

gMonopoly: Does Search Bias Warrant Antitrust or Regulatory Intervention?

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INTRODUCTION

The Internet continues to grow explosively. In December 2008, the Internet had one billion users.¹ By June 2012, that number had reached 2.4 billion, or roughly a third of the earth's population.² As early as 2002, our refrigerators and microwaves began using the Internet.³

Without search engines, the Internet's explosive growth would not be possible. Users would only be able to visit websites by knowing the website's URL or by clicking a link from another website.⁴ In essence, the Internet would be like a planet where nobody had a map.⁵ Search engines like Bing, Google, and Yahoo! provide that map.

As the cartographers of the Internet, search engines wield great power.⁶ And, as search engines have expanded their product offerings beyond the traditional "ten blue links" search,⁷ competitors have begun to allege that search engines are abusing their power. While the allegations of anticompetitive conduct are legion,⁸ this Note is concerned with only one: search bias. Search bias, as the term is used

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1. Dawn Kawamoto, *Internet Users Worldwide Surpass 1 Billion*, CNET NEWS (Jan. 23, 2009, 4:35 PM), http://news.cnet.com/8301-1023_3-10149534-93.html.

2. *World Internet Usage and Population Statistics*, INTERNET WORLD STATS (2012), <http://www.internetworldstats.com/stats.htm>.

3. *See LG Internet Refrigerator Is at the Heart of the Digital Home Network*, BESTSTUFF (Jan. 14, 2002), <http://www.beststuff.com/lg-internet-refrigerator-is-at-the-heart-of-the-digital-home-network/>.

4. *See Thad Collins, Searching the Internet Without Search Engines*, STREETDIRECTORY, http://www.streetdirectory.com/travel_guide/2317/computers_and_the_internet/searching_the_internet_without_search_engines.html.

5. Google Chairman Eric Schmidt has likened search engines to a GPS for the internet. *See Hayley Tsukayama, Google's Eric Schmidt Defends the Company's Search Practices*, WASHINGTON POST (Sept 21, 2011, 4:44 PM), http://www.washingtonpost.com/blogs/post-tech/post/googles-eric-schmidt-defends-the-companys-search-practices/2011/09/21/gIQR7AllK_blog.html.

6. Some even say if you are not on Google's search results, you might as well not exist. *See Rick Mans, If You Are Not in Google, You Don't Exist*, DON'T MIND RICK (Jan. 29, 2010), <http://dontmindrick.com/opinion/you-not-in-google-dont-exist>.

7. "Ten blue links" refers to the classic Google search results page. In its original incarnation, Google merely returned a list of ten blue links, whereas today various images and decoration may appear surrounding the search results. Marvin Ammori & Luke Pelican, *Competitors' Proposed Remedies for Search Bias: Search "Neutrality" and Other Proposals*, J. INTERNET L., May 2012, at 1, 10.

8. Press Release, Joaquin Almunia, Vice President, European Comm'n for Competition Policy, Statement of VP Almunia on the Google Antitrust Investigation (May 21, 2012), *available at* http://europa.eu/rapid/press-release_SPEECH-12-372_en.htm?locale=en (reciting four areas of "concern" in the European Commission's antitrust investigation).

in this Note, occurs when a search engine changes its search rankings for some illicit purpose, such as inhibiting the ability of consumers to find competitors' websites.⁹ Several parties have proposed that alleged search bias by Google may constitute an antitrust violation due to Google's dominance in search.¹⁰ These accusations were scrutinized in a large scale investigation by the Federal Trade Commission (FTC) that ended in early 2013 when the FTC concluded that there was insufficient evidence to bring an enforcement action against Google.¹¹ But the FTC has indicated that its investigation may reopen in the future if further evidence comes to light, and that Google's leadership in the search engine industry will render it a continuing target of regulatory scrutiny.¹² The FTC's European Union counterpart is also still conducting its own investigation.¹³ In addition to governmental investigations, a growing body of legal scholarship is now analyzing the myriad issues raised by attempting to remedy search bias.¹⁴

Though search engines wield substantial power, the nature of the Internet makes evaluating antitrust claims against search engines vexing. The role of search engines as key Internet intermediaries tempts one to analogize search engines to industries that have traditionally been the subject of antitrust scrutiny and government regulation, such as telecommunications providers, railroads, and electric utilities.¹⁵ Seizing on these similarities and on perceived barriers to entry, some commentators have argued for a regulation of search.¹⁶ However, these analogies are not so cut and dry in a market where users can switch products at zero cost and new entrants cannot be excluded from competition.

This Note explores the antitrust implications, under § 2 of the Sherman Act,¹⁷ of a dominant search engine manipulating its search results to gain a competitive

9. This Note's use of the term "search bias" thus does not include any manipulation of search engine results. Rather, this Note uses the term in the sense of bias premised on some anticompetitive purpose.

10. See *Foundem's Google Story*, SEARCH NEUTRALITY.ORG (Aug. 18, 2009), <http://www.searchneutrality.org/eu-launches-formal-investigation/foundem-google-story>; Juan Carlos Perez, *FairSearch.org Urges AGs to Tackle Google Over Antitrust*, COMPUTERWORLD (Oct. 11, 2011 2:23 PM), http://www.computerworld.com/s/article/9220730/FairSearch.org_urges_AGs_to_tackle_Google_over_antitrust.

11. Statement of the Federal Trade Commission Regarding Google's Search Practices, Google Inc., F.T.C. File No. 111-0163 (Jan. 3, 2013) [hereinafter FTC Google Statement], <http://ftc.gov/os/2013/01/130103googlesearchstmtofcomm.pdf>.

12. *Id.* at 4.

13. See, e.g., Carol Matlack & Stephanie Bodoni, *Google's EU Antitrust Proposal Will Likely Be Tweaked*, BLOOMBERG BUSINESSWEEK (Apr. 15, 2013), <http://www.businessweek.com/articles/2013-04-15/googles-eu-antitrust-proposal-will-likely-see-tweaks>.

14. See *infra* Part III (discussing various proposals and arguments for regulating search bias).

15. See generally Viva R. Moffat, *Regulating Search*, 22 HARV. J.L. & TECH. 475 (2009) (tracing the debate over search engine regulation).

16. See generally *id.*

17.

Every person who shall 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, shall be deemed guilty of a felony, and, on conviction thereof, shall be punished by fine not

advantage in other markets. Google, which now offers a number of its own nonsearch services and is currently considered by many to wield monopoly power in search, will be used as an exemplar.

Part I of this Note explains how search engines work and how they finance themselves, and it also describes the various products that search engines are now offering beyond traditional search. These additional products provide search engines with a financial incentive to manipulate search results for the benefit of their own products and to the detriment of competitors. Search bias is thus likely to be a continuing object of regulatory and antitrust scrutiny.

Part II will discuss a hypothetical § 2 monopolization claim against Google premised on search result bias. An analysis of Google's business requires resolving difficult antitrust problems. Among them are how to analyze multisided markets and whether antitrust law can impose liability based on services that are offered for free. This Note concludes that antitrust enforcement premised on search bias is not supported by precedent, and that any antitrust remedy would be problematic. Part III will analyze various grounds and proposals for regulating search bias, and will make its own proposal.

I. SEARCH ENGINES—HOW THEY WORK, HOW THEY ARE FINANCED, AND HOW THEY ARE EXPANDING

An introduction to the inner workings and business models of search engines is necessary to understand the antitrust issues that search bias presents. As such, this Part will provide the necessary material to understand the world of search.

A. How Search Engines Work

A search engine must perform two basic tasks: (1) the search engine must map the content available on the Internet and (2) in response to a user's search terms, the search engine must employ an algorithm to provide a list of the most relevant "organic" search results.¹⁸

A search engine discovers content on the Internet using programs called "crawlers."¹⁹ A crawler begins with a list of "seed" URLs.²⁰ The crawler will examine the web pages attached to the seed URLs and record any links contained on these pages.²¹ The crawler will then visit the links it has recorded and repeat the

exceeding \$100,000,000 if a corporation, or, if any other person, \$1,000,000, or by imprisonment not exceeding 10 years, or by both said punishments, in the discretion of the court.

Sherman Act, 15 U.S.C. § 2 (2006).

18. "Organic" refers to the search results that an algorithm will produce without tampering. *See, e.g.,* Parts Geek, LLC v. U.S. Auto Parts Network, Inc., No. 09-5578, 2010 WL 1381005, at *2 (D.N.J. Apr. 1, 2010).

19. MARK LEVENE, AN INTRODUCTION TO SEARCH ENGINES AND WEB NAVIGATION 82 (2d ed. 2010).

20. *Id.*

21. *Id.* at 82–83.

crawling process.²² This is a never-ending cycle that allows new content on the Internet to be continuously discovered and made available in search results.²³

As the crawler explores pages, the content of those pages is copied and “indexed.”²⁴ The search engine’s index must then be evaluated for relevancy by the search engine’s algorithm in response to queries.²⁵ The algorithm is what differentiates a good search engine from a bad one.²⁶

Google’s PageRank algorithm was pioneering. Rather than simply looking to the number of times a term appears on a page, as earlier search algorithms had done, PageRank places the heaviest weighting on the number of times other websites link to a page.²⁷ Today, the PageRank algorithm employs over two hundred factors.²⁸ PageRank received roughly 550 tweaks in 2010 and the process of perfecting it is ongoing.²⁹

Highlighting the economic importance of search engines, a search engine optimization (SEO) cottage industry has risen up around Google, with consultants purporting to be able to manipulate Google’s ranking system.³⁰ Google plays a constant cat-and-mouse game with the SEO industry, and the company is known to penalize websites that try to cheat the system by banishing them to the back pages of the search results.³¹

B. How Search Engines Are Financed

Most search engines, like radio and television broadcasters, provide free services that are financed by advertising revenues.³² This advertising usually comes in the form of paid advertisements that appear separate from organic search

22. *Id.*

23. *Id.*

24. *Id.* at 81.

25. Steven Levy, *Exclusive: How Google’s Algorithm Rules the Web*, WIRED MAGAZINE (Feb. 22, 2010, 12:00 PM), http://www.wired.com/magazine/2010/02/ff_google_algorithm/all/1.

26. *See* LEVENE, *supra* note 19, at 80 (describing the algorithm as the “heart of the search engine”).

27. Levy, *supra* note 25. The original PageRank algorithm is the subject of a patent that expires in 2017. U.S. Patent No. 6,285,999 (filed Jan. 9, 1998). The patent is assigned to Stanford University, which granted Google an exclusive license to the patent. Lisa M. Krieger, *Stanford Earns \$336 Million Off Google Stock*, REDORBIT (Dec. 1, 2005), http://www.redorbit.com/news/education/318480/stanford_earns_336_million_off_google_stock.

28. Levy, *supra* note 25. For example, depending on what is being searched for, PageRank may rank new pages as more relevant than older pages, as in the case of breaking news stories. *See id.*

29. *Id.*

30. *See* David Segal, *The Dirty Little Secrets of Search*, N.Y. TIMES (Feb. 12, 2011), <http://www.nytimes.com/2011/02/13/business/13search.html> (outlining instances of “black hat” SEO).

31. For example, Google demoted J.C. Penney’s search results after the search engine determined that J.C. Penney had tried to manipulate the system in violation of Google’s SEO policies. *Id.*

32. *See generally* James D. Ratliff & Daniel L. Rubinfeld, *Online Advertising: Defining Relevant Markets*, 6 J. COMPETITION L. & ECON. 653 (2010).

results.³³ Just as with search results, Google has implemented an innovative strategy called AdWords, originally pioneered by a company called Overture, that has catapulted it to the top of the heap.³⁴

AdWords is an auction-based system for search results advertising that allows advertisers to bid on keywords.³⁵ So, an advertiser who bids on the word “computer” is bidding to have his advertisement displayed when a user performs a search involving the term “computer.”³⁶ Thus, in the auction process, very common words will receive higher bids and more obscure search terms will receive lower bids.³⁷ Because the auction process is triggered by the search terms a user enters, an auction takes place in real time whenever a user googles something.³⁸

Simply placing the highest bid, however, does not ensure that a bidder’s advertisement will appear on Google’s sponsored links. To compute whose ads will be displayed, Google also utilizes “Quality Scores.”³⁹ Quality Scores are calculated using criteria similar to PageRank. A number of factors go into a Quality Score, including the relevance of the ad to the search terms, the quality of the page that the ad links to, the percentage of times users click on the ad when it appears, and many other factors that Google keeps secret.⁴⁰ This means that a website with relevant, high quality content will appear as an advertisement on Google more cheaply than an advertiser with lower quality results. The system allows Google to exercise some automated quality control over the ads it displays, and Google believes the process is more profitable than a highest-bidder-take-all system.⁴¹

33. See Commercial Alert Letter from Heather Hipsley, Acting Assoc. Dir., Div. of Adver. Practices, Fed. Trade Comm’n, to Gary Ruskin, Exec. Dir., Commercial Alert (June 27, 2002) [hereinafter Commercial Alert Letter], available at <http://www.ftc.gov/os/closings/staff/commercialalertletter.shtm>.

