

# ONLINE SEARCH AND THE LIMITS OF MARKET DEFINITION

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## i. Introduction

The back-and-forth dialogue between Google<sup>1</sup> and various antitrust enforcement agencies has been going on for half a decade with no end in sight.<sup>2</sup> It has been over one year since the European Commission issued a formal “Statement of Objections” to Google regarding its search practices,<sup>3</sup> but even if the Commission issues a formal decision soon Google could appeal to the European courts, leading to many more years of delay and quibbling with European institutions.<sup>4</sup> There is also pressure on the United States Federal Trade Commission to re-open its investigation into Google’s search practices, the closing of which was viewed with suspicion.<sup>5</sup> So, frustratingly for Google, enforcement agencies, and academics alike, the antitrust treatment of Google Search is still very much a live issue.

The European Commission is concerned that Google favors its own vertically integrated search products over those of its rivals, which costs the latter firms their users. For this behavior to be illegal (under both US and EU law), it must be shown that Google possesses the ability to favor its own products without driving users away.

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<sup>1</sup> On October 2, 2015 Google restructured its business, spinning off exotic projects like anti-aging research and driverless cars into separate companies and including these businesses, plus its Google business, under a parent company called Alphabet. See Davey Alba, “After Today, Google Officially Becomes Alphabet”, *Wired*, October 2, 2015, accessed February 18, 2016, <http://www.wired.com/2015/10/today-google-officially-becomes-alphabet/>.

<sup>2</sup> Aoife White, “EU’s Vestager Considers Third Antitrust Case Against Google,” *Bloomberg Technology*, May 13, 2016, available at <http://www.bloomberg.com/news/articles/2016-05-13/eu-s-vestager-considers-third-antitrust-case-against-google>.

<sup>3</sup> European Commission Press Release, “Commission sends Statement of Objections to Google on comparison shopping service; opens separate formal investigation on Android”, April 15, 2015, available at [http://ec.europa.eu/competition/elojade/isef/case\\_details.cfm?proc\\_code=1\\_39740](http://ec.europa.eu/competition/elojade/isef/case_details.cfm?proc_code=1_39740). On the same date the Commission announced that it would open a formal investigation into possible antitrust violations by Google regarding its Android operating system.

<sup>4</sup> Some speculate that dragging out the battle with the European Commission is in Google’s best interests, because any eventual fine imposed on the company will be smaller than the profit Google stands to gain from carrying on its conduct in the interim. See Kishalaya Kundu, “Tech Talk: Should Google Settle Or Go To Trial In EU Antitrust Case?” *Android Headlines*, May 5, 2016, available at <http://www.androidheadlines.com/2016/05/tech-talk-should-google-settle-or-go-to-trial-in-eu-antitrust-case.html>.

<sup>5</sup> Nancy Scola, “Sources: Feds taking second look at Google search,” *Politico*, May 11, 2016, available at <http://www.politico.com/story/2016/05/federal-trade-commission-google-search-questions-223078>; Greg Sterling, “Google Faces More EU Woes, Attorneys General Ask FTC To Revive Case In US”, *Marketing Land*, February 22, 2016, available at <http://marketingland.com/165618-165618>.

In other words, it must be able to decrease the quality of its product without sacrificing any profits in the process. One proxy that courts and enforcement agencies use for inferring whether a firm can plausibly do this is its percentage share of the market in which it operates: the higher the share, the higher the degree of market power.

The European Commission alleges that Google monopolizes the market for “general internet search services”,<sup>6</sup> in which, by some reports, Google holds a 70 per cent market share in the US<sup>7</sup> and a 90 per cent market share in Europe.<sup>8</sup> Anyone living in Europe would agree that Google is virtually ubiquitous.<sup>9</sup> But, in the antitrust world, market shares serve not to indicate how many people use a certain firm’s product, but to indicate whether said firm has the ability to significantly raise its price above or decrease its quality below the competitive level. Academics in both the US and Europe have questioned whether this relevant market adequately reflects the locus of competition online. Some have proposed the adoption wider relevant markets,<sup>10</sup> while others have simply cautioned enforcement agencies to pay little attention to the market shares they do come up with.<sup>11</sup> I contend that antitrust enforcement agencies should abandon the market definition exercise entirely when judging antitrust issues in online search.

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<sup>6</sup> European Commission Press Release, *supra* note 3.

<sup>7</sup> comScore, “comScore Releases October 2014 U.S. Desktop Search Engine Rankings”, November 18, 2014, available at <https://www.comscore.com/Insights/Market-Rankings/comScore-Releases-October-2014-US-Desktop-Search-Engine-Rankings>.

<sup>8</sup> StatCounter, “StatCounter Global Stats: Top 5 Desktop, Tablet & Console Search Engines in Europe from Jan 2015 to Jan 2016”, accessed February 23, 2016, at [http://gs.statcounter.com/#search\\_engine-eu-monthly-201501-201601](http://gs.statcounter.com/#search_engine-eu-monthly-201501-201601).

<sup>9</sup> For example, “Google” was added to the Oxford English Dictionary on June 15th, 2006, defined as to “search for information about (someone or something) on the Internet using the search engine Google”.

<sup>10</sup> See, for example, James Ratliff & Daniel L. Rubinfeld, “Is There a Market for Organic Search Engine Results and Can Their Manipulation Give Rise to Antitrust Liability?”, *Journal of Competition Law & Economics* (2014) 10(3), 517-541 (hereinafter *Is There a Market for Organic Search*), who conclude that Google Search operates in a two-sided market which incorporates both the general search side and the search-advertising side. This conclusion is criticized below. In the EU see Florence Thépot, “Market Power in Online Search and Social Networking: A Matter of Two-Sided Markets.” *World Competition* 36, no. 2 (2013): 195–222.

<sup>11</sup> See Christian Kersting & Sebastian Dworschak, “Does Google hold a dominant market position? – Addressing the (minor) significance of high online user shares,” (Julia Holtz trans., 2014), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2495300](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2495300).

The purpose of the market definition exercise is to render market share percentage values that serve as proxies for firms' market power. The bigger the difference is between the level of market power inferred from a market share and the actual level of market power assessed *ex post*, the less useful the market definition exercise is. The best market definition is that which minimizes this difference.<sup>12</sup> In the case of online search, no market definition can fully account for the competitive constraints that Google faces such that the relevant market fulfills its primary role. As we will see, defining Google's market as narrowly as the market for general Internet search services tells us nothing about Google's market power, nor will defining it any wider to include, for example, the advertising aspect of Google's business model.

This paper adopts the following structure: Part II briefly introduces how Google works and the search-based antitrust charges brought against it; Part III explains the role of market definition in antitrust analysis and the dangers of an ill-defined market; Part IV examines the pitfalls of attempting to define a market for the search-side of Google's business; Part V explains how the dichotomous market definition exercise is similarly inappropriate when one considers the advertising side of Google's business; Part VI examines the use of market shares in the European Union and the United States and the implications this could have for Google's litigation; and Part VII concludes.

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<sup>12</sup> Professor Louis Kaplow models this thusly: Let  $MP_{narrow}$  be the market power inference from the narrow market,  $MP_{broad}$  be the market power inference from the broad market, and  $MP_{estimate}$  be the best guess of actual market power (i.e. the result of the market power or "competitive constraints exercise). The suitable market definition is the one that produces the smaller of  $|MP_{narrow} - MP_{estimate}|$  and  $|MP_{broad} - MP_{estimate}|$ . This analysis highlights two key features of the market definition exercise: firstly, one must always have a best estimate of market power in mind before adopting the relevant market definition, and secondly, the market power inference from the adopted market will necessarily differ from the market power estimate. The question of *how big this gap* is determines whether the market definition exercise is useful. See Louis Kaplow, "Why (Ever) Define Markets?" 124 Harv. L. Rev. 437 (2010).

