

## New Technologies and Obsolete Analyses: Internet Search and the Analysis of Market Definition

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### I. Introduction

In recent years, antitrust agencies in several jurisdictions have focused their attention on the activities of firms conducting business on the internet. This scrutiny has raised difficult questions regarding the extent to which conventional analyses of market definition, often a key input in the assessment of anti-competitive conduct, are applicable to internet-based activities because of the unique features of this industry. In this article, we consider this question in the specific context of internet search. In particular, we assess the extent to which existing economic tools for the analysis of market definition can be applied to conduct involving internet search. We first review traditional notions of market definition and the economic tools that are typically brought to bear when analyzing antitrust claims. We then discuss why traditional economic analyses of market definition may be ill-suited to the analyses of internet search. Finally, we illustrate how the lack of a common framework to analyze competition in internet search has already contributed to divergent outcomes in the antitrust investigations into Google's vertical search practices in the United States (US) and European Union (EU).

### II. Market definition in the pre-internet era

Antitrust investigations often begin with the question of whether a firm has market power, generally interpreted as the ability to profitably raise the price of its product by restricting production. Market power, in turn, is typically evaluated by defining the relevant market – identifying the set of products, and their producers, that consumers consider substitutes or alternatives to the product in question and that may constrain a monopolist's ability to set supra-

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competitive prices or engage in other types of anticompetitive behavior.<sup>6</sup> Traditional approaches focus on the effect of firm behavior on prices and output. The most frequently used approach for defining relevant antitrust markets in the US, for example, is the “hypothetical monopolist test” outlined in the Horizontal Merger Guidelines, issued by the Department of Justice and the Federal Trade Commission (FTC). The Guidelines suggest applying the SSNIP test, i.e., evaluating whether a hypothetical monopolist can impose a “small but significant and non-transitory increase in price” on a product in the relevant market.<sup>7</sup>

This type of traditional market definition approach generally works well in stable markets where firms offer a set of relatively established products to a single group of customers and where the relevant market, prices and competitors are well defined.<sup>8</sup> However, it is much more difficult to determine the relevant market in industries undergoing rapid technological change, where at-issue products, substitute products and relevant competitors constantly change. Furthermore, market definition and the resulting market shares may not be easily defined in two-sided markets, where firms may interact with multiple sets of customers and must decide what prices to charge on each side of the market.<sup>9</sup> In such cases, the demand by one group of customers may depend on prices and substitute products on both sides of the market. Regardless of the specific at-issue conduct or the definition of the relevant market, there is no question that competition in internet search occurs in the context of rapid innovation and two-sided markets. In the

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<sup>6</sup> For a more in-depth discussion of market power and market definition, *see, e.g.*, IIB Philip E. AREEDA AND HERBERT HOVENKAMP, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION, Chapter 5: “Market Power and Market Definition” (4th ed. 2014).

<sup>7</sup> US Department of Justice and the Federal Trade Commission, *Horizontal Merger Guidelines* (2010) (“Guidelines”), *available at* [https://www.ftc.gov/system/files/documents/public\\_statements/804291/100819hmg.pdf](https://www.ftc.gov/system/files/documents/public_statements/804291/100819hmg.pdf). For mergers, the SSNIP is applied based on prices that would prevail in the absence of a merger. In the context of monopolization cases, applying the hypothetical monopolist framework is often more problematic. As highlighted by the well-known *Cellophane* fallacy, in contrast to merger cases where the hypothetical monopolist is truly hypothetical, in monopolization cases current prices may already be affected by conduct designed to maintain a monopoly. *See* Thomas Klotz, “Monopoly Power: Use, Proof and Relationship to Anticompetitive Effects in Section 2 Cases,” Federal Trade Commission, Bureau of Economics Working Paper, December 1, 2008, pp. 11-13.

<sup>8</sup> The most recent Guidelines (issued in 2010) acknowledge that market definition is not necessarily a required component of analyses: “The Agencies’ analysis need not start with market definition. Some of the analytical tools used by the Agencies to assess competitive effects do not rely on market definition, although evaluation of competitive alternatives available to customers is always necessary at some point in the analysis.” *See* Guidelines at 5.

<sup>9</sup> For a more in-depth discussion of market definition in two-sided industries in general, *see, e.g.*, David S. Evans, “Multisided Platforms, Dynamic Competition, and the Assessment of Market Power for Internet-Based Firms” University of Chicago Coase-Sandor Institute for Law & Economics Research Paper No. 753 (March 10, 2016), *available at* <http://ssrn.com/abstract=2746095>.

next section, we outline the potential pitfalls of applying traditional economic tools for market definition to internet search.

