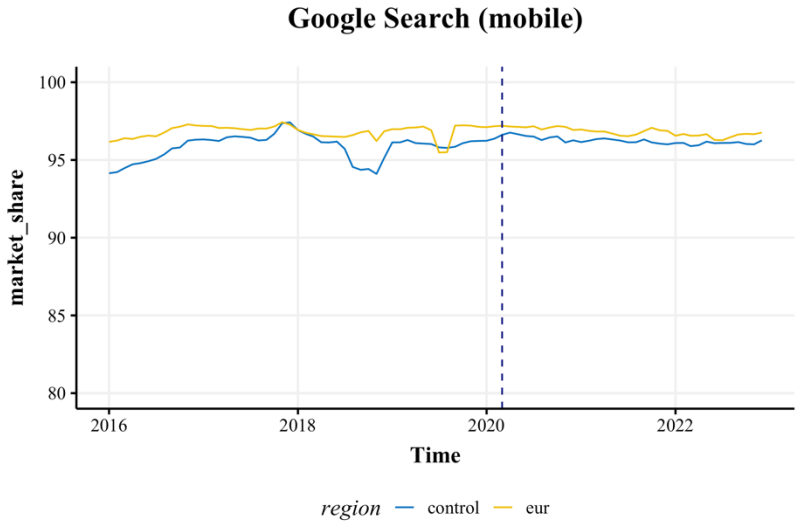

Figure 2: Google's market share in Europe and Controls 2016-2022

B. THE VALUE OF RSAS BEYOND STATUS QUO EFFECTS

If Google's market share does not change when it is the default and when people are forced to choose, then why would Google be interested in pursuing RSAs? According to Bing, each percentage of market share in search yields $2 billion of profits in advertising.[107] And that is just the value for Bing. Google charges higher prices for ads, around 30 percent higher than Bing's.[108] If Google's and Bing's costs were similar, each market share percentage would be worth $2.6 billion for Google. Any status quo effect above 4.7 percent would make the RSA profitable.

To determine the value of the RSA, it is critical to consider sensible counterfactuals. A $12 billion payment would still make sense if another search engine would steal 4.7 percent of Google's market share becoming Apple's default. And default effects benefiting search engines other than Google may well occur. This is what the Firefox-Yahoo agreement suggests. But would Bing or another rival of Google have incentives to bid higher than Google? This is a

107. Sheila Dang, *Exclusive: Microsoft's Bing Plans AI Ads in Early Pitch to Advertisers*, REUTERS (Feb. 17, 2023, 11:17 AM PST), https://www.reuters.com/technology/microsofts-bing-plans-ai-ads-early-pitch-advertisers-2023-02-17. It is important to point out that this is the value of each percentage point under the current market structure, which is far from competitive.

108. Kedet, *Microsoft Bing Ads vs Google Ads*, WAR ROOM (July 16, 2021), https://www.warroominc.com/institute-library/blog/bing-ads-vs-google-ads.

crucial point that any analyst should consider when building a reasonable counterfactual to assess Google's RSAs.

1. Monopoly Profits Exceed Duopoly Profits[109]

It is very unlikely that Bing would bid higher than Google for default status. The RSA has a very different value for Google and its rivals. For the dominant incumbent, the agreement allows it to keep charging monopolistic prices for advertising. Yet the current setting also benefits Apple, which profits from advertising without even participating in the ads market, and Bing, which gets $10 billion annually by keeping a modest market share of 5 percent.

Let's assume a more competitive market would drive advertising prices down by 30 percent.[110] If Bing won the auction to become Apple's default paying just a little more than $12 billion a year, it would need to reach a market share of 16 percent—an increase of 9 percent—just to break even. But Bing would anticipate a price war if it stole a substantial part of Google's market share. Since Google is still perceived as the best-quality search engine and its market share is much larger than any of its competitors', the price war threat is a credible deterrent.

The figure below depicts the "post-entry"[111] price reactions, which are key for understanding the rationality of entry and expansion strategies.[112] If there is a dominant firm in any market, a potential competitor will assess its entry based on the post-entry price. If it entered, it would charge a slightly lower price than the pre-entry price (P_E) to gain market share—assuming the product quality is homogenous; if the entrants' quality is inferior, she will have to charge a lower price that accounts for the quality difference. But P_E is not the end of the story. The incumbent will have incentives to charge a lower price than the entrant to drive it out of the market. If the incumbent starts a price war, the entrant must continue lowering its price to match the incumbent's discounts. The equilibrium

109. I borrowed this title from Salop's excellent article about potential competition. *See* Steven Salop, Potential Competition and Antitrust Analysis: Monopoly Profits Exceed Duopoly Profits (Apr. 28, 2021) (OECD working paper) (https://scholarship.law.georgetown.edu/facpub/2380).

110. This is the typical drop in prices of pharmaceutical drugs after the first generic's entry. Prices continue going down over time. Richard G. Frank, Thomas G. McGuire, & Ian Nason, *The Evolution of Supply and Demand in Markets for Generic Drugs*, 99 MILBANK Q. 828, 835 (2021).

111. "Post-expansion" is a better fit for this analysis.

112. Steven Salop has recently nicely developed this point. *See* Salop, *supra* note 109, at 3–6. The post-entry price responses discussed in this section are an important driver of pay-for-delay agreements, which are common in the pharmaceutical industry. *See, e.g.*, C. Scott Hemphill, *Paying for Delay: Pharmaceutical Patent Settlement as a Regulatory Design Problem*, 81 N.Y.U. L. REV. 1553, 1557 (2006). An originator may sue a generics company for patent infringement right before the latter's entry to the market. Later, the firms settle, and the originator pays the generics company, which agrees not to enter the market for a period. Some have called these agreements "payments for delay." *See* Aaron Edlin, C. Scott Hemphill, Herbert J. Hovenkamp, & Carl Shapiro, *Activating* Actavis, 28 ANTITRUST 16, 16 (2013).

price (P*) may well be below the entrant's breakeven price.[113] The monopolist can incur substantial losses expecting to recoup them with future monopolistic profits.