## ii. Google and its Antitrust Woes

Google is a general search engine that crawls the web for content by following links on various websites and including those web-pages in an index, which sizes at over 100 million gigabytes.<sup>13</sup> When a user conducts a search, Google responds by returning a list of results (called the natural or “organic” search results, or “ten blue links”), employing its PageRank algorithm to order the results according to their relevancy to the user’s query.<sup>14</sup> Google and other search engines significantly reduce consumer transaction and information costs by linking them to information that is relevant to what they are looking for in an incredibly small amount of time.<sup>15</sup>

Since search engines are free to the user, they instead compete on the quality of their search results in order to attract more users.<sup>16</sup> To earn revenue, Google displays advertising above and beside its natural results, the contents of which are affected by the user’s current search, the user’s previous searches, websites the user has visited that advertise with Google, information about the user such as his or her age or gender, and the user’s previous interaction with advertisements.<sup>17</sup> Advertisers pay Google a small fee every time a user clicks on an advertisement (the “Cost-Per-Click” fee). Google collects a vast array of data on its users so that it can show them advertisements that they are, individually, more likely to click on, thereby maximizing its own revenue. The majority of Google’s revenue comes from advertising, in

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<sup>13</sup> Google. *How Search Works*. Available at <https://www.google.com/insidesearch/howsearchworks/thestory/>.

<sup>14</sup> Sergey Brin & Lawrence Page, “The Anatomy of a Large-Scale Hypertextual Web Search Engine,” paper submitted to Stanford University, Computer Science Department (1998), available at: <http://infolab.stanford.edu/~backrub/google.html>.

<sup>15</sup> This key role of search engines in modern society is what has prompted many to call for search engine providers to be placed under “search neutrality” obligations. See, for example, Frank Pasquale, “Internet Nondiscrimination Principles for Competition Policy Online,” Testimony Before the Task Force on Competition Policy and Antitrust Laws of the House Committee on the Judiciary, July 15, 2008.

<sup>16</sup> Another differentiating factor is commitment to data-privacy. DuckDuckGo, launched in 2008, bills itself as “the search engine that doesn't track you.” See DuckDuckGo, “About DuckDuckGo”, available at <https://duckduckgo.com/about>. However, if one considers increased user-data collection to be a decrease in quality, this too represents competing on quality.

<sup>17</sup> Google, “About Google Ads”, available at <https://support.google.com/ads/answer/1634057?hl=en>.

particular advertising on its search results pages which accounts for three quarters of its ad-based revenue.<sup>18</sup>

In the past decade Google has had a world tour of antitrust scrutiny and its battle is far from over. In April 2015 the European Commission announced that it had sent a statement of objections to Google alleging that the company had abused its dominant position in the market for “general internet search services” by “systematically [favoring] its own comparison shopping product” in its search engine results pages (“SERPs”).<sup>19</sup> Whether Google’s incorporation of its own vertical services, such as YouTube, Google Shopping and Google Maps, into its SERPs constitutes illegal monopolization is a matter of heated debate on both sides of the Atlantic.<sup>20</sup> In 2012, the US Federal Trade Commission closed its investigation into Google’s search practices, stating that the company’s inclusion of its own content in its search results pages constituted an “improvement in the overall quality of Google’s search product”.<sup>21</sup> Conversely, the European Commission is concerned that Google intentionally compromises the relevancy of its search results to the detriment of consumers and innovation generally.<sup>22</sup> The fine distinction between anticompetitive conduct and competition on the merits creates considerable suspicion about Google’s

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<sup>18</sup> Timothy B. Lee, “How Google passed Apple to become the world's most valuable company,” *Vox*, February 4, 2016, available at <http://www.vox.com/2016/2/4/10911364/google-apple-most-valuable>.

<sup>19</sup> European Commission Press Release, *supra* note 3.

<sup>20</sup> See, for example, Robert H. Bork & J. Gregory Sidak, “What Does The Chicago School Teach About Internet Search And The Antitrust Treatment of Google?” *Journal of Competition Law & Economics* (2012) 8(4), 663-700; Geoffrey A. Manne & Joshua D. Wright, “Google and the Limits of Antitrust: The Case Against the Antitrust Case Against Google,” Lewis & Clark Law School Legal Research Paper Series, Paper No. 2010-19; Giacomo Luchetta, “Is The Google Platform A Two-Sided Market,” *Journal of Competition Law & Economics* (2014) 10(1), 185-207. For a recent case in the England & Wales High Court regarding Google’s incorporation of Google Maps into its search results pages, see *Streetmap.EU Ltd v Google Inc. & Ors* [2016] EWHC 253 (Ch), accessed February 18, 2016, <http://www.bailii.org/ew/cases/EWHC/Ch/2016/253.html> (hereinafter *Streetmap*).

<sup>21</sup> See “Statement of the Federal Trade Commission Regarding Google’s Search Practices, In the Matter of Google, Inc.,” FTC File Number 111-0163, January 3, 2013, at 3, stating that “[p]roduct design is an important dimension of competition and condemning legitimate product improvements risks harming consumers”.

<sup>22</sup> European Commission Press Release, *supra* note 3.

practice of pointing users towards its own specialized results<sup>23</sup> instead of those of its rivals. However, as the Court of Appeals for the D.C. Circuit expressed in the *Microsoft* case,

“Whether any particular act of a monopolist is exclusionary, rather than merely a form of vigorous competition, can be difficult to discern: the means of illicit exclusion, like the means of legitimate competition, are myriad. The challenge for an antitrust court lies in stating a general rule for distinguishing between exclusionary acts, which reduce social welfare, and competitive acts, which increase it.”<sup>24</sup>

On one hand, by giving users what they want, Google necessarily excludes competitors that do not give users what they want.<sup>25</sup> On the other hand, Google is such a popular and trusted method for accessing certain websites that it may be possible for the company to hide its anti-competitive conduct behind a veil of apparent increased search relevancy.

For all theories of illegal monopolization (or “abuse of dominant position” in Europe) under which Google’s conduct is analyzed,<sup>26</sup> a common requirement is that Google possesses market or monopoly power in a relevant market.<sup>27</sup> For example,

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<sup>23</sup> I may refer to Google’s specialized results interchangeably as its “vertically integrated results”, its “OneBox result” (which is how Google refers to them internally), or simply just its “vertical results”. These terms all refer to the specialized content, such as Google Maps, Google Shopping or YouTube, that appears prominently on Google’s SERPs when a search query is performed.

<sup>24</sup> *U.S. v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) at 58.

<sup>25</sup> See, for example, *Streetmap*, *supra* note 20, at para 117, where Mr. Justice Roth explains numerous innovative features that Google added to Google Maps over time, largely leaving its rival online mapping companies in its wake. See also Jon Leibowitz, Chairman, Fed. Trade Comm’n, Opening Remarks of Federal Trade Commission at the Google Press Conference, January 3, 2013, available at <http://www.ftc.gov/speeches/leibowitz/130103googleleibowitzremarks.pdf> (“Although some evidence suggested that Google was trying to eliminate competition, Google’s primary reason for changing the look and feel of its search results to highlight its own products was to improve the user experience. Similarly, changes to Google’s algorithm that had the effect of demoting certain competing websites had some plausible connection with improving Google’s search results, especially when competitors often tried to game Google’s algorithm in ways that benefitted those firms, but not consumers looking for the best search results. Tellingly, Google’s search engine rivals engaged in many of the same product design choices that Google did, suggesting that this practice benefits consumers.”).

<sup>26</sup> For example, Google’s practice of directing users towards its own results could be analyzed as an illegal tying arrangement, a duty to deal with competitors in vertical search, or some theory that appearing near the top of Google’s search results is an “essential facility”, without which rivals cannot compete. On this latter claim see Bork & Sidak, *supra* note 20; Lisa Mays, “Consequences of Search Bias: How Application of the Essential Facilities Doctrine Remedies Google’s Unrestricted Monopoly on Search in the United States and Europe,” 83(2) *Geo Wash L Rev*, 721 (2014).