### III. Economic evaluation of market definition in internet search

There are at least two fundamental and intertwined reasons why the “market for internet search” cannot easily be defined using traditional economic analyses of market definition: the two-sided nature of internet search and the complicated interaction between search behavior and competition for advertising revenue. An internet search provider faces two distinct customer groups on a two-sided platform: users who search for information on the internet and advertisers who place ads on the search provider’s search pages. Internet search services are generally provided to consumers free of charge, with all revenue for a search engine being derived from search advertising. This feature of internet search has important implications for the analysis of market definition. In particular, SSNIP-type analyses need to account for both sides of the market, as demand on the advertiser side of the market depends on the participation of consumers on the search side.

This interdependence of demand is important when considering market definition. For one, it is not clear how a SSNIP test might be applied to the consumer side of the market, where prices are zero.<sup>10</sup> More likely the proper question is whether internet search providers can reduce the quality of the content and services of the platform and whether that would reduce the amount of advertising attracted to the platform. Some have suggested the use of a modified version of the SSNIP test, the “SSNDQ test” – small but significant and non-transitory decreases in quality – to address such issues.<sup>11</sup> In addition to facing zero prices, consumers can easily and costlessly switch between internet search providers, or even use multiple search engines simultaneously. This provides some degree of discipline, at least in theory, as competition is just “one click away” – if quality for a given search engine decreased, users could easily switch search platforms and advertising dollars would follow.<sup>12</sup>

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<sup>10</sup> There are non-monetary costs that users may incur to perform searches, in particular, those related to a loss of privacy and the information that users disclose (voluntarily or otherwise). However, our focus here is solely on the monetary cost to users.

<sup>11</sup> [Evans](#), *supra*.

<sup>12</sup> Search providers with larger market shares may have advantages in quality as a result of their larger collection of query data, though this is subject to some debate. *See, e.g.*, Nathan Newman, *Search, Antitrust and the Economics of the Control of User Data*, 31 YALE J. ON REG. 401 (2014), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2309547](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2309547); Andres V. Lerner, *The Role of “Big Data” in Online platform Competition*, Aug. 26, 2014, available at [http://papers.ssrn.com/sol3/Papers.cfm?abstract\\_id=2482780](http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=2482780).

Market definition also depends on the nature of consumers' searches and in turn how searches are used by search engines to compete for advertising revenue. As such, market definition will likely need to be assessed on a case-by-case basis depending on the particular conduct at issue. If consumers are conducting general searches for information, the set of relevant competitors includes at a minimum general search engines such as Bing and Google.<sup>13</sup> However, general internet searches are only one way in which consumers find information on the internet. For example, consumers may conduct specialized searches on social media for news alerts and for information on special interest groups. For such searches, general search engines also face competition from Twitter and Facebook, in addition to CNN or other firms focused on news stories.

The relevant market will also be different when at-issue conduct involves searches for specific products and services. Such searches often occur through the use of vertical search engines – specialized search platforms that focus on specific categories, such as shopping, reviews or travel. For example, when searching for airline tickets, consumers are unlikely to conduct a general internet search for flights; instead, they may visit a vertical search site such as Expedia or Kayak that allows them to directly search and compare prices and features of airline flights – and only airline flights. When looking to make a purchase, consumers may bypass general search engines and instead go directly to retailer websites or to other e-commerce platforms, such as eBay or Amazon.<sup>14</sup> Thus, a search provider's share of searches can vary significantly depending on the nature of the search. For example, Google has a small share of flight searches despite its large share of general internet search.<sup>15</sup> To further complicate market definition considerations, results from a vertical search site can come up in both horizontal search results and universal search results through a feature like Google Shopping.<sup>16</sup>

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<sup>13</sup> Other examples of general search engines include Yandex (a prominent Russian search engine) and Baidu (a prominent Chinese search engine). Users and advertisers in the US and EU can use these or other foreign search engines, though linguistic and cultural differences tend to limit their substitutability in practice.

<sup>14</sup> According to a 2015 Forrester Research survey, 44 percent of shoppers go directly to Amazon to start their product searches, compared to 34 percent who use general search engines. See Ginny Marvin, "Amazon Is the Starting Point For 44 Percent Of Consumers Searching For Products. Is Google Losing, Then?" *Marketing Land*, Oct. 8, 2015, available at <http://marketingland.com/amazon-is-the-starting-point-for-44-percent-of-consumers-searching-for-products-is-search-losing-then-145647>.