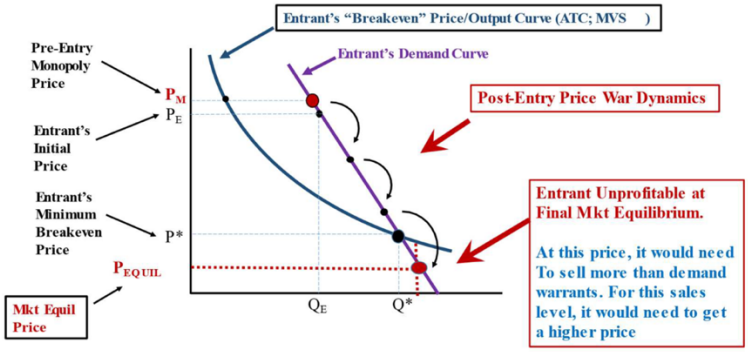

Figure 3: "Post-entry" price reactions[114]

This logic is what explains the *horizontal* anticompetitive effect of the RSA. The $12 billion RSA increases the potential entrant's (for example, Bing or another search engine interested in becoming Apple's default) breakeven price. That is how the RSA makes competition to be Apple's default impossible. But this is something the complaint overlooks. In fact, the DOJ states that Bing, Yahoo, and DuckDuckGo could compete to become Apple's default in a competitive market.[115] Yet, if such competition is an auction, Google will be the one that will bid the highest. This is because monopoly profits are higher than duopoly profits.

A hypothetical algebraic example is in order. Assume Bing gets the default position for $12.5 billion, and it gains a market share of 10 percent due to a status quo effect. A simplistic analysis would conclude this is the end of the story with Bing making $7.5 billion in profits.[116] But if Bing gets a larger user base, it becomes more attractive for advertisers. Then advertisers can demand a lower price from Google. And Google must lower its price to keep its market share in

113. This is a possible equilibrium, but not the only possible one. The incumbent may well find the price-war too costly and decide to accommodate instead. *See* JEAN TIROLE, THE THEORY OF INDUSTRIAL ORGANIZATION 326–28 (1998). For incumbents, especially those with very large market shares, it may make sense to neglect the entrant and avoid a price war. Entry is accommodated when structural entry barriers are low and either (a) entry-deterring strategies are ineffective or (b) the cost to the incumbent of attempting to deter entry outweighs the benefits of keeping the entrant out. In markets with rising demand or rapid technological advancements, accommodating entry is common. *See* DAVID DRANOVE, DAVID BESANKO, & MARK SHANLEY, SCOTT SCHAEFER, ECONOMICS OF STRATEGY 186–214 (7th ed. 2017). But Google's access to people's data prevents the market from reaching tipping points that would be common in markets where entrants are the main drivers of innovation.

114. The figure is borrowed from Steven Salop's article. Salop, *supra* note 109, at 5.

115. *See* Complaint, supra note 3, at 50.

116. This is $2 billion per each percent of market share, times 10, minus the contract price.

the ads market. Since Google is still most people's preferred search engine, Bing must lower its price to make up for the quality difference. At some point the iterations end, and the market reaches new equilibrium prices. Before entry, Bing made $10 billion in ads. After becoming Apple's default, Bing's profit will be a function of its post-default market share and the post-default price of ads. For Bing, it only makes sense to bid $12.5 billion if it gains enough market share to make up for the decrease in ad prices, which not only affects the market share it gains after reaching a larger penetration but also its pre-default market share.[117] The fact that Bing has not bid higher than Google suggests it would not gain a large market share by becoming Apple's default and/or that ad prices would go down substantially if the market was more competitive.

However, the anticompetitive harm of the RSA is more substantial than a mere increase in the breakeven price of Google's current competitors. The RSA not only makes competition to become Apple's default irrational but also eliminates Apple's incentives to enter search. In fact, Apple's entry into the search market would deprive the company of the RSA revenue. Nowadays, Apple only participates in the search market as a distributor, but some years ago, Apple was a mere distributor of maps as well. Arguments about a firm's capacity to expand and enter new markets can be speculative and lack the administrability to guide law enforcement. The next section addresses administrable legal tests to appraise cases dealing with potential competitors. Said tests are particularly important for analyzing the relationship between Google and Apple from a dynamic antitrust perspective.

III. POTENTIAL COMPETITION

The role of potential competitors in antitrust policy has been recognized for a long time in economics,[118] but it had not received much attention in legal scholarship until recently.[119] This is even though some of the most influential antitrust cases in the U.S. dealt with the exclusion of potential rivals. For instance, in *Standard Oil*, the Supreme Court regarded the defendant's conduct as an effort "to destroy the 'potentiality of competition' which otherwise would have existed."[120] In *Microsoft*, Netscape did not compete in the OS market. Yet the DC Circuit determined that Microsoft's exclusion of Netscape was sufficient for causation because "the exclusion of nascent threats is the type of conduct that is reasonably capable of contributing significantly to a defendant's

117. This is Bing's post-default revenue (market share post-default * ad prices post-default) – Bing's pre-default revenue (market share pre-default * pre-default ad prices) > $12.5 billion.

118. *See, e.g.*, David T. Scheffman & Pablo T. Spiller, *Buyers' Strategies, Entry Barriers, and Competition*, 30 ECON. INQ. 418, 418 (1992).

119. *See, e.g.*, C. Scott Hemphill & Tim Wu, *Nascent Competitors*, 168 U. PA. L. REV. 1879, 1881 (2020); A. Douglas Melamed, *Mergers Involving Nascent Competition* 2 (Stan. L. & Econ. Olin Working Paper, Paper No. 566, 2022), https://ssrn.com/abstract=4009229.