<sup>27</sup> *Verizon Communications v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407-408 (2004), stating that “possession of monopoly power in the relevant market” is an element of illegal monopolization.

liability for instigating an illegal tying arrangement rests on the notion that the monopolist can leverage its market power in the tying product market (Google Search) to foreclose or hinder competition in the tied product market (shopping-comparison websites), thereby preserving its monopoly power in the tying product market (or to leverage its way into the tied-product market).<sup>28</sup> For essential facilities and the refusal to deal, liability attaches to a firm that possesses market power by establishing an infrastructure that renders it uniquely able to serve its customers.<sup>29</sup>

Market power traditionally refers to a firm's ability to profitably raise its price above the competitive level,<sup>30</sup> though may also refer to the ability to profitably reduce quality below the competitive level.<sup>31</sup> In the context of Google Search, it is useful to think about market power in the following way. Google has market power if it can reduce the quality of its service *without losing a significant number of users to its rivals such that the quality decrease would be unprofitable*. An example of a legal exercise of market power would be showing less natural results and more advertisements to users

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<sup>28</sup> See Dennis W. Carlton & Michael Waldman, *Tying*, in 3 *Issues in Competition Law and Policy* 1859 (ABA Section of Antitrust Law 2008); Einer Elhauge, "Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory," 123 *Harvard Law Review* 397, at 413 (2009).

<sup>29</sup> In the US, there is no general duty for dominant undertakings to deal with their competitors. See *Trinko*, *supra* note 27, at 407-408. The Supreme Court in this case is generally considered to have limited the previous decision of *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 601 (1985) to its facts on the basis that the duty to deal found there was based on the repudiation of a historical course of dealing, showing a "willingness to forsake short-term profits to achieve an anticompetitive end" (*Trinko* at 409). In Europe, a dominant firm that refuses to deal with a competitor in a derivative market because it wishes to enter this market itself abuses its dominance. See *Istituto Chemioterapico Italiano S.p.A. and Commercial Solvents Corporation v. Commission*, Joined Cases 6/73 & 7/73, 1974 E.C.R. 223, [1974] 1 C.M.L.R. 309. See also Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, Official Journal C 45/02, February 24, 2009, available at [http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XC0224\(01\)&from=EN](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52009XC0224(01)&from=EN) (hereinafter "Commission Guidance"), requiring a likelihood that the refusal to deal will lead to either "elimination of effective competition on the downstream market" or "consumer harm".

<sup>30</sup> Richard A. Posner & William M. Landes, "Market Power in Antitrust Cases," 94 *Harvard Law Review* 937 (1980) ("The term "market power" refers to the ability of a firm (or a group of firms, acting jointly) to raise price above the competitive level without losing so many sales so rapidly that the price increase is unprofitable and must be rescinded.").

<sup>31</sup> See e.g. Commission Guidance, *supra* note 29, at para 11, stating that the expression "increases prices" in the market power context includes "the power to maintain prices above the competitive level and is used as shorthand for the various ways in which the parameters of competition — such as prices, output, innovation, the variety or quality of goods or services — can be influenced to the advantage of the dominant undertaking and to the detriment of consumers".

(assuming that advertising is a disutility for users<sup>32</sup>). This is akin to a firm innovating to create a product that consumers value and then charging a high price for it.<sup>33</sup> An example of a possibly illegal exercise of market power would be exclusively showing links to Google’s own vertical search results, when rival search results (Yelp, Expedia, Foundem etc.) are more relevant.

The current allegations in the EU center on Google’s prominent display of Google Shopping results in its SERPs, which allegedly constitutes an abuse of dominant position in contravention of Article 102 TFEU. In particular, the Commission alleges that, since 2008, Google has systematically positioned and prominently displayed its comparison shopping service in its general search results pages, irrespective of its merits.<sup>34</sup> It does this by not applying to Google Shopping the system of penalties that it applies to other comparison shopping services on the basis of defined parameters (which can lead to the lowering of the rank on Google’s SERPs). These practices, according to the Commission, mean that “users do not necessarily see the most relevant comparison shopping results in response to their queries, and that incentives to innovate from rivals are lowered as they know that however good their product, they will not benefit from the same prominence as Google’s product.”<sup>35</sup> The allegations fit nicely into a framework where Google exercises market power, either legally or illegally, through degrading the quality of its search results.

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<sup>32</sup> Michael Luca, Timothy Wu, Sebastian Couvidat, Daniel Frank, William Seltzer, “Does Google content degrade Google search? Experimental evidence,” (2015), at 15, citing Randy Picker (“For the zero-cash-price media monopolist, the exercise of market power is just about product degradation. ... [Y]ou take the product that you would otherwise sell to consumers and make it worse in consumer eyes by adding advertising. You do that to make money.”).

<sup>33</sup> *Trinko*, *supra* note 27, at 407 (“The opportunity to charge monopoly prices—at least for a short period—is what attracts “business acumen” in the first place; it induces risk taking that produces innovation and economic growth. To safeguard the incentive to innovate, the possession of monopoly power will not be found unlawful unless it is accompanied by an element of anticompetitive conduct.”).

<sup>34</sup> European Commission Fact Sheet, “Antitrust: Commission sends Statement of Objections to Google on comparison shopping service”, April 15, 2015. The Commission did not rule out further action against regarding three other concerns it had at the close of its probe of Google’s behavior in 2010, including the copying of rivals’ web content, advertising exclusivity and undue restrictions on advertisers.

<sup>35</sup> *Id.*

First assume that showing more advertisements constitutes a quality degradation. Since Google Shopping is, in effect, a block of advertisements that appears whenever customers run a product search,<sup>36</sup> and because this takes up space on the SERP and necessarily pushes rival shopping websites further down the screen, their exclusion by quality degradation could constitute an abuse. Now assume that Google Shopping does not cause disutility for users, despite the fact that it is a block of ads.<sup>37</sup> If users benefit from Google Shopping, the argument must be that users would benefit *more* if, instead of Google Shopping, the block was filled with results from another shopping-comparison website, such as Foundem.<sup>38</sup> Google, by directing users towards its own Google Shopping results when a product-search is conducted rather than other shopping-comparison websites, would be illegally excluding those latter websites from the market for comparison-shopping if its own shopping results were worse quality than the results that would otherwise appear.<sup>39</sup>

Google's ability to foreclose its rivals in this manner, if proved, is evidence that it has the power to decrease the quality of its service below the competitive level (i.e. that it has market power). But determining the actual effects of Google's conduct on competition is an arduous task for any antitrust enforcement agency, and a series of tools have been developed to determine whether firms have such an ability without inquiring into the full effects of their conduct, at least at the early stages of an investigation. One such device in the antitrust artillery is market definition.

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<sup>36</sup> "Building a better shopping experience," Google Commerce Blog, May 31st, 2012, available at <http://googlecommerce.blogspot.com/2012/05/building-better-shopping-experience.html>.

<sup>37</sup> As we will see in Section V, users may value Google Shopping because it only appears when they run product searches and are, in effect, shopping. This is despite the fact that the Google Shopping result is a block of ads.

<sup>38</sup> This is one of the key complainants in the Google Shopping case, and a member of FairSearch. For the company's analysis of Google's public response to the European Commission's statement of objections, see Foundem, "An Analysis of Google's Public Response to the EC's Formal Charges," *SearchNeutrality.org*, June 10th, 2015, available at [http://www.searchneutrality.org/google/analysis\\_of\\_google\\_public\\_so\\_response](http://www.searchneutrality.org/google/analysis_of_google_public_so_response).

<sup>39</sup> This should be tested empirically by the enforcement agency. One recent study found, in the context of so-called "localized search", that "users are roughly 40% more likely to engage with universal search results (which receive favored placement) when the results are organically determined relative to when they contain only Google content". See Michael Luca, et al., *supra* note 32. Interestingly, Google Shopping is unique in that it relies on data from merchants, such as product SKUs, prices and stock availability, to provide more relevant and informative results. It is not clear that rivals could provide this information as efficiently.