34. Steven Levy, *Secret of Googlenomics: Data-Fueled Recipe Brews Profitability*, WIRE MAGAZINE (May 22, 2009), http://www.wired.com/culture/culturereviews/magazine/17-06/nep_googlenomics.

35. *Id.*

36. See *id.*; see also Larry Kim, *The Most Expensive Keywords in Google AdWords*, WORDSTREAM (July 18, 2011), <http://www.wordstream.com/blog/ws/2011/07/18/most-expensive-google-adwords-keywords> (listing the top twenty most expensive keywords).

37. This is known as the “Keyword Pricing Index.” See Levy, *supra* note 34. Words like “flowers” and “hotels” are coveted search terms and so are almost always bid up to high prices. *Id.* Some terms will vary in value seasonally, like “snowboarding.” *Id.* “Long tails” are obscure terms that will almost always be available at a low auction price, which provides niche businesses with the ability to competitively bid for highly specialized terms. See *id.*

38. See *id.* That means that 13.4 billion AdWords auctions were performed in October 2011, or about 5000 per second. See Press Release, comScore, comScore Releases October 2011 U.S. Search Engine Rankings (Nov. 11, 2011), available at http://www.comscore.com/Insights/Press_Releases/2011/11/comScore_Releases_October_2011_U.S._Search_Engine_Rankings (reporting that in October 2011 Google received 13.4 billion search requests).

39. Levy, *supra* note 34.

40. *Id.*

41. See *id.* Google has expanded on the success of its AdWords program with AdSense. See Geoffrey A. Manne & Joshua D. Wright, *Google and the Limits of Antitrust: The Case Against the Case Against Google*, 34 HARV. J.L. & PUB. POL’Y 171, 194 (2011). AdSense customers place Google’s sponsored link advertising on their websites instead of using traditional banner advertising. See *id.* In essence, AdSense places Google’s advertising program on participating websites—the ads are still dynamic and depend on the content of

Google had revenues of \$23.6 billion in 2009, 99% of which was advertising revenue.⁴² In the first quarter of 2010, 66% of Google's revenue came from advertising on Google websites, 30% from advertising on Google network websites,⁴³ and the remaining 4% came from "other revenues."⁴⁴

C. How Search Engines Are Expanding

In the search industry, search engines can be conceptually divided between "horizontal" search and "vertical" search.⁴⁵ Horizontal search engines provide search results that encompass the entire spectrum of Internet material—they are designed so that one can search for anything.⁴⁶ Vertical search engines, by contrast, are specialized search engines designed to provide search results that are tailored to a particular area.⁴⁷ For example, Nextag is a vertical search engine that provides price comparisons for various products.⁴⁸ Google is a horizontal search engine. When users type a product name into Google's horizontal search product, unlike in Nextag, they may get a variety of search results. For example, users might see product reviews, the manufacturer's website, or retailers offering the product for sale. Google also formerly offered Google Product Search, a price comparison website that competed with Nextag.⁴⁹ In mid-2012, Google Product Search was replaced with Google Shopping.⁵⁰ Google Shopping is the first search service offered by Google that requires merchants to pay as a condition of being listed in the search results—a practice known as "paid inclusion."⁵¹ When this Note was originally drafted, Google Shopping had yet to be announced. That illustrates how quickly the search industry evolves.

In 2007, Google introduced Universal Search,⁵² a system that is likely to be central to some of the antitrust claims against Google. Universal Search evaluates the user's search terms and attempts to determine exactly what type of answer the

the website they appear on, just like the ads that appear on Google's own website. *See id.*

42. Jim Edwards, *Google's Revenue Breakdown Shows It Controls Even More Advertising Than You'd Think*, CBS NEWS (May 25, 2010, 4:34 PM), http://www.cbsnews.com/8301-505123_162-42744932/googles-revenue-breakdown-shows-it-controls-even-more-advertising-than-you-d-think.

43. Google network websites are websites that participate in AdSense. *See The Google Network*, GOOGLE, <http://adwords.google.com/support/aw/bin/answer.py?hl=en&answer=6104>.

44. Google Inc., Quarterly Report (Form 10-Q) 26 (May 5, 2010).

45. *See* Danny Sullivan, *Google Launches "Universal Search" & Blended Results*, SEARCH ENGINE LAND (May 16, 2007, 2:33 PM), <http://searchengineland.com/google-20-google-universal-search-11232>.

46. *Id.*

47. *Id.*

48. *See About Nextag*, NEXTAG, <http://www.nextag.com/about/main>.

49. *What Is Google Product Search?*, GOOGLE, <http://support.google.com/checkout/sell/bin/answer.py?hl=en-GB&answer=64947>.

50. Danny Sullivan, *Google Product Search to Become Google Shopping, Use Pay-to-Play Model*, SEARCH ENGINE LAND (May 31, 2012, 12:00 PM), <http://searchengineland.com/google-product-search-to-become-google-shopping-use-pay-to-play-model-122959>.

51. *Id.*

52. Sullivan, *supra* note 45.

user is searching for.⁵³ For example, if a user types in a street address, Google may determine that the user is searching for directions to that location.⁵⁴ Google then displays a link to its own map service, Google Maps, often at a high position in the search results.⁵⁵ The Google Maps result is also set off from the other results with larger text and a picture of a map, while the rest of the search results appear as normal blue links.⁵⁶ Clicking on the link will take the user to the Google Maps page, where more Google ads appear.⁵⁷ Bing and Yahoo! (which is powered by Bing's technology) have similar functionality.⁵⁸

II. A HYPOTHETICAL § 2 CLAIM AGAINST GOOGLE

This Part details the story of a real-life allegation of anticompetitive conduct against Google and applies a § 2 analysis to it. For the purposes of the analysis, it will be assumed that all conduct by Google is unilateral. That is, there is no agreement or conspiracy between Google and another party to engage in anticompetitive conduct. This limits the discussion to § 2 claims.⁵⁹ The following analysis attempts to maintain an objective viewpoint and it is not conclusive—many issues involve facts that are unavailable, and the resolution of many legal issues is unclear.

Foundem is a price comparison website operated out of the United Kingdom, and the organization has become a noisy public critic of Google.⁶⁰ The company is one of nine that have filed formal complaints against Google in the European Commission's ongoing antitrust investigation.⁶¹ Foundem also filed comments with the Federal Communications Commission (FCC) encouraging the agency to include search engines in the net neutrality regulatory agenda.⁶²

Foundem's beef with Google dates back several years and is recounted on the organization's activist website, Searchneutrality.org, created by Foundem to raise

53. *See id.*

54. *See* INSIDE GOOGLE, CONSUMER WATCHDOG, TRAFFIC REPORT: HOW GOOGLE IS SQUEEZING OUT COMPETITORS AND MUSCLING INTO NEW MARKETS 3 (2010), available at <http://www.consumerwatchdog.org/resources/TrafficStudy-Google.pdf>.

55. *See id.*

56. *Id.*

57. *See* Sullivan, *supra* note 45.

58. *See generally* JOSHUA D. WRIGHT, INT'L CTR. FOR LAW & ECON., DEFINING AND MEASURING SEARCH BIAS: SOME PRELIMINARY EVIDENCE (2011), available at <http://laweconcenter.org/images/articles/definingmeasuring.pdf> (finding that Bing and Yahoo! both exhibit greater search bias than Google).

59. "Independent actions taken by an entity fall outside the purview of § 1." *Virgin Atl. Airways Ltd. v. British Airways PLC*, 257 F.3d 256, 263 (2d Cir. 2001).

60. *See* Rob D. Young, *Report: Google EU Antitrust Expands, Up to 9 Complainants*, SEARCH ENGINE WATCH (Aug. 3, 2011), <http://searchenginewatch.com/article/2098919/Report-Google-EU-Antitrust-Expands-Up-to-9-Complainants>.

61. *Id.*

62. ADAM RAFF & SHIVAUN RAFF, REPLY COMMENTS IN RESPONSE TO THE COMMISSION'S PRESERVING THE OPEN INTERNET NOTICE OF PROPOSED RULEMAKING (2012) available at http://www.foundem.co.uk/FCC_Comments.pdf. Search neutrality was not included in the FCC's controversial net neutrality rules. *See* FCC Rep. 10-201 (Dec. 21, 2010).

public awareness and to advocate for regulation of Google.⁶³ In June 2006, Google severely reduced Foundem's PageRank and Quality Score.⁶⁴ As a result of the demotion, Foundem needed to bid one hundred times more to achieve the same AdWords placement, and Foundem dropped several pages down in the search results.⁶⁵ After petitioning Google for several years, Google informed Foundem that a change to its algorithm had caused the demotion. Google then manually "whitelisted" Foundem from its AdWords penalty in 2007, and later restored its PageRank in 2009.⁶⁶ During that time Foundem's rankings remained steady on both Yahoo! and Bing.⁶⁷ Foundem states that during the demotion, an exemplary query resulted in Foundem ranking first on Yahoo!, seventh on Bing, and 144th on Google.⁶⁸ Following the whitelisting, the same search terms that had placed Foundem 144th on Google now placed it in the fifth position.⁶⁹ Foundem states that its organic traffic from Google (i.e., traffic that did not come from advertising on Google) jumped by roughly 10,000% "overnight" after the PageRank whitelisting.⁷⁰

Foundem alleges that during its demotion (and after), Google took steps to boost the success of its own price comparison service, Google Product Search, by inflating its position in the search results and by making Google Product Search listings appear more conspicuous than other listings.⁷¹ For the purposes of the antitrust analysis, the assumed facts are that Google demoted one or more competitors' rankings on its search engine, while simultaneously boosting its own competing product's search rankings, for the purpose of gaining a competitive advantage.⁷² As will be seen below, virtually every aspect of an antitrust claim against a dominant search engine would be problematic for a plaintiff, and the issue of anticompetitive conduct is likely dispositive.

Section 2 of the Sherman Act makes it unlawful 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."⁷³ This establishes three offenses: monopolization, attempted monopolization, and conspiracy to monopolize.⁷⁴ Only monopolization and

63. See *About*, SEARCH NEUTRALITY.ORG (Oct. 9, 2009), <http://www.searchneutrality.org/about>.

64. See *Foundem's Google Story*, *supra* note 10.

65. *Id.* Recall that Google ranks AdWords bidders by both the amount of their bids and the quality of their website (their Quality Score). Because Foundem's Quality Score was lowered, Foundem had to bid higher than before to compensate.

66. *Id.*

67. *Id.*

68. *Id.*

69. *Id.*

70. *Id.*

71. See *id.*

72. In other words, like a court ruling on a motion to dismiss, Foundem's allegations will be taken as true.

73. 15 U.S.C. § 2 (2006).

74. U.S. DEP'T OF JUSTICE, COMPETITION AND MONOPOLY: SINGLE-FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT 5 (2008) [hereinafter DOJ, COMPETITION AND MONOPOLY], available at <http://www.justice.gov/atr/public/reports/236681.pdf>.

attempted monopolization will be considered in this Note. A monopolization claim will be evaluated, followed by a brief discussion of attempted monopolization.

Monopolization “has two elements: (1) the possession of monopoly power in [a] 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.”⁷⁵ To determine whether monopoly power exists, courts begin by evaluating the firm’s market share, which in turn requires that the court define a relevant market.⁷⁶

A. Relevant Markets

A relevant market “is composed of products that have reasonable interchangeability for the purposes for which they are produced—price, use and qualities considered.”⁷⁷ In addition, the market must be limited in geographic scope.⁷⁸ Once the relevant market is defined, the court can then examine whether monopoly power exists and whether it has been abused.

While parties such as Foundem do not compete directly with Google’s search engine, and are instead downstream competitors, the likely claims of anticompetitive conduct by entities like Foundem require Google’s general search product to have a monopolistic share of a relevant market. Accordingly, this analysis discusses how a court might characterize the markets for horizontal search and search advertising, and foregoes a discussion of any downstream markets.

There has been considerable debate on how to define the relevant markets for Internet-based companies,⁷⁹ and the hypothetical case against Google also implicates the broader discussion of how to assess relevant markets where a market is multisided.

75. *United States v. Grinnell Corp.*, 384 U.S. 563, 570–71 (1966).