120. Standard Oil Co. v. United States, 221 U.S. 1, 74 (1910).

continued monopoly power."[121] And in *Federal Trade Commission v. Actavis*,[122] the Court did not question that the generics company had not entered the market.[123]

More lately, antitrust scholars have started discussing mergers involving nascent competitors, a common practice in venture-capital-backed industries. The doctrine of potential competition is especially fruitful in the start-up world due to the relevance of exit through acquisitions.[124] This Article discusses merger control in the following paragraphs to then use the criteria outlined in the recent *FTC v. Meta* case to shed light on a general test of potential competition. In fact, theories of anticompetitive harm premised on potential competition concerns are not restricted to merger analysis.[125]

A. *FTC V. META*

In *FTC v. Meta*,[126] the FTC challenged Meta Platforms Inc.'s acquisition of virtual reality ("VR") app developer Within Unlimited, Inc. Meta had a prominent participation in virtual reality devices and applications, but at the time of the transaction, it did not have a dedicated fitness virtual reality app—those designed so users can exercise in a virtual setting. The FTC asserted that the proposed acquisition would substantially lessen potential competition in said market, assuming that Meta would have entered the market independently if it had not acquired Within. Judge Edward J. Davila of the United States District Court for the Northern District of California denied the motion of the FTC to grant a preliminary injunction blocking the acquisition. However, Judge Davila also denied the defendant's motion to dismiss the complaint.

The FTC argued that Meta was both an *actual* and *perceived* potential competitor in the relevant market. The former theory means that Meta would have entered the market and directly competed with Within if there had been no union between the acquirer and target firms. The latter that the mere threat of Meta's entry stimulated competition in the relevant market. The court

121. United States v. Microsoft Corp., 231 F. Supp 2d 144, 163 (D.D.C. 2002).

122. 570 U.S. 136 (2013).

123. *Id.* at 145. The Court explained:

> An unexplained large reverse payment itself would normally suggest that the patentee has serious doubts about the patent's survival. And that fact, in turn, suggests that the payment's objective is to maintain supracompetitive prices to be shared among the patentee and the challenger rather than face what might have been a competitive market—the very anticompetitive consequence that underlies the claim of antitrust unlawfulness. The owner of a particularly valuable patent might contend, of course, that even a small risk of invalidity justifies a large payment. But, be that as it may, the payment (if otherwise unexplained) likely seeks to prevent the risk of competition. And, as we have said, that consequence constitutes the relevant anticompetitive harm. In a word, the size of the unexplained reverse payment can provide a workable surrogate for a patent's weakness, all without forcing a court to conduct a detailed exploration of the validity of the patent itself.

Id. at 157–58 (citation omitted).

124. *See, e.g.*, Mark A. Lemley & Andrew McCreary, *Exit Strategy*, 101 B.U. L. REV. 1, 6–8 (2021).

125. Salop, *supra* note 109, at 13.

126. Fed. Trade Comm'n v. Meta Platforms Inc., 654 F. Supp. 3d 892, 929 (N.D. Cal. 2023).

recognized both theories as viable bases for violations of section 7 of the Clayton Act.

The defendants contended that the theory of potential competition was unworkable because the Supreme Court had not fully endorsed it. The District Court refused to reject the theory outright, citing the doctrine's "consistent, albeit distant, history of judicial recognition."[127] Regarding the *actual* potential competition theory, the court stated that the FTC needed to satisfy two elements. First, the potential entrant must have "available feasible means" for entering the market. Second, that those means offer a substantial likelihood of deconcentrating the market.[128] Concerning the *perceived* potential competition theory, the court wrote that the FTC must establish that Meta's "premerger presence on the fringe of the target market in fact tempered oligopolistic behavior on the part of existing participants in that market."[129]

Judge Davila found the relevant market was highly concentrated. Besides, new entry was possible but difficult. Interestingly, the court addressed separately the substantive tests to meet for each theory of harm,[130] and the standard of proof for Clayton Act section 7 cases.[131] The District Court defined the evidentiary standard for a potential competition analysis under Clayton Act section 7 as "reasonable probability," which it specified as a "likelihood noticeable greater than fifty percent."[132] Then it determined that the FTC had failed to demonstrate that Meta had "available feasible means" for entering the relevant market de novo—despite its admitted capabilities and interest.[133]

B. WORKABLE LEGAL TESTS BEYOND MERE SPECULATION

According to the *FTC v. Meta* decision, to find out if a business union restricts *actual* potential competition, a court should determine whether (1) the defendant possessed the characteristics, capabilities, and economic incentive to enter the market; and (2) that those means offered a substantial likelihood of deconcentrating the market. This test is markedly similar with those that European authorities have designed to operationalize analogous cases.[134] This is even though the *FTC v. Meta* decision deals with merger control, while most of the European cases have dealt with anticompetitive agreements—especially pay-for-delay arrangements.

127. *Id.* at 926.
128. *Id.* at 924.
129. *Id.* at 939–40.
130. *Id.* at 940.
131. *Id.* at 927.
132. *Id.*
133. *Id.* at 934.
134. On the European treatment of potential competition cases, see Niamh Dunne, *Potential Competition in EU Law* 12 (London Sch. of Econ. & Pol. Sci. Legal Stud. Working Paper, Paper No. 08/2021, 2021), https://papers.ssrn.com/abstract=3871310.

Consistent with the European test, a potential competitor is a firm with real and concrete possibilities to enter the market. While "pure speculation" is not sufficient to conclude a firm is a potential entrant, the likelihood of entry must not be demonstrated with certainty. In particular, a plaintiff must prove that the defendant has the (i) "inherent ability" and (ii) "firm intention" to enter the market, (iii) within a reasonable period.[135] Unlike the recent *FTC v. Meta* decision, the European Court of Justice has not shed light on a particular standard of proof; yet it has emphasized that the inferences about the firms' likelihood of entry should stem from two factors: (i) whether there are unsurmountable entry barriers in the market, and (ii) whether the allegedly potential entrant has taken any preparatory steps to enter.[136] The absence of substantial barriers to entry indicates that entry is possible in principle. Evidence of actual preparatory steps taken by an identified prospective rival confirms that entry is feasible in practice.[137]

Generally, both the U.S. and European approaches rely on whether the alleged potential entrant has (i) the *objective capability*, and (ii) *strong incentives* to enter the market—which make entry likely. The perception of market actors regarding the probability of entry permits inferring both elements of the test. The analytical difference between the market participants' perceptions and the test of legality itself has been recognized in European jurisprudence.[138] Preparatory steps taken by the potential rival also allow inferring both (i) objective capability and (ii) strong incentives to enter. Documentary evidence is particularly helpful for inferring a firm's interest in entry.[139] Distinguishing the test elements and factual bases that allow inferring the former is critical for avoiding redundant tests that set an excessively high bar to meet.