### **iii. The Role of Market Definition in Antitrust Analysis**

As one Circuit Judge in the United States has remarked, “there is no subject in antitrust law more confusing than market definition”.<sup>40</sup> The market definition exercise looks at the reasonable demand and supply-side substitutability of products so that the market power of the firm under scrutiny can be inferred from its market share.<sup>41</sup> Once a market is defined, courts generally look to the firm in question’s percentage share of that market and infer whether that firm possesses such power.<sup>42</sup>

The idea behind defining a market is that the monopolist firm would only be able to profitably implement an exercise of market power — illegal or not — if consumers did not have many other places to go to get what they are looking for. This is why a market, properly defined, will include all “reasonable substitutes” for the dominant firm’s product or service. If there are plenty of substitutes (and the firm has a low market share), the firm would be unable to profitably exercise market power because users would switch to a competing provider. If there are not so many reasonable substitutes (and the firm has a high market share), the firm could potentially exercise market power without losing users or only losing some. The exercise of market power would then be profitable if lost revenue from the users that switch is less than the increased revenue from users that stay.

From the above description it is easy to recognize why a number of judicial presumptions have evolved regarding high or low market shares. They stem from the fact that a high market share is, for the most part, inextricably linked to a high degree

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<sup>40</sup> *U.S. Healthcare, Inc. v Healthsource, Inc.*, 986 F.2d 589 (1st Cir. 1993), at 598.

<sup>41</sup> See e.g. *Case 6/72 Europemballage Corp & Continental Can Co Inc v Commission* [1973] ECR 215.

<sup>42</sup> As Louis Kaplow describes in his critique of the market definition paradigm, “[t]he first step under the market definition / market share paradigm is to define a so-called relevant market. This market definition process involves choosing from among candidate markets that which most accurately depicts the extent of market power. The method can usefully be described as one that starts from the homogeneous goods market that includes the firm’s or firms’ product and then considers whether to redefine the market by broadening it to include substitute products (or regions, for geographic market definition). Next, one measures the firm’s market share in that market or the collective share of a group of firms, such as when evaluating a horizontal merger, joint venture, or trade association activity. Finally, one infers from this share the degree of market power and assesses it against the pertinent legal standard.” Kaplow, *supra* note 12.

of market power (and vice versa) in a properly defined market.<sup>43</sup> Market shares and their accompanying presumptions aid the antitrust authorities in their enforcement actions due to the commonly accepted proposition that only firms with substantial economic power can cause harm to the competitive process and/or consumers. Establishing the market shares of firms in a properly defined market acts a filter to separate firms that do possess such power from those which obviously do not. Structural presumptions are logical in the sense that they negate the need for judges or enforcement agencies to inquire into the actual effects of a firm's conduct to determine whether it has abused its dominant position, saving time and significant resources (as determining real harm is not a straightforward exercise). They simplify the process of determining the legality of firms' conduct and avoid "complex and elusive" economics.<sup>44</sup> Indeed, after the market definition exercise has been undertaken those firms with low market shares can quickly be ignored and the attention of the agency turned to the conduct of those firms with higher market shares, whose conduct could potentially have anti-competitive effects. The filtering process narrows the focus of the enforcement agency to those firms whose conduct is the proper focus of antitrust law.

However, this filtering process relies on an accurate market definition to begin with. A firm's high market share of an improperly narrow relevant market can spur conclusions about the likelihood of anti-competitive foreclosure that do not reflect reality. Furthermore, a high market share of the proposed market does not necessarily imply that the firm has been engaging in abusive conduct: it may have achieved this position by competition on the merits and this is not behavior that the law seeks to limit. As Judge Learned Hand opined in 1945, "The successful competitor, having

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<sup>43</sup> See, for example, *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 504 (1992) ("Because market power is often inferred from market share, market definition generally determines the result of the case"); *United States v. Grinnell Corp.*, 384 U.S. 563, 571 (1966) ("The existence of [monopoly] power ordinarily may be inferred from the predominant share of the market."); Posner & Landes, *supra* note 30, at 960 ("[T]he usual legal procedure in an antitrust case in which market power is at issue is first to define a relevant market, then to compute the defendant's market share, and finally to infer the presence or absence of market power from that share."); Phillip E. Areeda, Herbert Hovenkamp & John L. Solow, *Antitrust Law* 135 (3d ed. 2007) ("In resolving market or 'monopoly' power issues, the courts have typically relied heavily on market definition and on the defendant firm's share of the market thus defined.").

<sup>44</sup> *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 362 (1963).

been urged to compete, must not be turned upon when he wins.”<sup>45</sup> Indeed, it is doubtful whether we should attach the stigmatic “monopoly” label to a firm with a high market share absent some allegation of abusive conduct.<sup>46</sup> Relying on market share data is akin to looking at the star-rating awarded to a new movie without reading the full review: it may give you a broad indication of the quality of the film you will see, but you will not learn about the extremities and push-and-pull factors that resulted in that star-rating until you read the review for yourself. Similarly, market share data can ignore key factors that influence a firm’s market power. An over-reliance on market shares as an indication of market power runs the risk of missing significant competitive constraints or sources of market power not accounted for by the market definition selected.<sup>47</sup>

Defining the relevant market too narrowly effectively renders it a meaningless device for assessing market power, as warned by antitrust economist Franklin M. Fisher.<sup>48</sup> To borrow his example, a market defined as protective paint for boat hulls, dominated by a single firm, has no bearing on that firm’s market power if normal paint manufacturers can easily enter the market by adding an extra ingredient to their own paint.<sup>49</sup> Indeed, “[i]f any conclusion is to be drawn from market share, then the second definition, the one that includes all paints, must be used. The first definition, the one that includes only anti-fouling paint, merely gets in the way of the analysis,

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<sup>45</sup> *United States v Aluminum Co. Of America et al.*, 148 F.2d 416,430 (1945).

<sup>46</sup> Franklin M. Fisher, “Diagnosing Monopoly,” *Q. REV. ECON. & BUS.*, Summer 1979, at 28 (“A firm which maintains a large share of the market because of behavior forced on it (‘economically inevitable’) or solely because of being better (‘superior skill, efficiency, and foresight’) is a firm which does not have monopoly power at all. Monopoly power is the power to maintain a high share and earn supranormal profits *without* being better.”).

<sup>47</sup> See for example *United States v. General Dynamics Corp.*, 415 U.S. 486, 498 (1974) (“[S]tatistics concerning market share and concentration, while of great significance, [are] not conclusive indicators of anticompetitive effects.”); European Commission Decision of 07/10/2011 declaring a concentration to be compatible with the common market (Case No COMP/M.6281 - MICROSOFT / SKYPE), at para 78, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011M6281:EN:HTML> (“Market shares only provide a limited indication of competitive strength in the consumer communications services markets.”)

<sup>48</sup> Franklin M. Fisher, “Market Definition: A User’s Guide,” (2002), available at <http://economics.mit.edu/files/2630>.

<sup>49</sup> *Id.* at 2.

making market share meaningless.”<sup>50</sup> As will be seen, defining Google’s market as that for general online search ignores significant competitive constraints that Google faces from outside this market. On the other hand, if a market is defined too broadly false negatives can ensue where in fact the firm faces little competitive constraints for its own product.<sup>51</sup> This is especially likely to occur in markets with highly differentiated products, which is the case with searching on the web.<sup>52</sup> In fact, no possible market definition for online search reveals a level of market power that provides a close proxy for the level that would result from a detailed market power analysis.

It has been suggested that a proper market power assessment can cure any defects in the market definition analysis due to the relevant market’s role only as a rough guide from which to infer market power.<sup>53</sup> But when defining the market gives no indication whatsoever as to the extent of a firm’s market power, the market definition analysis exercise itself is truly a fruitless endeavor. As Judge Frank H. Easterbrook pronounced in his seminal article, *The Limits of Antitrust*, “[m]arket definition is just a tool in the investigation of market power; it is an output of antitrust inquiry rather than an input into decisions, and it should be avoided whenever possible”.<sup>54</sup> When dealing with a complicated business model where a detailed qualitative and econometric analysis of the firm’s market power is required,

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<sup>50</sup> Id.