76. *See Walker Process Equip., Inc. v. Food Mach. & Chem. Corp.*, 382 U.S. 172, 177 (1965) (“Without a definition of [the] market there is no way to measure [the] ability to lessen or destroy competition.”).

77. *United States v. E. I. du Pont de Nemours & Co.*, 351 U.S. 377, 404 (1956). In *Du Pont*, the Supreme Court determined that the relevant market for du Pont, producer of 70% of cellophane in the United States, was “flexible packaging material[s]” because cellophane was economically interchangeable with such products. *Id.* at 400. *Du Pont*’s analysis has been criticized as the “Cellophane Fallacy” because, according to many commentators, du Pont had already raised its prices to profit-maximizing monopoly levels. *See* DOJ, COMPETITION AND MONOPOLY, *supra* note 74, at 26. Under this view, the only reason that any interchangeable products for cellophane existed was that du Pont had raised its prices to the point that consumers would consider substitutes. *Id.* at 26–27. Thus, the Supreme Court inferred there was no monopoly power, when in fact there likely was, by defining the relevant market too broadly. *Id.*

78. *E. I. du Pont de Nemours & Co.*, 351 U.S. at 395.

79. *See, e.g.,* Bruce Abramson, *Are “Online Markets” Real and Relevant? From the Monster-HotJobs Merger to the Google-DoubleClick Merger*, 4 J. COMPETITION L. & ECON. 655 (2008); Ratliff & Rubinfeld, *supra* note 32.

1. Horizontal Search

The most obvious relevant market is, of course, horizontal search, defined above.⁸⁰ However, the scope of the relevant market for search engines is vigorously debated, and Google itself has argued the market is so broad that it encompasses virtually any means of searching for information.⁸¹ As the relevant market definition is a question of fact that requires significant empirical research, this Part will instead focus on certain novel antitrust issues implicated by search engine business models.

One wrinkle in the relevant market analysis is that search engine services are offered for free to users. In *KinderStart.com, LLC v. Google, Inc.*, a district court ruled that horizontal search cannot be a relevant market because consumers do not pay for it.⁸² This calls into question the antitrust analysis applicable to a multisided market, an issue that is overlooked by the court's opinion.

In a classic two-sided market an intermediary connects two distinct groups who benefit one another via indirect network effects; that is, the value of a product to Group A rises as more members of Group B use it, and vice versa.⁸³ Credit cards are one example.⁸⁴ The credit card company acts as an intermediary, connecting cardholders with merchants.⁸⁵ Cardholders want cards that are accepted by most merchants, and merchants want cards that customers expect them to accept.⁸⁶ Thus, there is a feedback loop between the parties. However, if the network effects are well established, they may allow the intermediary to engage in monopolistic practices because one side of the market will not respond to price increases on the other side of the market.⁸⁷

80. See *supra* notes 45–51 and accompanying text.

81. See John McDonnell, *Eric Schmidt Admits Apple's Siri May Pose 'Competitive Threat' to Google*, METRO (Nov. 7, 2011, 5:05 PM), <http://metro.co.uk/2011/11/07/eric-schmidt-admits-apples-siri-may-pose-competitive-threat-to-google-211676>.

82. *KinderStart.com, LLC v. Google, Inc.*, No. C06-2057JF(RS), 2007 WL 831806, at *5 (N.D. Cal. Mar. 16, 2007) (“*KinderStart* cites no authority indicating that antitrust law concerns itself with competition in the provision of free services. Providing search functionality may lead to revenue from other sources, but *KinderStart* has not alleged that anyone pays Google to search. Thus, the Search Market is not a ‘market’ for purposes of antitrust law.”).

83. See David S. Evans, *The Antitrust Economics of Two-Sided Markets* 1–2 (AEI-Brookings Joint Ctr. for Reg. Stud., Working Paper No. 02-13, 2002), available at <http://regulation2point0.org/wp-content/uploads/downloads/2010/04/phpMt.pdf>. Evans discusses an amusing case study of two-sided markets: Japanese dating clubs. *Id.* at 1. The clubs match men and women by placing them on opposite sides of glass in a room. *Id.* Men then send women missives via the wait staff to indicate their interest. *Id.* The two sides of the market in Japanese dating clubs are men and women, but there is a mismatch in demand—far more men want to go to the clubs than women. *Id.* To balance out the sexes, clubs often charge the men large membership and entry fees, while women either enter for free or are paid to do so. *Id.*

84. *Id.* at 3.

85. *Id.*

86. *Id.*

87. See ABA SECTION OF ANTITRUST LAW, MARKET DEFINITION IN ANTITRUST: THEORY AND CASE STUDIES 463–64 (2012).

According to the Department of Justice (DOJ), this would have occurred in the proposed merger between First Data Corp. and Concord EFS, Inc., two of the largest PIN debit network operators in the United States.⁸⁸ After recognizing that the “PIN debit market is two-sided in nature,”⁸⁹ the DOJ concluded that the merged PIN networks could profitably hold up merchants for monopoly rents due to merchants’ dependence on the network of cardholders.⁹⁰ The DOJ found that a rise in merchant fees would not appreciably affect cardholder demand because cardholders would not perceive the increased costs.⁹¹ Hence, the cardholder side of the market would not discipline the intermediary’s behavior on the merchant side.⁹²

As with debit card providers, feedback effects have probably become a one-way street for Google. But the feedback effects may be slightly different. While advertisers care about the number of consumers that visit Google, consumers likely do not care about the number of advertisers or the cost of advertisements (unless perhaps the number of advertisements becomes so onerous that the search engine interface suffers).⁹³ Instead, the primary concern of users is probably the quality of Google’s search product. Accordingly, the feedback effect arises from the pressure users place on Google to maintain the quality of its search product. Google must respond to this pressure so that it can maintain a healthy, paying audience of advertisers. However, the cases have yet to directly confront these issues in a nuanced way.

For example, in *GTE New Media Services, Inc. v. Ameritech Corp.*, a district court found that the market for Internet Yellow Pages was a relevant market because the services, although free to consumers, had commercial value from advertising revenues.⁹⁴ That Internet Yellow Pages providers might be competing with other forms of advertising did not seem to factor into the court’s analysis in *GTE*. That oversight is troubling because it is not apparent that a single dominant provider could charge higher advertising prices if other advertising venues compete for the same business.⁹⁵ Such an inquiry would be key to reaching a correct decision in an antitrust case. In another recent decision, a Chinese court concluded

88. *Id.* at 461–63.

89. *Id.* at 463.

90. *Id.*

91. *Id.*

92. *See id.*

93. *See Manne & Wright, supra* note 41, at 208 (“Typical ‘feedback effects’ seen in many multisided platforms are attenuated or absent in Google’s business because the effects are generally unidirectional: advertisers want more end users, but end users care little or nothing about the number of advertisers.”).

94. *GTE New Media Servs., Inc. v. Ameritech Corp.*, 21 F. Supp. 2d 27, 42 (D.D.C. 1998); *see also LiveUniverse, Inc. v. MySpace, Inc.*, No. CV06-6994AHM(RZx), 2007 WL 6865852, at *6 (C.D. Cal. June 4, 2007) (finding that “Internet-based social networking websites” was a relevant market). The court used search engines as an example of an ad-supported business that depends on a large number of consumers utilizing free services. *GTE*, 21 F. Supp. 2d at 39; *see also* ABA SECTION OF ANTITRUST LAW, *supra* note 87, at 464 (discussing *GTE*).

95. *See GTE*, 21 F. Supp. 2d at 39 (“[A]dvertising revenue in the Internet Yellow Pages market substantially depends on the number of users accessing a particular website because Internet advertisers are willing to pay higher advertisement rates on websites with a higher volume of user traffic.”).

that horizontal search is a relevant market because “[t]he free search service provided by search engine providers to internet users is not equivalent to a free service for charity, and may obtain actual or potential commercial benefits by attracting internet users and employing advertisements or other marketing services.”⁹⁶

The law is unsettled on whether a free service can be a relevant market, and case law has yet to grapple squarely with current thinking on two-sided markets. However, the above authorities illustrate that courts and agencies are willing to find a relevant market where a free service is supported by advertising revenues, or where subsidizing one side of the market still allows the intermediary to profitably charge supra-competitive rents on the other side.

2. Search Engine Advertising

There is a debate over whether this market should be limited to search engine advertising (i.e., advertisements that appear on search engines), or expanded to include all forms of web-based advertising, or even to include traditional advertising media.⁹⁷ Unlike the market for horizontal search, courts and agencies have already weighed in on the relevant market for search engine advertising. One district court concluded that the market should be defined as all Internet-based advertising.⁹⁸ On the other hand, the DOJ has concluded that “Internet search advertising” and “Internet search syndication” are separate relevant markets.⁹⁹

For its part, the FTC has concluded that “all online advertising does not constitute a relevant antitrust market.”¹⁰⁰ The FTC analyzed three separate markets:

96. R. Ian McEwin & Corinne Chew, *China—The Baidu Decision*, 6 COMPETITION POL’Y INT’L 223, 227 (2010) (internal quotation marks omitted). The case involved allegations that the Chinese search engine Baidu abused its market position by tying the plaintiff’s search rankings to its continued participation in Baidu’s “Pay for Placement” program. *Id.* at 225–26. The court ruled against the plaintiffs because they had failed to prove that Baidu had a dominant share of search in China. *Id.* at 230.

97. *See generally* Ratliff & Rubinfeld, *supra* note 32 (evaluating competition between various types of advertising media).

98. *KinderStart.com, LLC v. Google, Inc.*, No. C06-2057JF(RS), 2007 WL 831806, at *6 (N.D. Cal. Mar. 16, 2007) (“[T]here is no logical basis for distinguishing the Search Ad Market from the larger market for Internet advertising. Because a website may choose to advertise via search-based advertising or by posting advertisements independently of any search, search-based advertising is reasonably interchangeable with other forms of Internet advertising. The Search Ad Market thus is too narrow to constitute a relevant market.”).

99. Press Release, United States Department of Justice, Yahoo! Inc. and Google Inc. Abandon Their Advertising Agreement (Nov. 5, 2008), *available at* <http://www.justice.gov/opa/pr/2008/November/08-at-981.html>. “Internet search advertising” refers to advertisements that appear on search engines themselves, whereas “internet search syndication” refers to advertisements that appear on third-party websites through services like Google’s AdSense program. *See id.* The DOJ reached its conclusion after evaluating a proposed partnership between Yahoo! and Google; the parties abandoned the deal after the DOJ announced its intention to file an antitrust lawsuit to block the agreement. *Id.*

100. *Google/DoubleClick*, F.T.C. File No. 071-0170, 7 (Dec. 20, 2007), <http://www.ftc.gov/os/caselist/0710170/071220statement.pdf>. The FTC’s analysis arose in the context of Google’s proposed merger with DoubleClick, a leader in direct buy advertising. *Id.* at 2. In essence, the issue was whether the merger of DoubleClick’s direct purchase advertising business with

“search advertising, ads sold through intermediaries, and directly sold ad inventory.”¹⁰¹ Focusing primarily on the latter two categories, the FTC concluded that ads sold through intermediaries (e.g., AdSense) are a separate and distinct market from directly sold ad inventory (e.g., banner advertisements).¹⁰² Intermediary ads tend to be purchased with the intention of causing consumers to make a purchase on the spot, whereas directly purchased ads are bought for the purpose of improving brand recognition.¹⁰³ This distinction, along with evidence that advertisers did not view the two types of ads as substitutes, led the FTC to conclude they constitute separate markets.¹⁰⁴ The FTC also concluded that “contextually targeted ads do not constitute a separate market; rather they are part of a broad market that includes all ads sold by intermediaries” because “the evidence show[ed] that the prices and quality of contextual ads are constrained by other forms of display ads sold by ad intermediaries (and vice versa).”¹⁰⁵

That a district court, the DOJ, and the FTC all reached very different conclusions about the relevant market indicates that there is substantial room for debate about the scope of the market for search advertising. The district court said all online advertising is included; the DOJ said search engine advertising is its own market; and the FTC agreed with the DOJ that search engine advertising is its own market, although the FTC broke with the DOJ when it concluded that Internet search syndication is part of the larger market for online intermediary advertisements.