A note about the standard of proof is in order. In *FTC v. Meta,* the court stated that a "reasonable probability" standard was appropriate for Clayton Act section 7 cases.[140] To apply the standard, the court conducted an examination of all possible paths that Meta could have taken to enter the market on its own.[141] It discounted all uncertainties in favor of the defendant. Hovenkamp notes that the principle should have been that the market would find a way, and it should not be the plaintiff's responsibility to show the specific route of how the acquirer

135. *See id.* at 5.

136. *Id.*; *see also* Case C-307/18, Generics (UK) Ltd. v. Competition and Mkts. Auth., ECLI:EU:C:2020:52, ¶¶ 43–44 (Jan. 30, 2020).

137. Dunne, *supra* note 134, at 7.

138. Case C-591/16 P, Lundbeck v. Comm'n, ECLI:EU:C:2021:243, ¶ 47 (Mar. 25, 2021).

139. This is a point that Hemphill and Wu develop in detail. *See* Hemphill & Wu, *supra* note 119, at 1906. Besides, the particular conditions of the agreement can shed light on whether the parties regard themselves as potential competitors. For instance, in *Fed. Trade Comm'n v. Actavis, Inc.*, 570 U.S. 136, 154 (2013), the Court stated that the reverse payment agreement showed that Actavis regarded the generics company as a potential rival.

140. Fed. Trade Comm'n v. Meta Platforms Inc., 654 F. Supp. 3d 892, 935 (N.D. Cal. 2023).

141. *Id.* ("[T]he evidence must show that Meta had *some* feasible and reasonably probable path to *de novo* entry.").

would enter the market.[142] However, it is important to have specific hypotheses to test in each case to assess whether the firm's incentives are strong enough to enter the market. The "firm intention" and "preparatory steps" indicia used in European law can help operationalize the reasonable probability standard—at least for *actual* potential competition theories.[143]

Theories simply suggesting in abstract that a would-be competitor threatens an incumbent do not operationalize the core elements of the test of legality. In contrast, concrete hypotheses about specific and plausible channels of entry do shed light about a firm's objective capacity and incentives to enter. Strong indicia of preparatory steps rule out potential concerns that the claim lacks merit. For instance, in *FTC v. Meta*, there was evidence that Meta had considered acquiring Whitin's competitor.[144] However, the court did not delve further into such hypothesis because the FTC brought the case assuming Meta would enter *de novo*.[145]

Nevertheless, the more interesting and challenging cases are those when there is no clear evidence of preparatory steps. Notably, in European law, the "firm intention" element is not essential for a potential competition case to succeed.[146] As noted above, in monopolistic markets the pie to share is larger than in a duopoly. Suppose a monopolist foresees that a firm with objective capacity to enter could develop incentives to compete with it in the short term. Let's assume most driver assistance services are provided by several players, even by some car manufacturers that have an in-house AI team. But there is only one firm that has successfully developed self-driving services (*i.e.*, a monopolist). One of the car manufacturer's AI team is particularly good. It has systematically developed strong driving assistance for its customers and could develop self-driving technology in the short-term. This company's innovations have been rewarded by a large share of consumers, making it one of the largest

142. Herbert Hovenkamp, *Reclaiming the Antitrust Law of Potential Competition Mergers*, PROMARKET (Feb. 27, 2023), https://www.promarket.org/2023/02/27/reclaiming-the-antitrust-law-of-potential-competition-mergers.

143. As Dunne notes:

> The emphasis in recent [European] case-law on individual efforts towards entry, and not merely the abstract question of the possibility of entry by any suitably situated would-be challenger, suggests that the concept of "potential competition" as currently envisaged in EU law is primarily a question of *existing* competitive constraints. Thus, potential competition is something "exerted" by defined undertakings, rather than existing as a mere background possibility with a market. In this regard, the concept may be narrower than that utilized in the merger control context, where the definition of a potential competitor encompasses both prospective rivals that "already exert a significant constraining influence" on the other merging party *and* where there is "a significant likelihood that it would grow into an effective competitive force.

Dunne, *supra* note 134, at 7.

144. *Meta Platforms*, 654 F. Supp. 3d at 908. Part of the text is blacked out due to confidentiality concerns.

145. *Id.* at 938.

146. Dunne, *supra* note 134, at 8 ("Unlike ability, intention to enter cannot however be construed as an *essential* component of the potential competition concept. This is clear from *Toshiba*, where the Asia-based defendants' claims that they had no interest even in attempting entry into markets in Europe provided no defence to the Commission's holding that the market-sharing cartel restricted potential competition.").

car manufacturers in the economy. Competing with the monopolist may not be a priority for the car manufacturer, but the option is not outside of the table. If the company had to find new revenue sources, its strong AI team would be one of the few that could develop an alternative self-driving service. As a defensive measure, the monopolist offers to share part of its monopolistic profits with a generous exclusivity agreement (*i.e.*, the car manufacturer receives a large payment to deal exclusively with the self-driving technology monopolist). If this happened, there would be no preparatory steps taken by the potential entrant. The monopolist would prevent its hypothetical rival from even exploring the possibility of competing with it. The threat of entry places the car manufacturer in a good position to demand a payment large enough to deal exclusively with the monopolist. Thus, cooperating with the monopolist becomes the potential rival's best response. This is what Google has done with Apple.