<sup>51</sup> This could be due to factors extraneous to potential demand or supply substitutes, such as capacity constraints faced by competitors or high switching costs between competing products in the market. A good real-world example of the regulation of market power absent structural sign-posts is Ofgem’s regulation of large electricity generating companies in the United Kingdom in the early 2000s, despite the fact that the market was unconcentrated.

<sup>52</sup> See generally Carl Shapiro, “Mergers with Differentiated Products”, *Antitrust*, Spring 1996, at 23, 28.

<sup>53</sup> See David S. Evans, “The Antitrust Economics of Free,” Competition Policy International, Spring 2011, at 19-20, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1813193](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1813193), (“[A] sensible market power analysis can cure all defects in a market definition analysis. If the market is defined too narrowly, then constraints, such as those coming from the provision of complementary products, can demonstrate that the firm at issue lacks the ability to engage in harmful behavior. If a market is defined too broadly, then an analysis of constraints can find that a firm could engage in harmful behavior even though it seems like a relatively small participant in the market. In that case, under case law there would probably need to be a rethinking of the market boundaries. This result is not surprising since the analysis of market definition and market power are both really about identifying the set of competitive constraints that determine whether or not a firm can engage in harmful behavior with respect to its customers.”)

<sup>54</sup> Frank H. Easterbrook, "Limits of Antitrust," 63 Texas Law Review 1, 22 (1984).

attempting to formulate a market definition that includes an accurate reflection of all the push-and-pull factors affecting the degree of the firm's market power is a fool's errand.

## **iv. The Search Side of Google's Business Model**

Market definition analysis, both in the merger and non-merger context, relies on some measure of substitutability or cross-elasticity of demand between products.<sup>55</sup> Substitution involves examining the attributes of the product in question and assessing the other products consumers could reasonably switch to, based on their characteristics, prices or intended use.<sup>56</sup> This allows the market definition to give some indication as to the extent of a firm's market power: the more alternative products or services consumers can turn to in the event of an exertion of market power by the firm in question, either through an increase in price or decrease in quality, the less likely the firm's action is to have anti-competitive effects. Because the purpose of the market definition exercise is to subsequently infer an accurate measure of market power, the market must include all products reasonably substitutable with the product under scrutiny. However, defining Google's market as that for general search services, while including key substitutes (Bing, Yahoo!, etc.), misses other search services that impose competitive constraints on Google. In fact, substitutability is an inappropriate indicator of market power in the context of online search, where many firms arguably constitute search engines in some differentiated form and where the cost of switching between them is negligible.

### **a. Demand Substitution on the Search Side**

Courts traditionally look to the cross-elasticity of demand of the product in question with respect to the price of other products when determining reasonable

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<sup>55</sup> *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 394 (1956) ("What is called for is an appraisal of the 'cross-elasticity' of demand in the trade."); *New York v. Kraft Gen. Foods, Inc.*, 926 F. Supp. 321, 333 (S.D.N.Y. 1995) ("Cross-price elasticity is a more useful tool than own-price elasticity in defining a relevant antitrust market. Cross-price elasticity estimates tell one where the lost sales will go when the price is raised, while own-price elasticity estimates simply tell one that a price increase would cause a decline in volume.").

<sup>56</sup> Commission Guidance, *supra* note 29 at para 7.

substitutability.<sup>57</sup> For example, a bottle of Diet Coke has a large cross-elasticity of demand with respect to the price of Diet Pepsi, a lower cross-elasticity of demand with respect to the price of Sprite, and a very low cross-elasticity of demand with respect to the price of milk. The first two products may well be in the relevant market because they are effective substitutes for each other, whereas the third product may not be even if it exerts *some* competitive pressure on the firm. This is because to include the latter products might understate the extent of the firm’s market power.

A market share percentage as a proxy for market power is crude where the market is characterized by a high level of differentiation due to the binary assessment of whether a particular product is sufficiently substitutable with the product in question to be considered “in” or “out” of the market.<sup>58</sup> Unlike in traditional industries, where substitutable products can be relatively easy to identify, services in the web economy are highly differentiated, making reasonable substitutes incredibly hard to ascertain.<sup>59</sup> This can be explained at least partially by the fact that many web-economy firms connect users, buyers and sellers which were previously geographically separated by burdensome pre-Internet transaction costs that inhibited communication and value-enhancing trades. Many of these firms are characterized by network effects whereby the value of the platform increases with the number of users. The easiest way for firms like this to start up and attain a “critical mass” of users is to differentiate themselves, targeting a specific segment of consumers and expanding from there.<sup>60</sup> If all platforms that connect different user-groups were homogenous, it is likely that the

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<sup>57</sup> Formally cross-elasticity looks like this:  $\epsilon = (\Delta Q_1/Q_1)/(\Delta P_2/P_2) = (\Delta Q_1/\Delta P_2)(P_2/Q_1)$ . Courts often refer to the cross-elasticity of demand between Product A and Product B without distinguishing between their respective cross-elasticities vis-a-vis each other, which will be unequal. When determining whether the market for Product A should include Product B, the relevant cross-elasticity of demand is that for Product A with respect to the price of Product B: Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, (Pearson, 4th Ed.), at 648.

<sup>58</sup> Dennis W. Carlton, “Market Definition: Use and Abuse”, 3(1) *Competition Policy International* (2007), at 16 (“Market definition, with its dichotomous “in” or “out” classification (is a product in or out of the market?), is a crude simplification”).

<sup>59</sup> Christopher Pleatsikas & David Teece, “The Analysis of Market Definition And Market Power in the Context of Rapid Innovation,” *International Journal of Industrial Organization*, 19 (2001) 665-693.

<sup>60</sup> See, for example, David S. Evans, “Economics of Vertical Restraints for Multi-Sided Platforms,” *Competition Policy International* 9, no. 1 (2013), at 6.

market could support only one efficient firm (because of network effects and tipping).<sup>61</sup> The result is that the industries with lots of multi-sided platforms are highly fragmented.<sup>62</sup>

Many online firms, such as Amazon, Twitter or LinkedIn, are differentiated search engines exerting competitive pressure on Google. One 2015 study found that a growing number of web-users conducting product searches start their searches on Amazon, rather than Google.<sup>63</sup> This indicates that there is a high cross-elasticity of demand for Google *as a product search tool* vis-a-vis Amazon. When the FTC closed its investigation of Google's search practices in 2012, it noted that “[a]lthough vertical search engines are not wholesale substitutes for general purpose search engines, they present consumers with an alternative to Google for specific categories of searches.”<sup>64</sup> In other words, the cross-elasticity of Google Search with respect to the price of vertical search engines is much lower than the cross-elasticity of vertical search engines with respect to the price of Google Search.<sup>65</sup> This led the FTC to conclude that

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<sup>61</sup> Id.

<sup>62</sup> Id.

<sup>63</sup> Mike Cassidy, “Survey: Amazon is burying the competition in search”, *The BloomReach Blog*, October 6, 2015, available at <http://bloomreach.com/2015/10/survey-amazon-is-burying-the-competition-in-search/> (“The portion of straight-to-Amazon shoppers, 44 percent, outstrips the percentage who turn to search engines (34 percent) and significantly eclipses the portion who rely on specific retailers’ sites (21 percent)”). The post refers to a previous study conducted by Forrester Research which put the portion of straight-to-Amazon shoppers at 30 per cent. In the survey, 75 percent of consumers said Amazon “does the best job of personalizing the shopping experience”, indicating that a drop in performance by Google would drive more consumers to begin shopping on Amazon.