Whether search advertising is its own relevant market is another question for further empirical research. This Note is directed toward search bias, and therefore claims directed solely against Google’s alleged search advertising monopoly are not at issue. What is key is that the DOJ and FTC have concluded that search advertising is a relevant market and that Google is a dominant player, which suggests courts will be more likely to find market power in the related market for horizontal search because of the multi-sided nature of the market.¹⁰⁶

Other market definitions will likely be important in any sort of antitrust claim against Google, but it is impossible to hypothesize all the conceivable markets on the Internet or those that may spring up overnight. Such considerations will be

Google’s AdSense contextual online advertising service would be anticompetitive. *Id.* at 1. In a 4-1 decision, the Commission concluded that the merger was unlikely to have anticompetitive effects. *Id.*

101. *Id.* at 7. Without much explanation, the FTC concluded that Google “is the dominant provider of sponsored search advertising,” indicating that the FTC views Google’s search engine advertising business as a relevant market and Google’s share at or near the monopoly level. *Id.* at 3.

102. *Id.* at 5–6.

103. *Id.* at 5.

104. *Id.* at 5–6.

105. *Id.*

106. Google’s market power in search advertising will not be analyzed due to space considerations. The following data may suffice. Google’s share of the search advertising market was estimated at 75.9% in 2011, up from 69.8% in 2009. Press Release, eMarketer, Google’s Share of Search Ad Revenues Rises, Unaffected by Bing (June 20, 2011), *available at* <http://www.emarketer.com/newsroom/index.php/googles-share-search-ad-revenues-rises-unaffected-bing/>. Meanwhile, Bing and Yahoo! have gone from a combined share of 20% down to 15.9% in the same period. *Id.*

mentioned when they are relevant in the discussion of anticompetitive conduct below.

3. Geographic Market

The lack of meaningful geographic borders for Internet-based businesses makes defining relevant geographic markets for any web-based business interesting but ultimately simple. In the vast majority of cases, limiting the geographic market to the United States would be appropriate.¹⁰⁷ Unless a particular website is truly local in nature,¹⁰⁸ there would be no basis for narrowing the market to a particular region of the United States because most websites will compete for the entire U.S. market.

B. Monopoly Power

While the Sherman Act prohibits monopolization, the mere possession of monopoly power is not an offense.¹⁰⁹ Monopoly power must be “accompanied by an element of anticompetitive conduct.”¹¹⁰ A plaintiff must show that the anticompetitive conduct caused harm “not just to a single competitor, but to the competitive process, i.e., to competition itself.”¹¹¹

Monopoly power is defined as “the power to control prices or exclude competition.”¹¹² To evaluate monopoly power, courts begin with an evaluation of the firm’s market share in the relevant market.¹¹³ The market share a firm must have to be classified as a monopolist is not precisely defined by the case law, but 70% is a good rule of thumb,¹¹⁴ and to date there have been no cases where a share of less than 50% was sufficient.¹¹⁵ While some courts are willing to infer market power from market share alone, others require a showing that the market power is

107. *See, e.g.,* LiveUniverse, Inc. v. MySpace, Inc., No. CV06-6994AHM(RZx), 2007 WL 6865852, at *6 (C.D. Cal. June 4, 2007) (plaintiff chose the United States as the relevant geographic market for social networking websites without objection from the defendant MySpace).

108. One conceivable example would be a plaintiff website that specializes in real estate listings for Wichita, Kansas. In that case, the plaintiff would not be competing on a nationwide scale, and hence could realistically hope to limit the market to a small area. Cases have adopted absurdly narrow geographic market definitions in the past. *See, e.g.,* Jeffrey T. Macher & John W. Mayo, *Making a Market Out of a Mole Hill? Geographic Market Definition in Aspen Skiing*, 6 J. COMPETITION L. & ECON. 911, 912 (2010) (noting that the market definition before the Supreme Court in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985), was limited to “downhill skiing in the Aspen area”; the Court ultimately found antitrust liability).

109. *Verizon Commc’ns, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004). Learned Hand famously wrote that “[t]he successful competitor, having been urged to compete, must not be turned upon when he wins.” *United States v. Aluminum Co. of America*, 148 F.2d 416, 430 (2d Cir. 1945).

110. *Trinko*, 540 U.S. at 407 (emphasis omitted).

111. *NYNEX Corp. v. Discon, Inc.*, 525 U.S. 128, 135 (1998).

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

113. *See, e.g.,* DOJ, COMPETITION AND MONOPOLY, *supra* note 74, at 21.

114. *See id.*

115. *See id.* at 21–22.

durable.¹¹⁶ The staying power of a monopoly can be shown by demonstrating barriers to entry such as patent rights,¹¹⁷ government regulations,¹¹⁸ network effects,¹¹⁹ lock-in/switching costs,¹²⁰ sunk costs (i.e., high entry costs),¹²¹ exclusive dealing arrangements,¹²² or insurmountable economies of scale.¹²³ In general, a barrier to entry can be defined in one of two partially overlapping ways: (1) as a cost that firms already in the market do not have to pay, or (2) as a market structure that inherently protects the dominant firm's market position.¹²⁴ For purposes of this analysis, it will be assumed that the horizontal search market is a relevant market.

1. Horizontal Search

Google's share of the U.S. horizontal search market currently sits on the boundaries of monopoly levels in the United States. According to the research firm comScore, Google's share of the U.S. search market was 66.9% in October 2012, although other researchers cite figures over 80%.¹²⁵ The comScore-reported market share is a mirror match to the 65% market share that Kodak enjoyed when it was found liable for antitrust violations.¹²⁶

Assuming that Google has a monopolistic market share (or close to it), the next question is whether there are barriers to entry that restrain competitors from entering the horizontal search market. There appear to be two primary barriers to

116. See WILLIAM C. HOLMES & MELISSA MANGIARACINA, ANTITRUST LAW HANDBOOK § 3:4 (2012) (collecting cases); see also *Colorado Interstate Gas Co. v. Natural Gas Pipeline Co. of Am.*, 885 F.2d 683, 696 (10th Cir. 1989) (finding a firm lacked monopoly power because its "ability to charge monopoly prices will necessarily be temporary"); DOJ, COMPETITION AND MONOPOLY, *supra* note 74, at 20 (stating that monopoly power must be "much more than merely fleeting"). Areeda and Hovenkamp argue that monopoly power should exist for at least five years before it attracts § 2's attention. PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW 319 (2d ed. 2002).

117. CHRISTOPHER R. LESLIE, ANTITRUST LAW AND INTELLECTUAL PROPERTY RIGHTS 30 (2011).

118. *Id.*

119. See Moffat, *supra* note 15, at 489.

120. See *id.* at 494.

121. Alex W. Cannon, Comment, *Regulating AdWords: Consumer Protection in a Market Where the Commodity Is Speech*, 39 SETON HALL L. REV. 291, 312 (2009).

122. Manne & Wright, *supra* note 41, at 230.

123. See *id.* at 210. For example, "natural monopolies" like electric utilities, have been considered to be inherently immune to normal competitive pressures. See *generally id.* at 211-12; see also *Alabama Power Co. v. F.C.C.*, 311 F.3d 1357, 1361 (11th Cir. 2002) (discussing electric utilities as an example of a natural monopoly).

124. *United States v. Microsoft Corp.*, 253 F.3d 34, 56 (D.C. Cir. 2001).

125. Compare Press Release, comScore, comScore Releases October 2012 U.S. Search Engine Rankings (Nov. 16, 2012), available at http://www.comscore.com/Insights/Press_Releases/2012/11/comScore_Releases_October_2012_U.S._Search_Engine_Rankings, with *StatCounter Global Stats*, STATCOUNTER, available at http://gs.statcounter.com/#search_engine-US-monthly-201209-201211-bar.

126. *Image Technical Servs., Inc. v. Eastman Kodak Co.*, 125 F.3d 1195, 1207 (9th Cir. 1997) (finding that Kodak controlled 65% "of the markets for photocopier and micrographic equipment parts").

entry in horizontal search: network effects and sunk costs. These barriers are counterbalanced by the near-zero switching costs in the market for search.

The most commonly asserted reason for Google's dominance is indirect network effects.¹²⁷ The argument goes something like this: When users search on Google, they provide Google with user data that Google can then utilize to improve its search algorithm, thus improving its appeal to consumers; this sequence then repeats itself, creating a feedback loop.¹²⁸ Further, because Google is able to attract users with its superior search results, it is then able to attract more advertising dollars.¹²⁹ These advertising dollars fund Google's continuing efforts to improve its search product in a cycle that makes it impossible for rivals to catch up.¹³⁰

Argenton and Prüfer have argued that user query logs make monopolization of search inevitable.¹³¹ User query logs record the user's behavior on the search results page.¹³² If a user clicks on a link that is not prominently displayed on the results, or enters new search terms, it indicates that the results offered by the engine were suboptimal.¹³³ The algorithm can then adapt, or be modified, to produce better results.¹³⁴ Because competitors cannot match the dominant search engine's ability to improve its results using query logs, the dominant search engine's quality gap over its competitors continues to increase over time, leading to further dominance.¹³⁵ Thus, the natural trend in search is toward an oligopoly of the search engines with sufficient user bases and funding, and the trend ultimately leads to one very dominant engine.¹³⁶

The search query log argument is not without dispute. Though lacking empirical data, Manne and Wright argue that the minimum scale necessary to effectively maintain a search algorithm is readily achievable, and that beyond this minimum scale the returns from query logs diminish.¹³⁷ They argue that search engines like Bing and Yahoo! already have sufficient scale and therefore are not at a competitive disadvantage.¹³⁸

This assertion is dubious in light of the DOJ's investigation of a proposed deal between Bing and Yahoo!, in which the DOJ concluded that by combining their user query logs the parties would be able to provide more effective search results.¹³⁹ Manne and Wright's assertion is also dubious because one-sixth of the

127. See, e.g., Cédric Argenton & Jens Prüfer, *Search Engine Competition with Network Externalities* 1 (Tilburg L. & Econ. Ctr., Discussion Paper 2011-024, 2011).

128. *Id.* at 2.

129. *Id.* at 9.

130. *Id.*

131. *Id.* at 13.

132. *Id.* at 2.

133. See *id.*

134. See *id.*

135. *Id.* at 9.

136. *Id.* at 9, 11.

137. Manne & Wright, *supra* note 41, at 212 ("Based on conversations we have had with industry insiders, it appears that algorithmic results are only weakly affected by the number of end users or searches.").

138. *Id.* at 224.

139. Press Release, U.S. Dep't of Justice, Statement of the Department of Justice Antitrust Division on Its Decision to Close Its Investigation of the Internet Search and Paid Search Advertising Agreement Between Microsoft Corporation and Yahoo! Inc. (Feb. 18,

queries received by Google are new,¹⁴⁰ indicating that query logs may play a significant role in constantly updating the algorithm, particularly with regard to searches for new, rare, and/or obscure terms. In any case, it is true that the relationship between user query logs and search engine dominance is unclear to academia at this time.¹⁴¹

It is worth noting that the query logs are perhaps the only barrier to entry in search with a close analog in the *Microsoft* case. In *Microsoft*, it was found that the popularity of Windows encouraged software developers to write applications for Windows' broad audience over less popular operating systems.¹⁴² And, because consumers wanted an operating system with many applications, a feedback loop helped to ensure that Windows would remain dominant.¹⁴³ Query logs may serve a similar function: if query logs substantially affect search result quality, then a non-dominant search engine would not be able to match the dominant search engine's ability to improve its algorithm simply because the dominant search engine has a larger audience.

Sunk costs in the form of infrastructure investment and initial product development represent another barrier to entry in search. Running a search engine requires a large investment in the infrastructure necessary to crawl pages, index them, and process queries. Crawling the web to index content, when content is expanding rapidly, is an enormous task. In 2008, Google had mapped one trillion unique URLs, with several billion more pages being added daily.¹⁴⁴ Google processes this mass of information several times a day.¹⁴⁵ The company calls it "the computational equivalent of fully exploring every intersection of every road in the United States. Except [it would] be a map about 50,000 times as big as the U.S., with 50,000 times as many roads and intersections."¹⁴⁶ While a new entrant need not have the same resources as Google to compete, the initial investment is nonetheless significant.

The cost of developing a search algorithm is also substantial. Search algorithms are closely guarded secrets and in some cases, such as PageRank, key developments are patented and unavailable for licensing.¹⁴⁷ As such, a successful competing search algorithm could take years to develop from scratch and bring to market.¹⁴⁸ And where novel features of a search engine are not protected by

2010) ("The transaction will enhance Microsoft's competitive performance *because it will have access to a larger set of queries*, which should accelerate the automated learning of Microsoft's search and paid search algorithms and enhance Microsoft's ability to serve more relevant search results and paid search listings, particularly with respect to rare or 'tail' queries." (emphasis added)).

140. Matt Warman, *Google, Caffeine and the Future of Search*, TELEGRAPH (June 17, 2010, 7:00 AM), <http://www.telegraph.co.uk/technology/google/7833590/Google-Caffeine-and-the-future-of-search.html>.