As Salop has pointed out, the "reasonable probability" standard set forth in *FTC v. Meta* is excessive.[147] It substantially exceeds the usual section 7 evidentiary burden for horizontal mergers, where "reasonable probability" is normally treated as a probability lower than more-likely-than-not. For traditional mergers, the government only needs to show an "appreciable danger," and where "doubts are to be resolved against the transaction." It is also inconsistent with the treatment of restraints on potential or nascent competition in Sherman Act litigation, where one normally would expect a higher standard."[148] For example, in its application of section 1 in *Actavis*, the Supreme Court did not require the FTC to show that Actavis' patents were more-likely-than-not to be invalid or uninfringed to justify preventing Actavis from paying generic pharmaceutical companies to stay out of its market.[149] It will be intriguing to observe the evolution of the standard of proof in U.S. case law, particularly if the Clayton Act's standard aligns more closely with that of the Sherman Act. Since a rule of reason analysis assesses the efficiencies of restraints to competition vis-à-vis their cost, there does not seem to be strong reasons to be concerned about false positives.

One may argue that this Article's argument would force potential entrants to compete. But that is not accurate. Instead, this Article argues that current

147. Salop Steven, *An Excessive Evidentiary Burden Sunk the FTC's Case Against the Meta/Within Merger*, PROMARKET (Feb. 22, 2023), https://www.promarket.org/2023/02/22/an-excessive-evidentiary-burden-sunk-the-ftcs-case-against-the-meta-within-merger.

148. *Id.*

149. Fed. Trade Comm'n v. Actavis, Inc., 570 U.S. 136, 157–58 (2013). In this case, the US Supreme Court had to rule whether reverse payment agreements were *per se* lawful. The answer was a categoric no. *Id.* at 141. The core of the Court's decision was that payments to avoid competition were against the antitrust laws. Since reverse payment agreements may have legitimate justifications (such as high uncertainty about a patent's validity) and the distinction between legitimate agreements and payments to avoid competition is not obvious, a rule of reason analysis is necessary to assess the agreements' legality. *Id.* at 158. In *Actavis*, the size of the unexplained reverse payment provided an inference that the defendant's patent was invalid, and that the settlement was anticompetitive. *Id.* at 154. The dissent argued that agreements that restricted competition within the patent scope should be immune from antitrust scrutiny. *Id.* at 160 (Roberts, C.J., dissenting).

antitrust law prevents potential competitors from unreasonably restricting competition among themselves. U.S. antitrust law is clear: payments to avoid or delay competition are illegal.[150] Since it is not simple to distinguish legitimate agreements from payments to delay competition, courts must assess the legality of these agreements on a case-by-case basis. They must determine whether the defendant's justifications for the alleged anticompetitive conduct are sensible. If that is the case, then they must appraise whether there is a less restrictive alternative to achieve the same efficiencies or whether the anticompetitive costs exceed the efficiencies.[151] The following Part assesses the DOJ's 2020 complaint using the analytical framework presented in this Article.

IV. ASSESSMENT OF THE DOJ'S 2020 COMPLAINT

This work has provided an overview of how defaults may be used to restrict competition and discussed the main objectives that search engines may pursue with default agreements. It should be evident now that the legal and economic landscapes are more complex than what the DOJ suggests in its complaint. As noted, the DOJ's case relies on the theory that Google intends to benefit from people's inertia. This section critically assesses this hypothesis and argues that the Google-Apple RSA should also—and perhaps primarily—be regarded as a non-compete arrangement.

U.S. antitrust law requires a causal link between the challenged exclusionary conduct and the acquisition or maintenance of that power, not just "monopoly power" in the abstract.[152] The RSA itself forecloses search access points insofar Apple is willing to set another search engine as its default. That is not necessarily the case, but the RSA does increase the breakeven price of any rival of Google interested in becoming Apple's default. Since monopoly profits are higher than duopoly profits, it is virtually impossible for any rival of Google to become Apple's default (see Part III.B). The anticompetitive effects of the RSA are clearer when considering what incentives the main players would have if there were no RSA at all.

A. THE RSA AS A NON-COMPETE AGREEMENT

If Google did not renew the RSA with Apple, the latter would lose $12 billion annually. As a response, Apple could (i) do nothing and stay as a mere

150. As Edlin, Hemphill, Hovenkamp, and Shapiro put it in the context of pay-for-delay agreements, "[t]he question is when a court can reasonably infer that a reverse payment is a payment for delay, or in other words, a payment to avoid competition". Aaron Edlin, Scott Hemphill, Herbert Hovenkamp & Carl Shapiro, *The* Actavis *Inference: Theory and Practice*, 67 RUTGERS U. L. REV. 585, 586 (2015).

151. *See, e.g.*, MELAMED ET AL., *supra* note 34, at 1030.

152. A causal link of this kind is implicit in the language of section 2 of the Sherman Act, which makes it illegal to "monopolize," "attempt to monopolize," or "conspire. . . to monopolize." 15 U.S.C. § 2. As Elhauge notes, the "-ize" suffix is meaningful because it indicates that the gravamen of the offense is the illegal creation or maintenance of a monopoly power that would not otherwise exist, at least not to the same extent. Einer Elhauge, *Defining Better Monopolization Standards*, 56 STAN. L. REV. 253, 331 (2003).

distributor of search engines showing a choice screen or unilaterally setting the default its users prefer, or (ii) enter search and advertising; either alone or by partnering with a rival of Google. The first but-for-world would likely be a short-term solution while Apple prepares to enter search.

1. *Apple Sets the Default Its Users Prefer*

If Google did not renew the RSA and Apple could not partner with one of Google's rivals (a hypothesis discussed below), Apple would maximize just one source of profit: the sale of its devices. In fact, Apple makes its devices more valuable by choosing the defaults that its customers prefer. In fact, it developed its own Maps application after realizing that Google provided better map features to Android users,[153] which lowered the value of iPhones. Since default applications are one of many product attributes people may care about, Apple would have incentives to set the default its users prefer. Alternatively, Apple could show a choice screen and let each user select its preferred default.