<sup>64</sup> FTC Statement Regarding Google’s Search Practices, *supra* note 21. The European Commission took a similar stance when clearing the merger of Yahoo! and Microsoft’s search businesses. See COMP/M.5727 – Microsoft/Yahoo! Search business, February 18, 2010, at para 31 (“General internet search must be distinguished from vertical internet search, which focuses on specific segments of online content such as for example legal, medical, or travel search engines. Contrary to general internet search engines, which index large portions of the internet through a web crawler, vertical search engines typically use a focused crawler that indexes only web pages that are relevant to a pre-defined topic or set of topics.”). The Commission also distinguished general search from “site search covering only the content of one particular website” (at para 32).

<sup>65</sup> A U.S. District Court has tackled the issue of differentiation on the web in the context of social-media websites. It found that online dating sites are not reasonable substitutes for social networking websites because the latter websites have “significantly more functions and appeal than do online dating sites”. See *LiveUniverse v. Myspace* CV 06-6994 AHM, 2007 WL 6865852 (C.D. Cal. Jun. 5, 2007), at III, A (“Although social networking websites may also be used for dating, if MySpace suddenly were to shut down, its members would not fill the social void by turning to online dating sites. Instead, they would likely set up profiles on a different social networking website.”).

general and vertical search services are in different relevant antitrust markets, and the European Commission seems to have taken the same stance.<sup>66</sup>

Google Search as a general online search engine may have a low cross-elasticity of demand vis-a-vis a shopping comparison website, but it has a higher cross-elasticity of demand vis-a-vis a search tool like Apple's Siri which answers general search queries. The high degree of service heterogeneity on the web renders the substitutability exercise a toilsome task for any antitrust enforcement agency due to the varying degree of substitutability between different services.<sup>67</sup> The sheer amount of differentiated services on the web begs the question of whether and when to stop including possible substitutes in the relevant antitrust market. In other words, at what level of cross-elasticity for Google Search vis-a-vis a competing service should one delineate the relevant market boundary? Attempting to form an answer to this problem makes even less sense when one considers the fluidity and ease of web-browsing: Google may be one of few search services that is capable of answering a massive range of questions, but users could respond to an exercise of market power by switching to various differentiated search services according to the nature of their query, such is the nature of modern web-browsing. The alternative, that is to define Google's market as general search and then treat other search-related services as competitive restraints, fulfills the prophecy of adopting a market definition which gives little or no indication of market power.<sup>68</sup> These alternative search-based services

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<sup>66</sup> This becomes vital when assessing whether Google's vertical search practices constitute an illegal tying arrangement, since one requirement is that the tying and tied products are separate products.

<sup>67</sup> As Judge Richard A. Posner has recognized, "[T]he enforcement agencies and the courts do not have adequate technical resources, and do not move fast enough, to cope effectively with a very complex business sector that changes very rapidly." Richard A. Posner, "Antitrust in the New Economy", U Chicago Law & Economics, Olin Working Paper No. 106, November, 2000, at 2, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=249316](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=249316). See also Pleatsikas & Teece, *supra* note 59 ("[I]n high technology industries, there are often market niches where one differentiated product may gain an advantage – in some cases a substantial advantage – over the alternative solutions available to users. But common sense tells us that a myriad of such narrow niches cannot be relevant antitrust markets, in most cases because effective competition cuts across them.").

<sup>68</sup> See at Pleatsikas & Teece, *supra* note 59, at ??, ("Subdividing the relevant market based on the very product differentiation that is one of the fundamental bases for competition risks defining markets much too narrowly and overstating market power, so that monopoly power is found where none, in fact, exists.").

constrain Google’s market power just like other general search services, like Bing and Yahoo!, due to the ease with which the user can switch between them (see below).

## **b. Supply Substitution on the Search Side**

Antitrust analysis typically includes in the relevant market firms that would quickly “enter the market” in response to an exercise of market power by the firm under scrutiny (or, in other words, adopt its business model). For example, the 2010 Department of Justice and Federal Trade Commission Horizontal Merger Guidelines instruct that firms “that are not current producers in a relevant market, but that would very likely provide rapid supply responses with direct competitive impact in the event of a [small but significant and non-transitory increase in price], without incurring significant sunk costs, are also considered market participants.”<sup>69</sup> So, for example, if a manufacturer of left-handed golf clubs could not implement a price increase without incurring entry by current right-handed golf club manufacturers, the latter firms are appropriately included in the relevant antitrust market. Supply-side constraints that are insufficiently immediate or effective at constraining a dominant firm or merged entity’s market power are generally excluded from the market, and the constraints exerted by such firms are ordinarily assessed at the market power stage of the analysis. However, in the web-economy, which is characterized by rapid innovation cycles and constant repositioning within short timeframes, it may be impossible to predict which firms would supply general search in the event that Google exercises market power. For navigational searches, users may respond to a search-quality reduction by simply navigating straight to their end-website.<sup>70</sup>

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<sup>69</sup> FTC and DOJ Horizontal Merger Guidelines, at para 5.1 The pre-existing tech giants discussed here fall into this category, given that they, for the most part, already have the infrastructure in place to run comprehensive search engines (e.g. data-centers, servers etc.). In the European Union see Commission Notice on the definition of relevant market for the purposes of Community competition law, at para 20.

<sup>70</sup> Navigating straight to websites has become easier as web-browsers have evolved. For instance, Apple’s Safari browser includes the “Safari Suggestions” tool, which suggests what the user might be looking for and allows the user to navigate straight to things like iTunes, the App Store, movie showtimes, locations nearby, and more.

Many markets on the web are “moving targets”<sup>71</sup> with firms constantly repositioning their products and services to steal the attention of users from firms that would not traditionally be considered to be operating in the same relevant market.<sup>72</sup> Whereas in traditional markets a dominant position characterized by a high market share is considered to be a depressant to innovation,<sup>73</sup> the threat of rapid innovation by firms not currently directly competing with Google constrains its market power today in a way that would not be accounted for by its touted market share.<sup>74</sup> Google expressed its worry about repositioning by other firms in its response to the European Commission’s Statement of Objections, noting that

“[T]he ways people search for, compare, and buy products are rapidly evolving. Users on desktop and mobile devices often want to go straight to trusted merchants who have established an online presence. These kinds of developments reflect a dynamic and competitive industry, where companies are continuing to evolve their business models and online and offline markets are converging.”<sup>75</sup>

The low barriers to entry and great economies of scale and scope allow already established tech-firms (that already have the expensive technical infrastructure in place) to quickly enter into new niches to bolster their own portfolios of products and services. For example, Apple’s Siri innovation offers a personal assistant that one can

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<sup>71</sup> See Daniel L. Rubinfeld & John Hoven (2001), “Innovation and Antitrust Enforcement”, in Jerome Ellig (ed.) *Dynamic Competition and Public Policy: technology, innovation, and antitrust issues*, at 79-80 (USA: Cambridge University Press) (“Many network industries are dynamic, in which case the market is a moving target, evolving as technology changes in response to innovation.”)

<sup>72</sup> See David S. Evans, “Attention Rivalry Among Online Platforms,” University of Chicago Institute for Law & Economics Olin Research Paper No. 627, April 12, 2013, available at <http://ssrn.com/abstract=2195340>.

<sup>73</sup> *Alcoa*, *supra* note 24, at 427 (“Many people believe that possession of unchallenged economic power deadens initiative, discourages thrift and depresses energy; that immunity from competition is a narcotic, and rivalry is a stimulant, to industrial progress; that the spur of constant stress is necessary to counteract an inevitable disposition to let well enough alone.”) See also John R. Hicks, “Annual survey of economic theory: The theory of monopoly”, *Econometrica*, 3(1) Jan., 1935, at 8, where the author coins the oft-quoted phrase, “The best of all monopoly profits is a quiet life”.

<sup>74</sup> See Rubinfeld & Hoven, *supra* note 71, at 79-80 (“Antitrust analysis must occasionally focus, therefore, not only on static competition within the market as it is currently constituted, but also on dynamic competition for the market of the future, that is, competition to control the next market standard (if there is one).”) Indeed, Alphabet’s most recent 10-K filing claims that the firm faces competition from any number of tech firms, some of which are not traditionally considered to be search engines. See Alphabet, Investor Relations. Available at <https://abc.xyz/investor/>.