141. See Manne & Wright, *supra* note 41, at 224–27.

142. *United States v. Microsoft Corp.*, 253 F.3d 34, 55 (D.C. Cir. 2001).

143. *Id.*

144. Jesse Alpert & Nissan Hajaj, *We Knew the Web Was Big...*, OFFICIAL GOOGLE BLOG (July 25, 2008), <http://googleblog.blogspot.com/2008/07/we-knew-web-was-big.html>.

145. *Id.*

146. *Id.*

147. See *supra* note 27.

148. One estimate is that search engine code is about three million lines long and would cost up to \$100 million dollars to develop. See Rufus Pollock, *Is Google the Next Microsoft?*

intellectual property, a dominant search engine may simply copy those features to neutralize innovative competitors.¹⁴⁹

Because the present search model is dependent on advertising dollars, no competing search engine is likely to be able to recover its sunk costs without first achieving a sufficient user base to attract large advertising revenues. Nor can an entrant steal away users by undercutting prices, because search engine services are offered for free. This means that market entry is both costly and risky. But two countervailing considerations lead to the conclusion that these barriers to entry do not insulate a dominant search engine from competitive pressures.

The first countervailing consideration is switching costs. Users can, and do, switch between search engines simply by typing in a URL.¹⁵⁰ Admittedly, some switching costs do exist. For example, users may be accustomed to optimizing their search terms for a search engine's algorithm, or the search engine may have learned to personalize its search results to the user based on the user's search history. But these switching costs are markedly different from those present in cases such as *Microsoft*. In that case, switching would have required users to buy a new operating system, and possibly a new computer, in addition to losing their investment on any software that was incompatible with the new operating system.¹⁵¹

The second countervailing consideration is the present and past state of the search engine market. Yahoo!, once the dominant search engine, was itself displaced by the disruptive entry of Google into the market.¹⁵² That is an indication of the dynamic nature of the search market. The recent entry of other competitors into the market also indicates that while sunk costs are substantial, competitors are willing to risk entry. Since 2008, Bing, Blekko, and DuckDuckGo have all launched search engines that compete directly with Google.¹⁵³ At the time of writing, comScore's most recent market share report states that Google's competitors share a third of the market, with Bing-powered search accounting for the lion's share.¹⁵⁴

Competition, Welfare and Regulation in Internet Search 26 n.45 (Emmanuel Coll. & Faculty of Econ., Univ. of Cambridge, Working Paper No. 0921, 2009), available at <http://econpapers.repec.org/paper/camcamdae/0921.htm>.

149. "If it is really attractive, I fully expect Google to just add the technology or copy it." Catherine Holahan, *A Gaggle of Google Wannabes*, BLOOMBERG BUSINESSWEEK (Oct. 4, 2006), http://www.businessweek.com/technology/content/oct2006/tc20061004_441574.htm (quoting analyst Youssef Squali).

150. See ROBERT H. BORK & J. GREGORY SIDAK, WHAT DOES THE CHICAGO SCHOOL TEACH ABOUT INTERNET SEARCH AND THE ANTITRUST TREATMENT OF GOOGLE? 8 (American Enterprise Institute) (2012).

151. *United States v. Microsoft Corp.*, 253 F.3d 34, 52 (D.C. Cir. 2001).

152. Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149, 1182 (2008).

153. *Bing.com Official Launch Date*, BING WATCH... JUST BING IT! (June 3, 2009 12:08 AM), <http://www.bingwatch.com/bing-watch/2009/06/bingcom-official-launch-date.html>; Michael Arrington, *Get Ready for Blekko: Public Launch on November 1*, TECHCRUNCH (Oct. 26, 2010), <http://techcrunch.com/2010/10/26/get-ready-for-blekko-public-launch-on-november-1/>; Miranda Miller, *Happy Birthday, DuckDuckGo: Homegrown Search Engine Turns 4*, SEARCH ENGINE WATCH (Sept. 26, 2012), <http://searchenginewatch.com/article/2208454/Happy-Birthday-DuckDuckGo-Homegrown-Search-Engine-Turns-4>.

154. See *supra* note 125.

The evidence of successful market entry, combined with near-zero switching costs, suggests that a court would be, and should be, hesitant to conclude that a dominant search engine can maintain its market share by means other than winning on the competitive merits.

2. What's the Harm?

Even if a court were to conclude that search dominance is protected by barriers to entry, there is a fundamental problem with the conclusion that Google has monopoly power: how can Google exclude competition or raise prices in a market where users receive the product for free, and where users can switch services by simply typing in another URL?

Google cannot directly exclude competitors from entering the search engine market because it has no ability to stop a competitor from going online. Upstart search engines like Blekko and Bing have been able to quickly attract new users, which suggests that breaking into the search engine market is possible, although Blekko is suffering from a lack of resources and Bing is sustaining huge financial losses.¹⁵⁵ Nor can Google prevent other websites, such as its antagonist Foundem, from going online and being discovered through competing search engines, social media, or traditional advertising.

It is also unlikely that Google could begin charging consumers to use its search service without suffering an immediate, catastrophic loss of users. It is conceivable that, as a dominant player in search, Google could raise advertising prices profitably, thereby causing indirect harm to consumers in the form of increased prices, without suffering a corresponding loss of its user base. As discussed above, increased advertising prices would likely have no discernible effect on Google's consumer base because the increased costs on consumers would be so indirect as to be an externality. Whether a dominant search engine is capable of extracting monopoly advertising rents would be an empirical question that is complicated by the fact that, in Google's case, advertising prices is auction based. This means that, to a large extent, the market is choosing what to pay for AdWords advertising. Further, alternative advertising venues, including those of competing search engines, may discipline prices.

Another related problem is whether a dominant search engine would have any incentive to compromise the quality of its search results by engaging in search bias. In a recent article, Robert Bork and Gregory Sidak argue against there being any rational, anticompetitive reason for a dominant search engine to manipulate search results.¹⁵⁶ Bork and Sidak point out that Google's competitors, like Bing and

155. See David Angotti, *\$30 Million in Funding for Blekko: Blekko Has More Cash to Slash the Web*, SEARCH ENGINE J. (Sept. 30, 2011), <http://www.searchenginejournal.com/yandex-funds-blekko/34233/> (reporting that Blekko primarily runs off of the \$54 million in venture capital it has secured since its 2007 launch); David Goldman, *Microsoft's Plan to Stop Bing's \$1 Billion Bleeding*, CNN MONEY (Sept. 20, 2011, 12:41 PM), http://money.cnn.com/2011/09/20/technology/microsoft_bing/index.htm (reporting that Bing is hemorrhaging one billion dollars per quarter, and has lost \$5.5 billion since its June 2009 launch).

156. BORK & SIDAK, *supra* note 150, at 10–12.

Yahoo!, provide specialized search results akin to what one sees on Google—such as maps displayed in response to queries for addresses.¹⁵⁷ If consumers disliked this functionality, a competing search engine could snatch up market share by removing it. As users departed from Google, advertisers would follow them.¹⁵⁸ Thus, keeping this functionality in place would be contrary to Google’s self-interest were it not something consumers prefer. Bork and Sidak also point out that under the single-monopoly-profit theorem, it would likely be irrational for a dominant search engine to drive away users with an inferior product in an effort to gain market share in other markets.¹⁵⁹ Indeed, if a search engine were to harm its product for the sake of anticompetitive bias, it would be a strong indication that the search engine is a monopoly and is not under competitive pressures.¹⁶⁰

The above problems aside, the rest of the analysis will assume that Google has monopoly power in the appropriate relevant markets. In light of Google’s inability to exclude competing search engines and its questionable ability to extract monopoly prices for its advertising, it is unclear how Google can do anything more than hamstringing downstream websites by failing to rank them highly. Outside a smoking gun case of attempted monopolization, there appear to be only two legal theories of anticompetitive conduct that could convert such “hamstringing” into a Sherman Act claim. These will now be examined.

A. Anticompetitive Conduct

The most prominent theories of anticompetitive conduct premised on search bias are the essential facilities doctrine and the monopoly leveraging doctrine. As will be shown below, these theories are likely to fail. Additionally, research has indicated that Google’s competitors engage in search bias.¹⁶¹ As a general proposition, when all competitors in a market engage in a business practice it indicates that the practice is not anticompetitive.¹⁶²

1. Essential Facilities Doctrine

One line of argument would be that Google’s search engine is an “essential facility,” and that removing a competitor from search results (or demoting the competitor so far as to effectively remove him) makes it impossible to compete. The essential facilities doctrine is a method of proving the predatory acts necessary

157. *Id.* at 12.

158. *Id.* at 5.

159. *Id.* at 10.

160. Behavior that is only rational where a party is, or expects to become, a monopolist is itself evidence that the party is a monopolist. *See Adjusters Replace-A-Car, Inc. v. Agency Rent-A-Car, Inc.*, 735 F.2d 884, 889 (5th Cir. 1984) (noting that predatory pricing behavior is only rational if a firm expects to gain or preserve monopoly powers as a result).

161. *See* WRIGHT *supra* note 58.

162. *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 227 (D.C. Cir. 1986); *see also* FTC Google Statement, *supra* note 11, at 2 (noting that Google’s competitors engaged in practices similar to those of Google, which indicated to the FTC that those practices were not anticompetitive).

to show a § 2 violation.¹⁶³ The basic premise is that where a facility is essential to compete, and a monopolist or near monopolist is in control of the facility, it is illegal anticompetitive conduct for the monopolist to deny his competitors access to the facility. The doctrine has its roots in the context of railroads. A group of railroads combined to control three terminals that constituted all railway bridges and switching yards leading into and out of St. Louis, effectively precluding any competing railroads from offering service to, or even through, St. Louis.¹⁶⁴ The Supreme Court ruled that the colluding railroads had to grant access to the terminals or the Court would enjoin the defendants from operating the terminals collectively.¹⁶⁵

The Seventh Circuit has articulated four elements for proving an essential facilities case: “(1) control of the essential facility by a monopolist; (2) a competitor’s inability practically or reasonably to duplicate the essential facility; (3) the denial of the use of the facility to a competitor; and (4) the feasibility of providing the facility.”¹⁶⁶

A plaintiff complaining of demotion or banishment from Google’s search results could probably succeed on the last three prongs. Competitors cannot feasibly recreate Google (element two). In an appropriate case, a competitor could allege that it was kicked off Google for anticompetitive reasons (element three). Google can list competitors at near-zero cost (element four). But proving that Google is essential would be difficult, if not impossible.

Under the more liberal reading of the essential facilities doctrine, which requires only a “severe handicap on potential market entrants,”¹⁶⁷ the claim is cognizable. TripAdvisor, for example, receives 29.48% of its traffic from Google.¹⁶⁸ However, the cases generally hold that where unilateral conduct is involved, control over access to the facility must grant the ability to *eliminate* competition.¹⁶⁹ Websites that are excluded by Google may still be ranked highly by competing search engines like Bing and Yahoo!. Websites can also promote themselves by purchasing advertising or by being linked to from other websites. Moreover, the story of Foundem illustrates that Google does not eliminate competitors. In spite of Google having a market share of more than 90% in Europe, Foundem (which operates in Europe) was still alive and kicking after being de facto banished from

163. HOLMES & MANGIARACINA, *supra* note 116, § 3:13.

164. *United States v. Terminal R.R. Ass’n of St. Louis*, 224 U.S. 383, 401 (1912).

165. *Id.* at 412–13.

166. *MCI Commc’ns Corp. v. Am. Tel. & Tel. Co.*, 708 F.2d 1081, 1132–33 (7th Cir. 1983).

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

168. Dennis Schaal, *TripAdvisor Upstream Traffic—Google Sharply Down, Facebook Rising*, TNOOZ (Jan. 28, 2011), <http://www.tnooz.com/2011/01/28/news/tripadvisor-upstream-traffic-google-sharply-down-facebook-rising>.

169. *See Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 544 (9th Cir. 1991) (collecting cases and holding that “[a] facility that is controlled by a single firm will be considered ‘essential’ only if control of the facility carries with it the power to *eliminate* competition in the downstream market” (emphasis in original)).