<sup>15</sup> Christopher Elliott, "Google Flight Search, four years in: Not the competition-killer critics feared," *Washington Post*, Oct. 2, 2014.

<sup>16</sup> Universal search engines show vertical (thematic) search results with links to full thematic results alongside horizontal (general) search results. See, e.g., Robert Levinson and Michael A. Salinger, *Economic Considerations Raised by the Federal Trade Commission's Investigation of Google's Search*, 10 COMPETITION POLICY INTERNATIONAL 103 (2014).

On the other side of the two-sided platform, market definition also depends on the nature of the advertiser. Advertisers may choose to advertise on a wide variety of websites, depending on the audience they aim to reach – general search result pages, vertical search engine pages, and social media sites among others. As such, search engines compete for advertising dollars against not just other search providers but also any non-search engine platform that captures users’ attention.<sup>17</sup> Internet search providers also often compete against themselves. For example, paid search ads for Nike products may appear alongside organic search results, sending consumers directly to Nike.com. Finally, internet search providers also face offline competition for advertisers, as many firms place advertisements in magazines, billboards and television in addition to or instead of online advertising campaigns.<sup>18</sup>

Market definition will therefore vary depending on how consumers are searching and what they are searching for on one side of the platform and on the type of consumers advertisers are targeting on the other. It may not be possible, or desirable, to come up with a static market definition that applies broadly to internet search when internet search engines and their ultimate uses are constantly changing. Therefore, conclusions regarding the dominant market share of one internet search provider for a particular kind of search cannot necessarily inform economic analyses of market power for other kinds of search, nor can a high market share on the search side of the market necessarily inform analyses of market share on the advertiser side.

#### **IV. Why did Google capture the attention of antitrust agencies?**

Internet search in general has caught the attention of regulators for a number of different reasons; however, several regulators have launched investigations into Google specifically. Google’s internet search strategy has shifted dramatically over the past fifteen years. Google’s original searches are often characterized as “ten blue links,” which were simply links to webpages that were chosen based on Google’s search algorithm. However, as Google has grown it has moved outside of this search market into one that is more focused, including prominent displays of Google vertical search results alongside its core search results. Ultimately, this development has led to complaints from third-

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<sup>17</sup> For example, Facebook offers a bidding ad exchange that takes advantage of tracking “cookies” imparted on a user’s device by potential advertisers’ websites and places display advertisements on a user’s newsfeed that are targeted based on his or her individual browsing history. See “Facebook Exchange,” accessed May 19, 2016, available at <https://www.facebook.com/business/a/online-sales/facebook-exchange>.

<sup>18</sup> Geoffrey Manne and Joshua Wright, *Google and the Limits of Antitrust: The Case Against Google*, 34 HARV. J. L. & PUBLIC POLICY 196 (2010).



party vertical search engines and investigations by antitrust authorities, as described further below.

In November 2010, the General Directorate for Competition of the EU Commission formally launched an investigation into Google.<sup>19</sup> The investigation noted several areas of concern, including abuse of dominance claims regarding Google's placement of its own vertical search results in its general search results.<sup>20</sup> In 2015, the Commission sent a Statement of Objections to Google regarding Google's preferential placement of advertisements from Google Shopping in general Google search results. The Commission argued the more prominent placement of Google Shopping ads had the potential to divert traffic from rival shopping comparison sites, with the potential to harm competition and consumers in the process.<sup>21</sup> In a supplementary Statement of Objections sent to Google in July 2016, the Commission outlined additional evidence related to, among others, Google's preferential treatment of its own comparison shopping service over those of competitors and stated its concern that consumers may not see the most relevant search results.<sup>22</sup> Google attracted the attention of the FTC for similar reasons: Google's prominent display of its own vertical search results in Google search results, and allegations that Google manipulated its search algorithms to demote third-party vertical search sites.<sup>23</sup>

Evaluating these allegations requires careful consideration of the issues outlined in Section III above. In particular, when defining the relevant market and the potential for anti-competitive harm, it is important to first ask: what was the nature of consumers' search behavior? Implicitly, the Commission is defining a market for horizontal search services that excludes vertical search services and treats them as an input to a horizontal search rather than a complement within a universal search. For Google's conduct to harm competition, rival shopping services must be customers as well as competitors of Google's internet search services: after all, it was not Google's universal search platform per se to which

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<sup>19</sup> "Statement of VP Almunia on the Google Antitrust Investigation," May 21, 2012, [http://europa.eu/rapid/press-release\\_SPEECH-12-372\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-12-372_en.htm).