<sup>75</sup> Kent Walker, “Improving quality isn’t anti-competitive”, *Google Europe Blog*, August 27, 2015.

carry around in one's pocket which often supplants the need to navigate to a general search engine.<sup>76</sup> Facebook already has “hundred of thousands of servers”<sup>77</sup> and collects sufficient data on its users, both in terms of breadth and temporality, to “answer a lot of the questions that people have”.<sup>78</sup> Notably, these developments come from firms not traditionally regarded as major players in online search.<sup>79</sup> And neither are capacity constrained: at worst they would need to add extra servers to cope with the new-found demand. They exert competitive constraints on Google's activity due to their ability to perform many of the same functions as a general search engine, and serve as two examples of pre-established firms creating demand-side substitutes in a timely fashion.

The European Commission recognized the transience of market power due to rapid innovation in 2011 when it approved the Microsoft/Skype merger.<sup>80</sup> Notably, the Commission left the question of the relevant antitrust market open due to the obvious limits placed on the merged entity's market power by rapid innovation and other competitive constraints in the market.<sup>81</sup> Indeed, what is the point of defining a relevant market to obtain a best-guess at market power, when the enforcement agency

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<sup>76</sup> Hal Singer, “Who Competes With Google Search? Just Amazon, Apple And Facebook”, *Forbes*, September 18, 2012, available at <http://www.forbes.com/sites/halsinger/2012/09/18/who-competes-with-google-in-search-just-amazon-apple-and-facebook/#1c28105b7459> (“Apple's Siri can do search and whole lot more, from helping Samuel L. Jackson design the perfect dinner to making John Malkovich laugh to helping Martin Scorsese maneuver through New York. As search evolves from links into answers, services like Siri become highly valuable.”). See also Charlie Zhou, “Why Google Should Be Scared Of Siri”, *Seeking Alpha*, October 17, 2011, available at <http://seekingalpha.com/article/299926-why-google-should-be-scared-of-siri>.

<sup>77</sup> Data Center Knowledge, “Who Has the Most Web Servers?”, May 14, 2009, available at <http://www.datacenterknowledge.com/archives/2009/05/14/whos-got-the-most-web-servers/>.

<sup>78</sup> Singer, *supra* note 76.

<sup>79</sup> Note that the two innovations just described, Siri and searching on Facebook, would properly be regarded as demand-side substitutes because they already exist in the market. They serve as examples of the ease with which pre-existing firms can constrain the market power of a dominant firm in the web-economy by repositioning or building on top of their current products. The point of including supply-side substitutes is to say that, if a firm could quickly create a demand-side substitute, it should be included in the relevant market.

<sup>80</sup> See Commission Decision in *Microsoft/Skype*, *supra* note 47, at para 83 available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32011M6281:EN:HTML> (“The innovation cycles in these markets are short. As a result, software and platforms are constantly being redeveloped. Innovators generally enjoy a short lead in the market.”)

<sup>81</sup> See further Evans, *Attention Rivalry*, *supra* note 72, at 35-37.

cannot possibly predict from what corner of the web-economy supply substitution will come next? Dynamic supply-side substitution on the web curtails firms' market power, regardless of the heterogeneity of their respective services, in a way that cannot be accounted for by the market definition exercise. From the perspective of consumers (and enforcement agencies), innovations come out of what seems like thin-air and sweep the rug from under the market power of dominant web-economy undertakings in a way that cannot be predicted *ex ante*, and therefore cannot be reflected by market shares.

We might take as evidence of the threat of innovation to market power the fact that Google constantly works on improving its search engine to stay ahead of potential competitors. This is behavior we would not expect to see from a search engine in possession of entrenched market power. For example, one online marketing company reports that Google changes its search algorithm once to twice a day, on average.<sup>82</sup> The fact that Google has not stopped innovating indicates that the firm recognizes the transiency of its profitable position in the face of rapid innovation by other tech companies.<sup>83</sup> This is a competitive constraint that is in no way accounted for by attempting to define the market in which Google operates, as it is impossible to predict which already-established tech firm would step in provide supply-side substitution in the event of an exercise of market power by Google.

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<sup>82</sup> Moz, Google Algorithm Change History. Available at <https://moz.com/google-algorithm-change>.

<sup>83</sup> One of its most recent changes was to phase out its “gutter” sponsored results that appeared to the right of its SERPs due to the general shift to mobile browsing and the increased use of other right-hand elements on SERPs, such as the Knowledge Panel and paid shopping blocks, which have largely rendered the gutter advertisements obsolete. See Dusty Vegas, “Google Removes Right Hand Sidebar Ads”, *Search Engine Journal*, February 19 2016, available at <https://www.searchenginejournal.com/google-removes-right-hand-sidebar-ads/156912/>. Google clearly sees the shift to mobile browsing and (worse) the shift to mobile apps as a disruptive threat and is responding accordingly to make its ads more mobile-friendly. In making the change, Google also significantly increased the number SERPs with a four-block advertisement display above the organic results, from 2 per cent of search results to 20 per cent. See Peter J. Meyers, “Four Ads on Top: The Wait Is Over”, *Moz Blog*, February 19, 2016, available at <https://moz.com/blog/four-ads-on-top-the-wait-is-over>. This should make ads more prevalent on mobile SERPs. In light of increased substitution to competing advertising-supported platforms online, Google is forced to innovate to increase the utility of its search engines to its users (assuming that users like ads, which ultimately depends on the type of search they are conducting) and ensure that its own advertisements are displayed prominently on mobile devices. This is a sure sign that Google's market power is not entrenched and could quickly be displaced due to the rapid innovation of other firms operating in the online sphere.

So far we have established that pre-existing firms have the capacity and ability to act as supply substitutes, due to their established infrastructure and sub-additivity of production, given their current product portfolios. As the Merger Guidelines note, a firm can only properly constitute a supply-side substitute and thus be included in the relevant antitrust market if it does not have to incur significant sunk costs in order to do so. Things become interesting here because search engine platforms are characterized by enormous fixed costs of production. As one report puts it,

“Being able to operate a responsive search engine, to closely match advertisements to search queries and to constantly crawl and index the internet requires search engines to install and operate a significant server infrastructure. Since the requirements are highly specific, this infrastructure cannot be built up based on off-the-shelf servers but requires tailor-made solutions.”<sup>84</sup>

Substantial research and development expenditure is also necessary in order to compete in the market for search engines.<sup>85</sup> In order to turn a profit in these circumstances, an entrant must expect to attract sufficient advertisers (after attracting sufficient users) to cover these fixed costs. It is therefore much easier for established tech giants, such as Apple, Facebook or Amazon to provide supply-side substitution than it is for new firms to enter and grow.

In these circumstances, the fact that Google already has a cost advantage that does not benefit entrants, namely spreading its fixed costs across a large base of users and advertisers, forms a barrier to entry that serves to increase its market power.<sup>86</sup> This might deter entry into market for the provision of search-based services, giving Google a degree of market power. On the other hand, an entrant that can receive funding from well-functioning capital markets would not be so deterred.<sup>87</sup> It becomes clear that, in the context of online search, there is a balancing exercise to be undertaken between the downward pressure on Google’s market power by pre-established firms with sufficient cash or the right infrastructure in place to move into the search engine

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<sup>84</sup> DIW Econ, “Competition in the web search market: A report for Microsoft”, July, 2009, at 11, available at [http://diw-econ.de/wp-content/uploads/2014/01/Bericht\\_Suchmaschinen\\_DIWecon\\_v2.0.pdf](http://diw-econ.de/wp-content/uploads/2014/01/Bericht_Suchmaschinen_DIWecon_v2.0.pdf).

<sup>85</sup> Ibid.

<sup>86</sup> George J. Stigler, *The organization of industry*, Chicago, IL: University of Chicago Press, 1968, at 67.