Google for three years.¹⁷⁰ A district court has already ruled that Google is not an essential facility using similar reasoning.¹⁷¹

The Supreme Court has also thrown a wet blanket on the essential facilities doctrine. In *Trinko*, Justice Scalia wrote that the essential facilities doctrine was “crafted by some lower courts” and that the Court had “never recognized such a doctrine.”¹⁷² The Court noted that *Terminal Railroad* involved a group of competitors colluding, and hence the doctrine had not been approved by the Court in cases of unilateral action.¹⁷³ The *Trinko* Court declined to rule definitively on the validity of the doctrine.¹⁷⁴

2. Monopoly Leveraging

Monopoly leveraging occurs when a monopolist uses its monopoly power in one market to gain a competitive advantage in another market. The doctrine is currently on life support, although it has not been expressly abandoned. The Second Circuit originally had the most liberal test for monopoly leveraging, requiring “monopoly power in one market, ‘the use of [that] power, however lawfully acquired, to foreclose competition, to gain a competitive advantage, or to destroy a competitor’ in another distinct market, and injury caused by the challenged conduct.”¹⁷⁵ The Second Circuit later hemmed in the doctrine by stating that “monopoly leveraging claims should be limited to instances where the challenged conduct ‘threatens the [second] market with the higher prices or reduced output or quality associated with the kind of monopoly that is ordinarily accompanied by a large market share.’”¹⁷⁶

In *Alaska Airlines*, the Ninth Circuit squarely rejected the monopoly leveraging doctrine, and held that on such facts a plaintiff must prove a traditional attempted monopolization claim.¹⁷⁷ The Third and Seventh Circuits have since agreed that monopoly leveraging is not an independent offense.¹⁷⁸ The Supreme Court seemed to favor the Ninth Circuit’s approach in *Trinko*, although its treatment of the doctrine was limited to a footnote.¹⁷⁹ The Court’s wording suggests that the Second

170. *Foundem’s Google Story*, *supra* note 10.

171. *KinderStart.com, LLC v. Google, Inc.*, No. C06-2057JF(RS), 2006 WL 3246596, at *9 (N.D. Cal. July 13, 2006) (holding that Google was not an essential facility because KinderStart, which saw its traffic drop 70% after Google demoted its search rankings, was still able to generate sufficient traffic to remain afloat; hence competition was not “eliminated”).

172. *Verizon Commc’ns, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 410–11 (2004).

173. *Id.* at 410 n.3.

174. *Id.* at 410.

175. *Grand Light & Supply Co. v. Honeywell, Inc.*, 771 F.2d 672, 681 (2d Cir. 1985) (citation omitted).

176. *AD/SAT, A Div. of Skylight, Inc. v. Associated Press*, 181 F.3d 216, 232 (2d Cir. 1999) (citation omitted).

177. *Alaska Airlines, Inc. v. United Airlines, Inc.*, 948 F.2d 536, 547–49. (9th Cir. 1991).

178. *See Schor v. Abbott Labs.*, 457 F.3d 608, 611–13 (7th Cir. 2006); *Fineman v. Armstrong World Industries, Inc.*, 980 F.2d 171, 204–06 (3d Cir. 1992).

179. “To the extent the Court of Appeals dispensed with a requirement that there be a ‘dangerous probability of success’ in monopolizing a second market, it erred. In any event, leveraging presupposes anticompetitive conduct, which in this case could only be the

Circuit's test is inadequate without the additional element of a dangerous probability of successful monopolization, but the Court did not rule that monopoly leveraging is an invalid § 2 theory. For example, the Court's comment leaves open the possibility that a showing of specific intent might be unnecessary in a monopoly leveraging claim.¹⁸⁰

Google's conduct would appear to fit neatly within a monopoly leveraging theory. By removing competitors from its search results and promoting its own products, Google is able to leverage its search engine power to gain a competitive advantage in other markets.

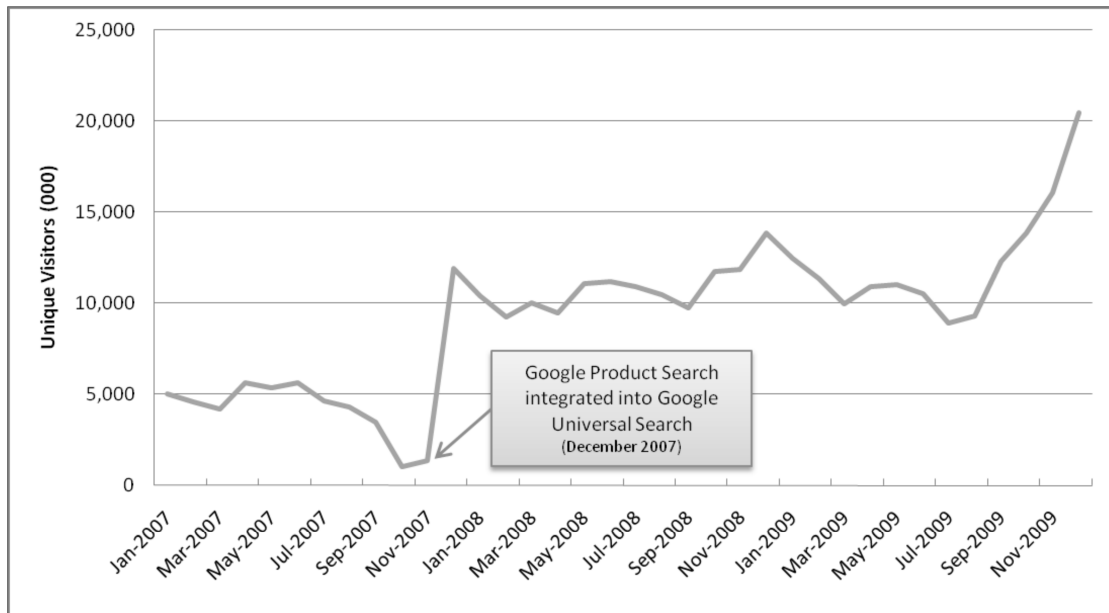


Figure 1: Google Product Search U.S. Traffic Before and After Universal Search¹⁸¹

In December 2007, when Google began giving Google Product Search preference with Universal Search, the effect was immediate, as Figure 1 illustrates. The increase in traffic was met with a corresponding loss of traffic to competing price comparison websites, and the effect was even greater in the United Kingdom, where Google enjoys a larger share of the search market.¹⁸²

refusal-to-deal claim we have rejected.” *Verizon Commc’ns, Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 415 n.4 (2004) (citing *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 459 (1993)).

180. Before *Trinko*, the Second Circuit also recognized that *Spectrum Sports* may have abolished the monopoly leveraging doctrine when the Supreme Court wrote that § 2 “‘makes the conduct of a single firm unlawful *only* when it actually monopolizes or dangerously threatens to do so.’” *AD/SAT*, 181 F.3d at 230 (quoting *Spectrum Sports*, 506 U.S. at 459) (emphasis added). Note that the Second Circuit cited to the same portion of *Spectrum Sports* that Justice Scalia later cited to in *Trinko*.

181. CONSUMER WATCHDOG, *supra* note 54, at 11.

182. See RAFF & RAFF, *supra* note 62.

Under the liberal standard of monopoly leveraging, such behavior might be enough for a plaintiff to succeed. However, as shown above, the case law now questions the validity of the doctrine, and it is likely that a plaintiff would need to rely on a traditional attempted monopolization theory to prove an antitrust claim in a market that Google has not monopolized.

Attempted monopolization carries with it the difficulty of proving intent, as well as defining other relevant markets and proving a dangerous probability of success.¹⁸³ And again, vertical search services are almost universally offered for free. Hence, if a free service cannot be a relevant market, then there could be no attempted monopolization claim for such a market.

3. A Comment on Predatory Algorithm Changes

Since it is very difficult even for experts to evaluate search engines, search engine bias is particularly insidious. . . . For example, a search engine could add a small factor to search results from “friendly” companies, and subtract a factor from results from competitors. This type of bias is very difficult to detect but could still have a significant effect on the market.

—Sergey Brin and Larry Page, Google Co-Founders¹⁸⁴

As the above quote from the men who created Google suggests, search engine bias can be very subtle and difficult to detect,¹⁸⁵ and the current state of antitrust law would make any claim based on algorithm manipulation very difficult. As a general matter, courts are very wary of ruling on the merits of a company’s product development choices.¹⁸⁶ The Ninth Circuit has ruled that a design change that improves a product will, as a practical matter, insulate a company from § 2 liability.¹⁸⁷

183. *Spectrum Sports*, 506 U.S. at 456 (holding that attempted monopolization requires “(1) that the defendant has engaged in predatory or anticompetitive conduct with (2) a specific intent to monopolize and (3) a dangerous probability of achieving monopoly power”). “[W]hereas [a monopolization claim] . . . generally requires the defendant to have a market share around 75 percent or higher, plaintiffs can satisfy the dangerous probability element for attempted monopolization by showing that the defendant has a market share of around 35 percent or higher, depending on the presence of barriers to entry.” LESLIE, *supra* note 117, at 32.

184. Sergey Brin & Lawrence Page, *The Anatomy of a Large-Scale Hypertextual Web Search Engine*, STANFORD UNIV., <http://infolab.stanford.edu/~backrub/google.html>.

185. See, e.g., Charles Arthur, *How Google’s ‘Panda’ Update Put Some Websites on Endangered Species List*, GUARDIAN (Dec. 5, 2011, 11:24 AM), <http://www.guardian.co.uk/technology/2011/dec/05/google-panda-update-endangered-species>.

186. “As a general rule, courts are properly very skeptical about claims that competition has been harmed by a dominant firm’s product design changes.” *United States v. Microsoft Corp.*, 253 F.3d 34, 65 (D.C. Cir. 2001). The Fifth Circuit has similarly warned against any liability standard that “would enmesh the courts in a technical inquiry into the justifiability of product innovations.” *Response of Carolina, Inc. v. Leasco Response, Inc.*, 537 F.2d 1307, 1330 (5th Cir. 1976).

187. “There is no violation of Section 2 unless [a] plaintiff proves that some conduct of the monopolist associated with its introduction of a new and improved product design ‘constitutes an anticompetitive abuse or leverage of monopoly power, or a predatory or

For example, in *Microsoft*, it was found that Microsoft had integrated the code for Internet Explorer into critical Windows code, making it virtually impossible to remove Internet Explorer from Windows.¹⁸⁸ Microsoft had also taken Internet Explorer off of the “add/remove” menu, meaning that users could not delete the program.¹⁸⁹ Because Microsoft offered *no* procompetitive justification for the design changes, the D.C. Circuit upheld the district court’s finding that Microsoft had made the design changes for the sole purpose of preserving its monopoly in the operating system market.¹⁹⁰

Thus, any claim that Google alters its algorithm in anticompetitive ways could be rebutted by Google demonstrating that the design change was a product improvement, and courts would tend to give Google the benefit of the doubt. Google could offer procompetitive justifications by, for example, showing that the design changes improved performance, lowered costs, increased the relevancy of search results, or improved the appeal of Google’s product in general.¹⁹¹ In fact, this occurred in the FTC’s own investigation of Google’s alleged search bias. The FTC noted that Google’s “bias” could be justified as permissible product design choices.¹⁹² The FTC also emphasized its reticence to “second-guess a firm’s product design decisions where plausible procompetitive justifications have been offered, and where those justifications are supported by ample evidence.”¹⁹³ A defense based on product design would not be available if it could be shown that Google simply altered its algorithm to quash competition, but at present those facts are not in evidence.¹⁹⁴

C. If There Is a Wrong, What’s the Remedy?

Assuming that an antitrust claim could be proved against a dominant search engine, there remains the burning question of what remedy could be imposed—several potential remedies have been suggested by Google’s critics.¹⁹⁵ A recent article by Marvin Ammori and Luke Pelican summarizes and criticizes each, but this Note will focus on only one: search neutrality.¹⁹⁶ The rest of the proposed

exclusionary means of attempting to monopolize the market.” *Allied Orthopedic Appliances, Inc. v. Tyco Health Care Grp. LP*, 592 F.3d 991, 1000 (9th Cir. 2010) (quoting *Foremost Pro Color, Inc. v. Eastman Kodak Co.*, 703 F.2d 534, 545–46 (9th Cir. 1983)).

188. *Microsoft*, 253 F.3d at 64–65.

189. *Id.* at 64.

190. *Id.* at 66–67.

191. *See California Computer Prods., Inc. v. IBM*, 613 F.2d 727, 744 (9th Cir. 1979) (“IBM, assuming it was a monopolist, had the right to redesign its products to make them more attractive to buyers—whether by reason of lower manufacturing cost and price or improved performance. It was under no duty to help CalComp or other peripheral equipment manufacturers survive or expand.”).

192. FTC Google Statement, *supra* note 11, at 2.

193. *Id.* at 3.