Setting defaults people dislike can hurt a firm's bottom line.[154] The choice of defaults is constrained by possible user dissatisfaction and reputational concerns.[155] Consider an Apple executive preparing to launch the iPhone, deciding whether to set a default search engine and, if so, which one to choose. Without a default, consumers would either have to manually enter a search engine's address in the browser's bar to conduct a search, download a search app, or set their default with a choice screen. Apple would be best served by presetting a search engine that was, ideally, the preferred option of most users. Almost half of Apple's revenue comes from iPhones.[156] Any downgrade in its phone quality could substantially impact Apple's revenue in the cellphones market.[157]

Reputational costs are not an unsupported hypothesis. As noted, in 2014, Yahoo partnered with Mozilla to be Firefox's default search engine. The deal between Mozilla and Yahoo was for a period of five years. But Mozilla

153. Jay Peters, *Apple Maps Turns 10 — And It's Finally Worth Using*, THE VERGE (Sept. 2, 2022, 7:00 AM), https://www.theverge.com/23323550/apple-maps-10-year-anniversary-iphone-google.

154. Vasquez Duque, *supra* note 98, at 62.

155. In addition to the agreement between Firefox and Yahoo, Samsung recently expressed it may switch to Bing as its default but has since quashed that intent. *See* Jiyoung Sohn, *Google Is Spared a Search-Engine Switch by a Major Partner*, WALL ST. J. (May 19, 2023, 6:06 AM EST), https://www.wsj.com/articles/google-is-spared-a-search-engine-switch-by-a-major-partner-f06b734f.

156. *See* Federica Laricchia, *Apple's Revenue Share by Operating Segment 2012-2022, by Quarter*, STATISTA (Dec. 8, 2022), https://www.statista.com/statistics/382260/segments-share-revenue-of-apple [https://web.archive.org/web/20230306034320/https://www.statista.com/statistics/382260/segments-share-revenue-of-apple].

157. During an investigation conducted by the British Consumers and Markets Authority (CMA), Apple indicated that its choice of "primary default search engine provider is 'based on performance and whether it will result in the best consumer experience when using Apple services on an Apple product'." *See* COMPETITION AND MKTS. AUTH., ONLINE PLATFORMS AND DIGITAL ADVERTISING MARKET STUDY app. H at H14, https://assets.publishing.service.gov.uk/media/5fe4956ad3bf7f089e48deca/Appendix_H_-_search_defaults_v.6_WEB.pdf (July 1, 2020).

terminated the agreement only after three years because Yahoo's search quality failed to maintain users and search volumes over time.[158] Yahoo's parent company sued Mozilla for breach of contract.[159] Mozilla responded with a cross-complaint,[160] claiming that "Yahoo Search consistently failed to retain users and search volume over time, reducing the potential revenue [for Mozilla] . . ."[161] However, what explains Firefox's decision is its loss of advertising revenue. Google provides more relevant results and is people's preferred search engine, which translates into higher profits for internet browsers, such as Mozilla Firefox.

2. *Apple Enters Search*

If Google did not renew the RSA, Apple's most likely best response would be to enter search. As noted, according to Bing, each percentage of market share in search yields $2 billion of profits in advertising.[162] Even if Apple gained a modest market share after entry and the post-entry ad prices went down significantly, entering search would be Apple's best response if the cost of developing its own search engine plus possible reputational costs were lower than its expected benefit.

Each search engine needs an *index*[163] to operate. Nowadays there are only two search indexes in the U.S.: Google and Bing. Yahoo's internet search is powered by Bing, although Yahoo controls the design and results displayed on

158. Gregg Keizer, *Mozilla Reports $338M Revenue Spike from Settlement over Yahoo Contract*, COMPUTERWORLD (Dec. 8, 2020, 12:15 PM PST), https://www.computerworld.com/article/3600206/mozilla-reports-338m-revenue-spike-from-settlement-over-yahoo-contract.html; *see also* AUSTRALIAN COMPETITION & CONSUMER COMM'N, DIGITAL PLATFORM SERVICES INQUIRY - SEPTEMBER 2020 INTERIM REPORT 80 (2020), https://www.accc.gov.au/system/files/ACCC%20Digital%20Platforms%20Service%20Inquiry%20-%20September%202020%20interim%20report.pdf.

159. Greg Sterling, *Yahoo Parent Sues Mozilla for Replacing It with Google as Firefox Default Search*, SEARCH ENGINE LAND (Dec. 6, 2017, 4:30 PM), https://searchengineland.com/yahoo-parent-sues-mozilla-replacing-google-firefox-default-search-287872.

160. Brian Heater, *Oath and Mozilla Are Suing Each Other After Firefox Switches Back to Google Search*, TECHCRUNCH (Dec. 6, 2017, 7:13 AM PST), https://techcrunch.com/2017/12/06/oath-and-mozilla-are-suing-each-other-after-firefox-switches-back-to-google-search.

161. As Mozilla put it, "[r]ather than focus on improving the quality of its search product, as Yahoo assured Mozilla it would prior to entering into the deal, Yahoo continually focused on short-term monetization and special events such as the Olympics and the election, at the expense of product quality […]." Sterling, *supra* note 159. Mozilla indicated that Yahoo failed to improve its quality and suggested it did it on purpose. Cross Complaint at 24, Yahoo Holdings, Inc. v. Mozilla Corp. (2017) (No. 17-CV-319921).

162. Dang, *supra* note 107. It is important to point out that this is the value of each percentage point under the current market structure, which is far from competitive.

163. *See, e.g.*, Sam Marsden, *Search Engine Indexing*, LUMAR, https://www.lumar.io/learn/seo/indexability/search-engine-indexing (last visited Feb. 3, 2024) ("Indexing is the process by which search engines organize information before a search to enable super-fast responses to queries.").

its search results.[164] DuckDuckGo "largely" sources its results from Bing.[165] Ecosia, a search engine that plants trees with its ad revenue, relies almost entirely on Bing.[166] In 2019, Sridhar Ramaswamy—former head of advertising at Google—launched Neeva, a subscription-based search engine that shows no ads.[167] However, Neeva partially relied on Bing,[168] until it shut down in June 2023.[169]

Neeva's entry was especially interesting and valuable for the present analysis. Neeva followed a radically different business model that assumed people were willing to pay for a privacy-friendly search engine. Although there is abundant evidence documenting the so-called "privacy-paradox,"[170] it raised almost $80 million prior to its acquisition. With its funding, it was on its way to building its own index, which many believed was the best candidate to challenge Google's monopoly.[171] Neeva's entry cost was 4 percent of the value of each

164. Ryan Singel, *Yahoo and Microsoft Join Search Forces*, WIRED (Feb. 18, 2010, 12:32 PM), https://www.wired.com/2010/02/yahoo-microsoft-search.