<sup>20</sup> "Statement of VP Almunia on the Google Antitrust Investigation," May 21, 2012, [http://europa.eu/rapid/press-release\\_SPEECH-12-372\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-12-372_en.htm).

<sup>21</sup> European Commission – Press Release, "Antitrust: Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android," Apr. 15, 2015, [http://europa.eu/rapid/press-release\\_IP-15-4780\\_en.htm](http://europa.eu/rapid/press-release_IP-15-4780_en.htm).

<sup>22</sup> European Commission – Press Release, "Antitrust: Commission takes further steps in investigations alleging Google's comparison shopping and advertising-related practices breach EU rules," July 14, 2016, [http://europa.eu/rapid/press-release\\_IP-16-2532\\_en.htm](http://europa.eu/rapid/press-release_IP-16-2532_en.htm).

<sup>23</sup> "Statement of the Federal Trade Commission Regarding Google's Search Practices," *In the Matter of Google Inc.*, FTC File Number 111-0163, Jan. 3, 2013, at 1-2 ("FTC Statement").

third-party verticals objected; it was the relative placement of third party verticals on Google's platform that raised concerns. With respect to vertical search, third party vertical shopping services are competitors with Google's vertical product searches. However, whether Google has market power depends on the definition of the relevant market. If, as argued by Google, the relevant market is product searches as opposed to general search, Google likely does not have market power, as twice as many product searches start at Amazon.com than at Google.com.<sup>24</sup> Alternatively, the European Commission has stated that it considers comparison shopping services and merchant platforms to belong to separate markets, and has concluded that "even if merchant platforms [were] included in the market affected by Google's practices, comparison shopping services are a significant part of that market and Google's conduct has weakened or even marginalized competition from its closest rivals."<sup>25</sup> It is expected that the ongoing EU investigation into Google's vertical search practices will result in large antitrust fines.<sup>26</sup>

Another relevant question is whether Google could sustain a "SSNDQ." If Google could hinder the ability of other shopping services to compete, the quality of search services available to consumers may decline. The FTC found that Google's changes, rather than decreasing quality, "could plausibly be viewed as an improvement in the overall quality of Google's search results."<sup>27</sup> The FTC closed its investigation into Google in 2013 without imposing fines, and its conclusion that Google's motivation for modifying its search results was to provide consumers with a quicker, better answer to their query was a key factor in its decision.<sup>28</sup>

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<sup>24</sup> Greg Sterling, "Google's Eric Schmidt: Really, Our Biggest Search Competitor is Amazon," *Search Engine Land*, Oct. 13, 2014.

<sup>25</sup> European Commission – Press Release, "Antitrust: Commission takes further steps in investigations alleging Google's comparison shopping and advertising-related practices breach EU rules," July 14, 2016, [http://europa.eu/rapid/press-release\\_IP-16-2532\\_en.htm](http://europa.eu/rapid/press-release_IP-16-2532_en.htm).

<sup>26</sup> "Google Faces Record EU Antitrust Fine, Search Limits: Telegraph," Bloomberg News, May 15, 2016, <http://www.bloomberg.com/news/articles/2016-05-15/google-faces-record-eu-antitrust-fine-search-limits-telegraph>.

<sup>27</sup> FTC Statement at 2. The FTC explicitly acknowledged that certain competitors were disadvantaged by Google's actions, but that such disadvantages were second order: "While some of Google's rivals may have lost sales due to an improvement in Google's product, these types of adverse effects on particular competitors from vigorous rivalry are a common byproduct of 'competition on the merits' and the competitive process that the law encourages." In contrast, some argue that the indications from the Commission thus far suggest that ensuring a level playing field for competitors is one of its most important considerations. *See* Andrea Renda, "Searching for harm or harming search? A look at the European Commission's antitrust investigation against Google," Centre for European Policy Studies, September 2015, p. 38.

<sup>28</sup> FTC Statement at 2.