194. Similar to the *Microsoft* case, intentional manipulation of search results to harm competitors, with *no* procompetitive justification whatsoever, may be the most persuasive fact pattern for an antitrust case. *See Daniel A. Crane, Search Neutrality as an Antitrust Principle*, 19 GEO. MASON L. REV. 1199 (2012) (outlining an antitrust doctrine that would prohibit search bias if no procompetitive justification for the bias exists).

195. *See generally* Ammori & Pelican, *supra* note 7.

196. *See id.* at 13–17 (discussing and dismissing the possibility of a “search neutrality”

remedies, such as divestiture and regulation of search results page formatting, are deeply problematic and should not be pursued.

Ammori and Pelican make the argument that imposing search neutrality via judicial or regulatory means is impossible because “no one has articulated a specific formula or metric for determining when or if Google's display opinions improperly disadvantage rivals.”¹⁹⁷ Other scholars have similarly argued that search neutrality is a nonstarter because search results are inherently subjective opinions.¹⁹⁸ This argument goes too far because there is a simple, four-element formula for defining improper search bias. Search bias occurs when (1) a search engine manipulates its search results rankings (2) based on the search engine's pecuniary interests in those results (3) without disclosing it is doing so (4) while claiming to be providing search results that are based on an unbiased, objective measure of relevance. It is easy to define search bias because search bias has nothing to do with any reasonable, objective measure of relevance—it has to do with the search engine's proprietary interests. Nor would detecting such bias be difficult in all cases. Search engine results are short and most users never look past the first page.¹⁹⁹ Accordingly, bias is likely to be concentrated in the first few results and in areas with the greatest commercial significance—where the incentives for bias are greatest. Thus, potential bias is obvious where certain websites owned or affiliated with the dominant search engine consistently appear near the top of the results, or where competing websites appear lower on the dominant engine's results than on competing search engines, for no apparent reason.

But while search bias can be defined, Ammori and Pelican make several separate and compelling arguments about the difficulty of enforcing an antitrust decree against search bias. First, positively identifying search bias would likely require extensive technical expertise in the computer sciences, and significant time and expense might be wasted by monitoring compliance with an outside committee of technical experts. A technical committee was implemented in the *Microsoft* case and it has been subjected to much criticism.²⁰⁰ However, concerns about the technical difficulty of identifying bias in source code are not without opposing considerations. Because each build of a search algorithm would contain largely the same source code, the resources required to isolate newly introduced, bias-inducing code could be substantially reduced by ignoring the code that remains unchanged from prior iterations.

remedy).

197. *Id.* at 13.

198. See, e.g., Eric Goldman, *Revisiting Search Engine Bias*, 38 WM. MITCHELL L. REV. 96, 107 (2011) (“[T]he term ‘search neutrality’ implies the existence of neutral search engines, but those are entirely mythical.”); Geoffrey A. Manne & Joshua D. Wright, *If Search Neutrality Is the Answer, What's the Question?*, 2012 COLUM. BUS. L. REV. 151, 162.

199. One study showed that 68% of users view only the first page of search results, 92% never view more than three pages of search results, and 39% of users believe websites that frequently appear high on search engine results are leaders in their field. Nate Rodnay, *92% of Search Engine Users View First Three Pages of Search Results*, BUS. HIGHLIGHT, <http://www.businesshighlight.org/computers-and-internet/internet/92-of-search-engine-users-view-first-three-pages-of-search-results.html>.

200. See Ammori & Pelican, *supra* note 7, at 15–17 (citing various criticisms of the *Microsoft* technical committee).

Second, monitoring a decree is likely to be very difficult for a generalist judge because of the technical matter involved.²⁰¹ Likewise, the FTC is not focused on these sorts of highly technical issues, though presumably the agency would be better able to retain a technical staff than a court.

Third, a decree might encourage competitors to make endless, largely baseless claims of search bias each time their rankings drop or Google's rise.²⁰² This would be a resource drain on the court and Google, and it could function as an anticompetitive weapon.

Fourth, and perhaps most persuasively, search rankings could repeatedly change in the course of an enforcement proceeding, making an accurate and speedy adjudication of all but the most severe instances of search bias impractical or impossible as subsequent changes moot alleged harms.²⁰³

D. Takeaways

From the above discussion, a few conclusions can be drawn. The first is that the low switching costs associated with free online services may, as a practical matter, insulate the providers of those services from antitrust liability. Low switching costs mean that online businesses are always under a competitive threat from new entrants. This is not necessarily an undesirable outcome. Indeed, it would be far more undesirable to hold a company liable under the Sherman Act when the company has merely succeeded in a highly competitive marketplace.

The second conclusion to be drawn is that current antitrust doctrine tends to disfavor the legal theories that would be argued against a dominant search engine on the basis of search bias. Accordingly, it is not surprising that the FTC chose to close its search bias investigation and forego an antitrust case. But given the interest the FTC has shown in pursuing its enforcement agenda recently,²⁰⁴ it is probable the FTC will pursue a regulatory agenda where antitrust fails.

III. REGULATING SEARCH

For years a debate has raged about regulating search.²⁰⁵ Solutions range from a free market approach, to a common law of search, to creating a Federal Search Commission.²⁰⁶ This Part briefly examines these proposals and offers its own regulatory proposal based on prior regulations and certain existing FTC guidelines.²⁰⁷

201. *Id.* at 12.

202. *Id.* at 14.

203. *Id.* at 14–15.

204. *See, e.g.,* Kevin E. Noonan, *FTC Asks Supreme Court to Play Favorites in Reverse Payment Settlement Agreement Cases*, PATENT DOCS (Oct. 16, 2012), <http://www.patentdocs.org/2012/10/ftc-asks-supreme-court-to-play-favorites-in-reverse-payment-settlement-agreement-cases.html> (discussing three separate tests cases brought by the FTC in an attempt to have Hatch-Watchman Act “reverse payments” declared illegal under competition law).

205. *See* Moffat, *supra* note 15 (tracing the debate over search engine regulation).

206. *Id.* at 477.

207. Benjamin Edelman and Benjamin Lockwood appear to have been the first scholars to analogize airline Computer Reservation Systems to search engines. *See* Benjamin

A. Proposals to Regulate Search Bias

Professor Viva Moffat encapsulates the present debate over regulating search nicely. At one end is the atomic bomb solution of a Federal Search Commission.²⁰⁸ This line of reasoning likens search engines to telecom giants and railroads, which are important industries that exhibit network effects tending toward monopoly.²⁰⁹ Therefore, proponents conclude, regulation is justified.²¹⁰ But a special agency regulating search engines is unnecessary and unwise. Regulatory agencies tend to create burdensome, politicized rules and are subject to capture.²¹¹ In an innovative and fast-moving market like search, such an agency is more likely to stifle innovation, to lock in suboptimal technologies, and to favor entrenched interests than it is to provide a net benefit to society.²¹² The Federal Search Commission solution smacks of the nirvana fallacy, wherein government regulation cures all ills and produces none of its own.²¹³

The intermediate common law approach to search engine law advocated by Professor Moffat²¹⁴ is likely to be hopelessly unprepared to deal with rapid technological advances and unforeseen product development. Indeed, the market for search may be so different in a few years that we would no longer think of regulating search engines as they are today.²¹⁵ One can imagine judges struggling to apply the doctrine of *stare decisis* as the facts on the ground quickly undermine the rationale of binding precedents.²¹⁶

The free market approach postulates that users and advertisers will discipline search engines, thus obviating the need for government intervention.²¹⁷ For example, bad publicity from documented search engine bad acting could cause users and advertisers to depart en masse.²¹⁸ The problem with this approach is that, as Google's founders recognized, search engine misconduct is hard to discover. Further, a failure to act in the present could lead to more burdensome regulation in the future, like the Federal Search Commission, particularly if truly ghastly stories of search engine bad acting were to grab widespread headlines. Finally, there is no

Edelman & Benjamin Lockwood, *Measuring Bias in "Organic" Web Search*, BENDELMAN.ORG (Jan. 19, 2011), <http://www.benedelman.org/searchbias>.

208. Moffat, *supra* note 15, at 488.

209. *See id.* at 489.

210. *Id.*

211. *Id.* at 492.

212. *Id.*

213. *See, e.g.*, Christopher S. Yoo, *Network Neutrality and the Economics of Congestion*, 94 GEO. L.J. 1847, 1898 (2006) ("Furthermore, any proposed regulatory solution must take care to avoid the classic nirvana fallacy: Just because a market-based outcome is suboptimal does not mean that a government-imposed outcome will necessarily fare any better.").

214. Moffat, *supra* note 15, at 499.

215. *See* Robert W. Crandall & Charles L. Jackson, *Antitrust in High-Tech Industries*, 38 REV. INDUS. ORG. 319, 324–330 (2011) (recounting cases where DOJ antitrust enforcement was preempted by evolving technology).

216. *See, e.g.*, *Planned Parenthood of Southeastern Pennsylvania v. Casey*, 505 U.S. 833, 854–55 (1992) ("[When applying *stare decisis*,] we may ask . . . whether facts have so changed, or come to be seen so differently, as to have robbed the old rule of significant application or justification.").

217. Moffat, *supra* note 15, at 490.

218. *Id.* at 491.

such thing as an unregulated market in the United States because antitrust laws apply universally.²¹⁹ The *laissez-faire* approach is, in pragmatic terms, really an argument for relying on antitrust enforcement.

A fourth approach to search bias regulation, raised after Professor Moffat's article, has also received attention and criticism. Benjamin Edelman and Benjamin Lockwood have argued for a regulation of search modeled on the regulation of airline Computer Reservation Systems (CRSs).²²⁰

In the 1980s, the DOJ conducted an investigation into the practices of CRSs, resulting in a variety of agency regulations.²²¹ CRSs provided contracting travel agencies with flight information transmitted by carriers via computer networks.²²² Flights would show up on a computer screen as a list of results, much the same way that we see search results today, and travel agents could choose a flight from the listings and book it electronically.²²³ The major CRSs were all owned by large airlines, with American's SABRE and United's Apollo being the leaders.²²⁴ The claims of anticompetitive conduct brought by the DOJ after its investigation resemble those levied against Google today.

Apollo and SABRE were found to have systematically biased their CRS results in favor of their owner-airlines' flights.²²⁵ For example, their algorithms heavily weighted factors that were carrier-specific.²²⁶ Other examples include inflating the flight times of competitors and blocking flights with lower fares.²²⁷ CRSs were also found to have updated competitors' flight information at a slower rate.²²⁸ This practice harmed competition by making competitors' flight information less reliable, by allowing owner-airlines to respond to market prices more effectively, and by giving the owner-airlines a temporary window where only their flights would appear on the screen.²²⁹ A search engine could behave similarly by crawling and indexing disfavored websites less frequently. If it did so, those websites would

219. Cindy R. Alexander & Yoon-Ho Alex Lee, *The Economics of Regulatory Reform: Termination of Airline Computer Reservation System Rules*, 21 YALE J. ON REG. 369, 426 (2004) (“[T]he word ‘deregulation’ is a misnomer: the correct characterization is whether the market ‘should be ‘regulated by the agency’ or ‘regulated by the antitrust laws.’”).

220. See Benjamin Edelman, *Bias in Search Results?: Diagnosis and Response*, 7 INDIAN J. L. & TECH. 16 (2011); Edelman & Lockwood, *supra* note 207.

221. Margaret E. Guerin-Calvert, *Vertical Integration as a Threat to Competition: Airline Computer Reservation Systems*, in THE ANTITRUST REVOLUTION: THE ROLE OF ECONOMICS 432, 434 (John E. Kwoka, Jr. & Lawrence J. White eds., 2d ed. 1992).

222. *Id.* at 436.

223. *Id.* at 436–37.

224. *Id.* at 443. The creation of CRSs is truly a story of capitalism in action. An IBM salesman, sitting next to an airline executive on a flight, listened to the executive's complaints about the logistical deficiencies of ticketing practices. Timothy M. Ravich, *Deregulation of the Airline Computer Reservation Systems (CRS) Industry*, 69 J. AIR L. & COM. 387, 390 (2004). In a *carpe diem* moment, the IBM salesman made his pitch. *Id.* Soon after, IBM engineers were hard at work applying Cold War computer technology developed for the military to the problem of air travel reservations. *Id.*

225. Guerin-Calvert, *supra* note 221, at 446.

226. *Id.*

227. *Id.*

228. Alexander & Lee, *supra* note 219, at 380.

229. Guerin-Calvert, *supra* note 221, at 447.

experience a substantial delay before they would appear on the search results. This should lead to a feedback effect that further advantages the favored websites. Because the favored websites would appear on Google first, people would be more likely to discover and link to them. And because PageRank favors sites that receive lots of links from other websites, the effect would be self-reinforcing. Websites that appear first would be more likely to continue to appear first.