165. *Where Do DuckDuckGo Search Results Come from?*, DUCKDUCKGO, https://help.duckduckgo.com/duckduckgo-help-pages/results/sources (last visited Feb. 3, 2024) ("Most of our search result pages feature one or more Instant Answers. To deliver Instant Answers on specific topics, DuckDuckGo leverages many sources, including specialized sources like Sportradar and crowd-sourced sites like Wikipedia. We also maintain our own crawler (DuckDuckBot) and many indexes to support our results. Of course, we have more traditional links and images in our search results too, which we largely source from Bing. Our focus is synthesizing all these sources to create a superior search experience.").

166. Jasmine Owens, *How Ethical is the Search Engine Ecosia?*, ETHICAL CONSUMER (Mar. 4, 2021), https://www.ethicalconsumer.org/technology/how-ethical-search-engine-ecosia ("Ecosia's revenue largely comes from Bing's advertisements. The adverts are generated by Bing, and when you click on one Ecosia receives a share of the revenue generated by the click (and the rest of the revenue generated from the click goes to Bing). The only way that Ecosia raises money is through clicks on advertisements. Therefore if you use the search engine but don't click on ads, Ecosia won't make any money and therefore won't be planting any additional trees. It is the ad revenue that enables them to plant trees.").

167. Steven Levy, *A Google Alum Wants to Make Search Pure Again*, WIRED (June 4, 2021, 9:00 AM), https://www.wired.com/story/plaintext-google-search-neeva; Paul Sawers, *Founded by Google's Former Head of Ads, Neeva Brings Its Ad-Free Search Engine to Europe*, TECHCRUNCH (Oct. 5, 2022, 9:15 AM PDT), https://techcrunch.com/2022/10/05/neeva-brings-its-ad-free-search-engine-to-europe; Kara Swisher, *Meet the Man Who Wants You to Give up Google*, N.Y. TIMES (July 29, 2021), https://www.nytimes.com/2021/07/29/opinion/sway-kara-swisher-sridhar-ramaswamy.html.

168. Sawers, *supra* note 167 ("Similar to other 'alternative' search engines, Neeva does lean somewhat on Bing for some of its web searches, though this is something that it's looking to transition away from as it pushes toward relying entirely on its own tech stack—possibly some time within the next year.").

169. David Pierce, *Neeva, the Would-Be Google Competitor, Is Shutting down Its Search Engine*, VERGE (May 20, 2023, 2:58 PM PDT), https://www.theverge.com/2023/5/20/23731397/neeva-search-engine-google-shutdown.

170. The privacy-paradox is that people report they care about their privacy, but they seem to be unwilling to make small sacrifices to protect it. *See* Susanne Barth & Menno D.T. de Jong, *The Privacy Paradox – Investigating Discrepancies Between Expressed Privacy Concerns and Actual Online Behavior – A Systematic Literature Review*, 34 TELEMATICS & INFORMATICS 1038, 1039 (2017); Patricia A. Norberg, Daniel R. Horne & David A. Horne, *The Privacy Paradox: Personal Information Disclosure Intentions Versus Behaviors*, 41 J. CONSUMER AFFS. 100, 101 (2007); Spyros Kokolakis, *Privacy Attitudes and Privacy Behaviour: A Review of Current Research on the Privacy Paradox Phenomenon*, 64 COMPUTS. & SECUR. 122, 123 (2017). On the implications for competition policy, *see* Omar Vasquez Duque & Jörg Hoffmann, *Can Data Exploitation Be Properly Addressed by Competition Law? A Note of Caution*, 1-2021 CONCURRENCES 75 (2021).

171. Pierce, *supra* note 169.

percentage of market share in search for Bing. With said $80 million, Neeva did develop a high-quality alternative to Google. But people were not willing to pay a subscription for a search engine with no ads, which led to Neeva's exit of the market.[172]

Now assume Apple may not develop its own index—an implausible assumption but one that completes the spectrum of potential outcomes. Still, it could partner with Bing, Yahoo, or DuckDuckGo to share a part of their ad revenue in return for greater exposure. In that case, Apple would have incentives to improve whatever combination of indexes powered its new default's results, because that is how it would maximize ad revenue and minimize reputational costs.

The preceding discussion rules out the possibility that there are unsurmountable entry barriers in the search engines market. In fact, a startup built a high-quality search engine within a few years. Thus, at least in terms of technology development, the market is contestable. A different matter is whether there are distribution barriers that make entry irrational. But that is certainly a limitation that Apple does not face. In fact, if substantial status quo effects existed in search, it would be hard to find a better distribution channel than Apple's to exploit people's inertia, gain market share in search, and profit in the ads market.

As noted, the *FTC v. Meta* potential competition test appraises whether (1) the defendant possesses the characteristics, capabilities, and economic incentive to enter the market; and (2) that those means offer a substantial likelihood of deconcentrating the market. Apple has the *objective capacity* to enter search. In fact, recent notes report that Apple's search engine could be at least four years away.[173] It may seem irrational that Apple has employees working on a project that would deprive the company of 20 percent of its worldwide net income. However, developing an in-house rival to the dominant search engine increases Apple's bargaining power in the annual negotiations with Google. And the more credible Apple's entry into the market is, the more it can demand from the current monopolist. As long as Google's RSA with Apple is allowed, both company's best strategy is to partner with each other to share the monopolistic profits of Google.