Antitrust authorities in various other countries have closed similar investigations into Google, with varying attention paid to the issues of market definition.<sup>29</sup> For example, Taiwan's Fair Trade Commission (TFTC) closed its two-year investigation into Google and its placement of Google Maps in searches in July 2015, concluding Google's practices could be seen as providing benefits to users rather than constituting an improper and anticompetitive act.<sup>30</sup> Although the TFTC's analysis of market definition has not been made available, it did note that "search services provided by Google Inc. are not the only way for map services websites to provide map information services to users," and that users could visit competing map websites using a number of methods other than Google's search engine,<sup>31</sup> thus implicitly defining a market that includes map services websites as competitors to Google Maps. In 2012, a Brazilian court dismissed a private antitrust case against Google for its Google Shopping service, concluding among other things that for purposes of defining the relevant market, Google Shopping is a "thematic search option" rather than a separable "shopping comparison site," and that "Google's leadership in the internet search segment in Brazil cannot be mistaken with a monopoly of that activity" given the availability of other search services and ways to access sites.<sup>32</sup> More recently, in April 2016, Canada's Competition Bureau announced that it had discontinued an investigation into Google that included allegations of preferential treatment of Google services including Google Maps, Google Flights, and others. The Bureau found that "Google possess[es] market power in the markets for online search and search advertising services in Canada," which it defined as the primary relevant markets, but cited a lack of "sufficient evidence that Google engaged in these practices for an anti-competitive purpose, and/or that the practices resulted in a substantial lessening or prevention of competition in any relevant market."<sup>33</sup>

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<sup>29</sup> Google is not the only search engine to have been investigated for competition matters. In particular, a Chinese court dismissed claims against Baidu for alleged anticompetitive behavior consisting of artificially and strategically reducing certain pages' positions within the search results. See "Reflections on Baidu Monopoly Litigation: Comments on Renren v. Baidu," *China Patents & Trademarks No. 1* (2010).

<sup>30</sup> See Su-Wan Wang and Elizabeth Xiao-Ru Wang, *Focus on Innovation: A Review of the Taiwan Fair Trade Commission's Investigation on Google Maps*, COMPETITION POLICY INTERNATIONAL, July 17, 2016, available at <https://www.competitionpolicyinternational.com/focus-on-innovation-a-review-of-the-taiwan-fair-trade-commissions-investigation-on-google-maps/>. See also Renda, *supra*, at 12.

<sup>31</sup> "The Legality of Google's Vertical Search Service from the Perspective of Monopolistic Enterprises," Taiwan FTC Newsletter No. 066, December 2015, available at <https://www.ftc.gov.tw/upload/49f8708f-0878-41ab-84e2-09763034574b.pdf>.

<sup>33</sup> "Competition Bureau Statement Regarding its Investigation into Alleged Anti-Competitive Conduct by Google," Competition Bureau, April 19, 2016, <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04066.html>.



This discussion highlights that, while evaluating similar sets of circumstances and business decisions, the EU Commission and the FTC (together with other antitrust authorities) appear thus far to arrive at different conclusions regarding the role of vertical search providers in constraining Google's market power, illustrating the difficulties inherent in evaluating market definition for internet search. As the EU nears a conclusion on its investigation into abuse of dominance allegations against Google,<sup>34</sup> however, it appears the FTC may be launching a new abuse of dominance inquiry into Google's search practices.<sup>35</sup> It remains to be seen whether the current divergence across antitrust regimes, and its implications for Google's online activities, will continue.

## **V. Conclusion**

As the investigations into Google highlight, antitrust analyses of markets in the internet era can be significantly more complex than analyses of traditional markets. Defining the relevant market can be fraught with challenges and reasonable disagreement even after much debate and investigation. Once the market definition hurdle is cleared, significant questions remain regarding how to assess actual or potential harm. For multi-sided markets such as the market for internet search, "harm" can look very different across the relevant sides, particularly when there is no cost to one set of participants. This raises important questions regarding how best to evaluate actual or potential changes in the consumer experience. Together, the issues outlined above suggest competition policy for internet search and related industries needs to carefully account for the unique features of the industry.

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<sup>34</sup> "Google Faces Record EU Antitrust Fine, Search Limits: Telegraph," Bloomberg News, May 15, 2016, <http://www.bloomberg.com/news/articles/2016-05-15/google-faces-record-eu-antitrust-fine-search-limits-telegraph>.

<sup>35</sup> "FTC Taking Second Look at Google Search: Politico," Reuters News, May 11, 2016, <http://www.reuters.com/article/us-alphabet-ftc-idUSKCN0Y22I3>.