The history of CRS regulation is both an instructive and cautionary tale. In a comprehensive post-mortem of CRS regulations, which were repealed in 2004,²³⁰ Alexander and Lee demonstrate that the goals of CRS regulation were never fully achieved, and that repeal was eminently justified.²³¹ They also demonstrate that regulation had untoward effects. The agencies intruded excessively into the CRS market, which likely hampered innovation.²³² Contract terms, the structure of display screens, and even algorithmic weighting were regulated by rule.²³³ None of this intrusion was necessary to prevent the primary problem: preventing CRS displays from being systematically biased in favor of its owner-airline.²³⁴ Instead of focusing regulatory efforts on this bias, the agencies became obsessed with drawing new entrants into the CRS market—something that never happened.

Aside from the problematic history of CRS regulations, there are practical reasons why the regulations do not apply cleanly to search engines. CRS rankings involve relatively few variables, a small number of parties, and a steady number of flights based on existing routes.²³⁵ This small amount of data makes sifting through code and discovering illicit bias a very realistic goal. By contrast, search algorithms

230. The voluntary divestiture of all airline ownership in CRSs, combined with the advent of competition from internet flight booking services like Orbitz, ultimately led to a repeal of all CRS rules. Alexander & Lee, *supra* note 219, at 398, 405. The sudden lack of owner-airline self-interest and the influx of new competition led the agencies to conclude that regulation was no longer necessary. *Id.* Enforcement would now be accomplished on a case-by-case basis via antitrust law. *Id.* at 424. Interestingly, all but one CRS initially supported applying CRS rules to travel websites. *Id.* at 390. It was only after the agencies refused to do so that the CRSs unanimously favored repeal. *Id.* The CRS preference for regulating other industries, as opposed to deregulating the CRS industry itself, suggests that the CRS regulations may have actually benefited the interests of entrenched CRSs at that time. *See id.* at 429 (positing this theory).

231. *Id.* at 371–75.

232. In fact, innovation was almost certainly hampered by the government's approach to CRSs. Richard Ferris, a United Airlines executive, presaged the modern travel reservation process with his plan to use CRSs to reserve not only flights, but hotels and rental cars as well. Fred L. Smith, Jr., *The Case for Reforming the Antitrust Regulations (If Repeal Is Not an Option)*, 23 HARV. J.L. & PUB. POL'Y 23, 35 (1999). Ferris's vision of an integrated system of travel reservation, which today provides tremendous benefits to consumers, was met with brutal hostility during a Senate hearing. *Id.* Ferris resigned soon after and his plan was abandoned. *Id.*

233. Alexander & Lee, *supra* note 219, at 386–88 (listing CRS rules).

234. One would presume that the competitor airlines' own self-interest would motivate them to monitor CRSs for perceived bias and to bring any perceived bias to the attention of enforcement authorities. The antitrust lawsuits competitors quickly filed against American and United support this conclusion. *Id.* at 379. Those in the best position to discover bias were the competitors. Proscribing a series of micromanaging rules designed to prevent bias thus did little to facilitate enforcement of the general prohibition on bias.

235. Ammori & Pelican, *supra* note 7, at 15.

continuously seek out and organize billions of web pages, are constantly updated, and are of far greater complexity than the ranking systems a CRS probably employed. In spite of the problems associated with CRS regulation, one aspect of CRS regulation may be the best solution to the general harms caused by search bias.

B. A Broader Solution—Thinking of Undisclosed Bias As a Deceptive Practice

Thus far, the discussion has focused on dominant search engines' ability to harm competition. But a regulatory solution would apply to search engines generally. Accordingly, it is appropriate to go back to basics by looking broadly at the potential harms accruing to consumers from search engine bias.

The FTC is empowered to prevent “deceptive acts or practices.”²³⁶ Historically, the FTC has regarded a false pretense of objectivity as a deceptive practice due to its tendency to deceive consumers.²³⁷ More generally, a 1983 FTC policy statement establishes three elements that “undergird all deception cases”: there must be (1) a representation, omission, or practice that is likely to mislead (2) a reasonable consumer, and (3) the misleading act must be “likely to affect the consumer's conduct or decision with regard to a product or service.”²³⁸

Undisclosed bias across all search engines, including specialized search services, has the potential to meet this definition where the bias is premised on a financial interest. To illustrate why, consider Google. A study showed that college students were likely to substitute Google search rankings for their own subjective rankings of search result relevance.²³⁹ Other research has indicated that a majority of search engine users are unaware that financial interests may bias search results, though an overwhelming majority believe that search engines should disclose this information.²⁴⁰

Undisclosed bias is unlikely to materially injure users when they are searching for abstract information like the height of the Empire State Building. Clicking on an irrelevant link will merely waste a user's time. But in the context of price comparison websites, the tendency for users to trust in search results could be much more pernicious. A user could perceive that the rankings on a price comparison

236. Federal Trade Commission Act § 5(a)(2), 15 U.S.C. § 45(a)(2) (2006) (“The [Federal Trade] Commission is hereby empowered and directed to prevent . . . unfair methods of competition . . . and unfair or deceptive acts or practices.”).

237. See STEPHANIE W. KANWIT, 2 FEDERAL TRADE COMMISSION § 22.16 (2012) (citing various cases where the FTC brought enforcement actions against endorsers who failed to disclose financial interests); see also Andrew Sinclair, Note, *Regulation of Paid Listings in Internet Search Engines: A Proposal for FTC Action*, 10 B.U. J. SCI. & TECH. L. 353, 361–62 (2004) (discussing two cases where the FTC secured consent decrees against parties who claimed to be acting objectively without disclosing financial interests).

238. Cliffdale Associates, Inc., 103 F.T.C. 110 (1984) (guidelines attached as appendix).

239. Bing Pan, Helene Hembrooke, Thorsten Joachims, Lori Lorigo, Geri Gay, & Laura Granka, *In Google We Trust: Users' Decisions on Rank, Position, and Relevance*, 12 J. COMPUTER-MEDIATED COMM. 3 (Apr. 2007), <http://jcmc.indiana.edu/vol12/issue3/pan.html>.

240. PRINCETON SURVEY RESEARCH ASSOCIATES, A MATTER OF TRUST: WHAT USERS WANT FROM WEB SITES 17 (2002), available at <http://www.consumerwebwatch.org/pdfs/a-matter-of-trust.pdf>.

website are an objective ranking of the best products and deals available on the web. If the price comparison website ranks its results based on pecuniary concerns, or only includes merchants that pay to be listed, consumers may be misled at a cost to their wallets. The effect could be similar for location services and travel websites. Consumers searching for restaurants, hotels, and flights could be unaware that only those businesses that have paid to be included are listed, or that payment is a factor in the rankings. These sorts of potential harms are likely the reason that Google Shopper presently contains disclosures about its paid inclusion model.²⁴¹

The FTC has already exerted some authority over undisclosed bias. In 2002, the FTC issued a letter to various search engines regarding paid ranking and paid inclusion practices.²⁴² The guidelines contained in the letter advised search engines to

ensure that: (1) any paid ranking search results are distinguished from non-paid results with clear and conspicuous disclosures; (2) the use of paid inclusion is clearly and conspicuously explained and disclosed; and (3) no affirmative statement is made that might mislead consumers as to the basis on which a search result is generated.²⁴³

Thus, under the FTC guidelines, any failure to disclose paid inclusion or ranking is prohibited.

The FTC's existing guidelines have never been formally enforced and observers question whether they are being followed.²⁴⁴ Presently, perhaps due to the likely failure of an antitrust enforcement action against Google, the FTC is rumored to be considering revisions to its guidelines.²⁴⁵

Certain improvements to the FTC's existing guidelines could be made so that the most pernicious effects of search bias, outlined above, could be mitigated. In particular, one rule from the now-defunct CRS regulations could be adapted to the present. The rule provided that "[i]n ordering the information contained in an integrated display, systems shall not use any factors directly or indirectly relating to carrier identity."²⁴⁶ This rule could be adopted by the FTC and modified along the following lines: "In [collecting and] ordering the information contained in [search results], [search engines] shall not use any factors directly or indirectly relating to [the search engine's pecuniary interests in those results absent a conspicuous disclosure to users]."²⁴⁷

241. See Sullivan, *supra* note 50.

242. Commercial Alert Letter, *supra* note 33. "Paid placement" refers to paying for a boost in organic search results rankings. *Id.* "Paid inclusion" refers to placing a website on a search index when that website would normally have been excluded. *Id.*

243. *Id.*

244. See Danny Sullivan, *A Letter to the FTC Regarding Search Engine Disclosure Compliance*, SEARCH ENGINE LAND (June 10, 2012, 1:37 PM), <http://searchengineland.com/a-letter-to-the-ftc-regarding-search-engine-disclosure-124169>.

245. Danny Sullivan, *SEMPO: FTC Is "Strongly Considering" Review of How Search Engines Disclose Paid Listings*, SEARCH ENGINE LAND (Oct. 15, 2012, 5:42 PM), <http://searchengineland.com/ftc-considering-search-engine-review-136677>.

246. Airline Computer Reservation Systems, 14 C.F.R. § 255.4(b) (2004).

247. For another approach to FTC regulation—and a discussion of the relative benefits of

This rule would balance several concerns. First, it does not require search engines to provide their proprietary search algorithms to private third parties. Second, it prohibits only bias that is undisclosed. Thus, search engines could still rank the relevance of web content as they please. Third, it prevents search engines from misleading consumers by favoring websites in which they have a pecuniary interest without full disclosure. Fourth, it includes a provision for “collecting” information, which would prevent a search engine from engaging in bias by refusing to crawl websites. Fifth, it applies equally to all search engines, whereas an antitrust remedy would only affect Google. Sixth, it is not limited to “paid inclusion” or “paid ranking” schemes. Accordingly, own-bias by search engines in favor of their own products would warrant disclosure. Likewise, other financial interests beyond direct payment for rankings would warrant disclosure if they affect search rankings. Seventh, the proposed regulation contains no intrusive mandates about the format of search results pages or algorithmic formulae, thus alleviating concerns about federal command-and-control over product development.

In spite of the potential for the proposed regulation to target search bias, several factors militate against adopting a regulation immediately. First, disclosures like those currently present on Google Shopper indicate that major actors are willing to make disclosures without being coerced by agency enforcement. Second, the costs of regulatory compliance may unnecessarily hamper the growth of newer, smaller entrants like Blekko and DuckDuckGo. Third, the potential difficulties associated with enforcing a search bias regulation counsel against engaging in a large scale enforcement effort without greater certainty as to the feasibility of the undertaking.²⁴⁸ Fourth, the history of CRS regulation indicates that enforcement agencies may be prone to mission creep and overregulation when regulating bias.²⁴⁹ Given those considerations, an open dialogue with all interested stakeholders, including downstream websites, search engines large and small, computer science experts, and consumers is the most likely path to a worthwhile solution.²⁵⁰

CONCLUSION

Search bias may facially appear to represent the next big thing in antitrust law. However, these fears are likely overstated. Competition exists in the search engine market and that competition deters even a dominant search engine from degrading its search product with biased results. The zero cost to consumers of switching to a competing search engine further disincentivizes bias. Accordingly, it is likely that “biased” practices alleged to be anticompetitive today, such as Google’s contextual use of Google Maps results in searches, are actually welfare-enhancing integrations that consumers prefer. Welfare-enhancing practices should be encouraged, rather than discouraged, by antitrust law and regulatory policy in general.

FTC rulemaking versus regulation-by-adjudication—see Sinclair, *supra* note 237, at 369–77.

248. The troubles associated with enforcing an antitrust decree would also be present in the context of agency enforcement. See *supra* text accompanying notes 200–03.

249. See *supra* text accompanying notes 230–34.

250. See David Balto, *The FTC Should Update Search Engine Transparency Guidelines*, HUFFINGTON POST (June 21, 2012, 9:14 AM), http://www.huffingtonpost.com/david-balto/ftc-search-engines_b_1608901.html (arguing for a collaborative regulatory endeavor that avoids unduly focusing new rules on the complaints of Google’s competitors).

Though search bias is a poor fit for antitrust law, the broader problem of undisclosed financial interests in search rankings warrants the regulatory scrutiny it is receiving. Regulators should look beyond Google and consider the evidence that some of Google's noisiest critics are flouting the existing FTC guidelines to the potential detriment of consumers.

This Note has proposed a regulation that would target the bias that is most likely to inflict consumer harm. Nevertheless, in light of myriad concerns associated with regulating search bias, regulators should have a full, open, and constructive dialogue with both the industry and the public before embarking on a course of adversarial enforcement.