With no RSA, Apple would have *incentives to enter* search, and its entry would greatly *enhance competition* in the search *and* advertising markets. In fact, Apple's efforts to build its own search engine appear to have increased after

172. Oddly, Neeva reports the problem was that people were not willing to switch from Google. But since Neeva was a paid product, it is impossible to make an apples-to-apples comparison. Neeva's May note explaining its shut down is no longer available online. *Id.*

173. Barry Schwartz, *Apple Search Engine Four Years Away, At Least*, SEARCH ENGINE ROUNDTABLE (Nov. 14, 2022, 7:31 AM), https://www.seroundtable.com/apple-search-four-years-34402.html.

the DOJ's complaint.[174] Its search team can be traced back to at least 2013, when the company purchased Topsy Labs, a start-up that indexed Twitter to enable searches and analytics. Today, Apple uses this technology in Siri and the "Spotlight" search feature. In 2019, Apple acquired Laserlike, an artificial intelligence start-up founded by former Google engineers that had described its mission as delivering "high-quality information and diverse perspectives on any topic from the entire web."[175] The Financial Times reports that Apple has long worked on a feature known internally as "Apple Search," a tool that, according to project employees, facilitates "billions of searches" per day.[176] Besides, Apple poached Google's former head of search in 2018.[177] This specialized source states those are indicia of preparatory steps to enter search.[178] And Google's former engineering chief thinks Apple can develop its own search engine if it wants to.[179]

The DOJ documents that "in 2018, Apple's and Google's CEOs met to discuss how the companies could work together to drive search revenue growth. After the 2018 meeting, a senior Apple employee wrote to a Google counterpart: "Our vision is that we work as if we are one company."'[180] The RSA does align Google and Apple's incentives to operate as if they were just one company. It eliminates Apple's incentives to enter search or partner with Google's competitors to improve Bing's search index.

From the preceding discussion, it follows that the RSA is an agreement between potential competitors that eliminates Apple's incentives to enter search. And this is an unreasonable restraint that would not pass a rule of reason assessment. Currently, we all pay for Google's monopoly since advertisers must pass on part of their costs to their consumers.[181] However, Google and Apple could claim that the RSA saves people's time since most people get their preferred search engine automatically without the need to set up their devices. However, a choice screen (in other words, a pop-up window prompting each

174. Tim Bradshaw & Patrick McGee, *Apple Develops Alternative to Google Search*, FIN. TIMES (Oct. 28, 2020), https://www.ft.com/content/fd311801-e863-41fe-82cf-3d98c4c47e26 ("The company's growing in-house search capability gives it an alternative if regulators block its lucrative partnership with Google. When the US Department of Justice launched a case last week, over payments that Google makes to Apple to be the iPhone's default search tool, urgency was added to the initiative.").

175. Patrick McGee, *Apple Beefs up Smartphone Services in 'Silent War' Against Google*, FIN. TIMES (Jan. 24, 2023), https://www.ft.com/content/1146da72-8337-46f4-b59f-c28c8ef617c4.

176. *Id.*

177. Tim Bradshaw & Richard Waters, *Apple Poaches Top AI Executive from Google*, FIN. TIMES (Apr. 4, 2018), https://www.ft.com/content/af880272-37a5-11e8-8b98-2f31af407cc8.

178. McGee, *supra* note 175.

179. Bradshaw & McGee, *supra* note 174 ("'[Apple] ha[s] a credible team that I think has the experience and the depth, if they wanted to, to build a more general search engine,' said Bill Coughran, Google's former engineering chief, who is now a partner at Silicon Valley investor Sequoia Capital.").

180. Daisuke Wakabayashi & Jack Nicas, *Apple, Google and a Deal That Controls the Internet*, N.Y. TIMES (Oct. 25, 2020), https://www.nytimes.com/2020/10/25/technology/apple-google-search-antitrust.html.

181. Richard Craswell, *Passing on the Costs of Legal Rules: Efficiency and Distribution in Buyer-Seller Relationships*, 43 STAN. L. REV. 361, 363 (1991).

user to select their preferred search engine for which Apple would not get any revenue) would trigger the same effect at a negligible cost. While the RSA ensures that Apple users get their preferred search engine by default, the cost of clicking on one option presented on a choice screen is insignificant compared to Google's monopolistic overcharges for advertising and the potential harm to innovation that results from delaying Apple's entry to search. Since the RSA is clearly not the least restrictive alternative to save people's switching costs—an efficiency that is negligible compared with the costs of Google's monopoly—it follows that the RSA is an unreasonable restraint of trade.

CONCLUSION

Google is the clear dominant actor in search. No one disputes that its quality is superior to its rivals'. However, Google exploits its monopoly in search in the advertising market and maintains its monopoly in search with artificial restraints. We all pay the cost of Google's monopoly with higher prices because advertisers pass on at least a part of their extra costs to their consumers. The DOJ 2020 Complaint is an important action to police the market. However, it focuses excessively on the stickiness effects of Google's default position and conceives of Apple as a mere distributor of Google.

This Article argued that the RSA does make competition to be Apple's default irrational. However, the effect is neither primarily nor directly related to the exploitation of a behavioral bias. Google makes it unprofitable for any rival to bid higher than it to turn the market into a duopoly. Because Google is most people's preferred search engine and can share its monopoly profits with its distributors, the latter will have incentives to preset it as their users' default. This prevents Google's current competitors from gaining more exposure. Since monopoly profits are higher than duopoly profits, Google's preferential distribution is an equilibrium.

Most importantly, the DOJ neglects that Apple is Google's potential competitor. Potential competition claims can be speculative and lack the administrability to guide law enforcement. This work presented a legal framework to screen out speculative claims, suggesting a two-prong test according to which a potential competitor has the objective capability and strong incentives to enter the market. Evidence of preparatory steps and the perceptions of market actors, among other sources of evidence, allow testing the plausibility of different entry channels. Vague references to the possibility of entry do not operationalize the core elements of the test.

Apple has the objective capability to enter search and, if it did not receive a large payment to set Google as its default, it would have strong incentives to enter the market. Apple's entry would substantially enhance competition in search and advertising. When considering Apple's lessened interest in entering search, it is unsurprising that the most important recent developments in the

industry, such as ChatGPT, came from other companies.[182] The analytical framework presented in this Article shows that the RSA increases Google's potential rival's breakeven prices to become Apple's default, substantially lessens Apple's incentives to enter search, and provides negligible efficiencies to consumers that may be achieved with less restrictive alternatives. This fuller picture shows much more clearly that the RSA is an unreasonable restraint of trade.

182. I owe this point to Joe Grundfest.