<sup>87</sup> Richard Schmalensee, “Sunk Costs and Antitrust Barriers to Entry”, 94(2) *The American Economic Review* 471.

market (ordinarily accounted for at the market definition stage), and the upward pressure on Google’s market power by the inability of unestablished firms to start-up and grow (ordinarily accounted for at the market power stage). Whether fixed costs pose a barrier to entry sufficient give Google sustainable market power is an extremely difficult question, indicating that this balancing exercise should be undertaken at the market power stage of the analysis — skipping the market definition exercise entirely.

### **c. Ease of Substitution on the Search Side**

Defining markets based on reasonable substitution depends not only on the suitability of the product substituted for, but the ease with which consumers can actually make a switch in the event of a price increase by the firm under scrutiny. That is because, the more easily users can switch to competing products, the more those products are considered to be substitutable for the product in question, and the less market power that firm will have. It therefore makes sense to include those firms to which consumers can easily switch in the relevant market, and exclude those firms to which consumers cannot so easily switch. This gives the firm’s market share more accuracy in representing its degree of market power.

Switching costs embrace the notion that customers of one supplier of a good or service will face some monetary cost or inconvenience should they switch to another supplier.<sup>88</sup> Generally, a customer will switch away from a product if the price increase or quality decrease justifies enduring the switching cost. Switching costs are a key component of assessing substitutability across competing products, and thus determining the relevant antitrust market. For example, one might expect Apple’s Mac operating system to be included in the relevant market for operating systems with Microsoft’s Windows OS, but the US District Court in Microsoft’s “browser wars” case saw it differently: switching from Windows to Mac OS would involve buying new

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<sup>88</sup> Joseph Farrell & Paul Klemperer, “Coordination and Lock-in: Competition With Switching Costs and Network Effects”, in 3 Handbook of Indus. Org. 1967, 1971 (M. Armstrong & R. Porter eds., 2007).

hardware, obtaining compatible software and learning how to work the new system.<sup>89</sup> This would be sufficient to deter users from switching to Mac OS in response to a significant increase in the price of Windows, thus excluding Mac OS from the relevant market. Similarly, in *Kodak*, the plaintiffs successfully alleged that the relevant market was parts and services specifically for Kodak equipment.<sup>90</sup> The Supreme Court, in rejecting the Chicago-style argument that Kodak could not have real market power in the after-market due to competition in the equipment market, reasoned that customers who had purchased Kodak equipment faced a high cost of switching to alternative equipment, thus were locked in to buying only Kodak parts/services.<sup>91</sup> The lack of substitutability to an alternative supplier in the after-market justified a single-brand relevant product market.<sup>92</sup> This subsumes the market power analysis into the question of market definition, highlighting the inextricable link between market power and market definition.

A lack of switching costs is often invoked in the case of Google to support the argument that Google does not have significant economic power or is not the “gateway to the Internet”.<sup>93</sup> Low switching costs, according to the above analysis, entails a wider relevant market. Such arguments often rely on empirical studies showing, for example, that users often switch search engines during and between their searches.<sup>94</sup> Another study highlights the low cost of switching between search engines, finding that “[e]very month, roughly 117 million searches are made for “google” in

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<sup>89</sup> *Microsoft*, *supra* note 24, at 52 (“The District Court found that consumers would not switch from Windows to Mac OS in response to a substantial price increase because of the costs of acquiring the new hardware needed to run Mac OS (an Apple computer and peripherals) and compatible software applications, as well as because of the effort involved in learning the new system and transferring files to its format.”).

<sup>90</sup> *Eastman Kodak*, *supra* note 43.

<sup>91</sup> *Ibid.* at 497.

<sup>92</sup> *Ibid.* at 482.

<sup>93</sup> Bork & Sidak, *supra* note 20, at 671.

<sup>94</sup> Ryen W. White & Susan T. Dumais, “Characterizing and predicting search engine switching behavior”, paper for the 18th ACM conference, “Information and Knowledge Management” in Hong Kong, available at <http://research.microsoft.com/en-us/um/people/sdumais/CIKM2009-Switching-fp1012-white.pdf>. As Edlin and Harris point out, this research uses a restricted definition of switching that excludes users that turn to vertical search engines, such as Amazon. See Aaron S. Edlin & Robert G. Harris, “The Role Of Switching Costs In Antitrust Analysis: A Comparison of Microsoft and Google,” 15 *J.L. & Tech.* 169, 201 (2013).

Bing”.<sup>95</sup> These data suggest that the ability of users to quickly switch to a competing provider of search results (vertical or general), or to end-point websites themselves, severely constrains Google’s market power, providing an incentive for the firm to show the best quality results possible. The end-result would be that, if Google made a strategic choice to sacrifice relevancy in order to favor its own vertical results, we would expect to see its user-base decline.<sup>96</sup>

A market definition from which an accurate degree of market power can be inferred should reflect this notion of fluid web-browsing behavior, but the concept of reasonable substitutability is too crude an instrument to do so. Users navigate from various websites to other websites for various reasons and have developed more confident and sophisticated browsing habits over time,<sup>97</sup> for example by simply clicking back to search results upon navigating to a website they do not consider to be relevant to their search.<sup>98</sup> Thus it is argued that the ease of switching from Google, not only to other general search engines (included in the narrow market definition), but also to other search-related services online, curtails Google’s market power because, if Google were to decrease the relevancy of its search results users would defect to other search-services that gave better answers to search queries (or simply navigate directly to end-point websites).<sup>99</sup> As noted, Google’s requisite low share of such a wide market would not warrant antitrust scrutiny according to traditional antitrust intervention policies.

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<sup>95</sup> Casey Szulc, “A Tale of Two Studies: Google vs. Bing CTR,” Digital Relevance, October 26, 2011, available at <http://www.relevance.com/blog/a-tale-of-two-studies-google-vs-bing-ctr>.

<sup>96</sup> See Edlin & Harris, *supra* note 94.

<sup>97</sup> Deborah Fallows, “*Search Engine Users: Internet searchers are confident, satisfied and trusting - but they are also unaware and naïve*,” Paper for Pew Internet & American Life Project, 2005, at 9, available at [http://www.pewinternet.org/files/old-media/Files/Reports/2005/PIP\\_Searchengine\\_users.pdf.pdf](http://www.pewinternet.org/files/old-media/Files/Reports/2005/PIP_Searchengine_users.pdf.pdf), finding that “[n]early all searchers consider themselves successful in their searching.”

<sup>98</sup> David J. Franklyn & David A. Hyman, “Trademarks As Search Engine Keywords: Much Ado About Something?” (2013) 26(2) Harvard Journal of Law & Technology 481, at 525 (“[I]f the click-through did not result in the desired information, a clear majority of survey respondents would simply go back and try another link.”)

<sup>99</sup> Ratliff & Rubinfeld, *Is There a Market for Organic Search*, *supra* note 10 at 531 (“[I]f the value of searching on Google were perceived to be lower, some consumers who previously had judged Google the best search engine relative to competitors’ engines would now favor and shift their searching to such competing engines.”).

The point here is not to say that Google has no market power because “competition is just one click away”,<sup>100</sup> but rather that it has less market power than it would have if it was able to increase the cost of switching to a competing provider (as in *Microsoft*<sup>101</sup>). However, it is important to note that switching costs affect market power in a nuanced manner and are ill-suited to the dichotomous market definition exercise.<sup>102</sup> As Patterson points out, the “ease of clicking to another search site does not mean that Google has no power”.<sup>103</sup> One can theorize that Google cannot decrease the quality of its search results without driving away its users, but this depends on users knowing when and whether to switch. Google professes that its Google Shopping units improve the search experience for users, citing both its own algorithms based on relevancy and the positive consumer response to the shopping blocks.<sup>104</sup> However, “[r]elevancy is a slippery and subjective concept, different for every user and every query, and there is no *a priori* way to define it.”<sup>105</sup> Patterson points out that some search results are “credence goods” whose relevancy cannot be

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<sup>100</sup> A principle Google has long adhered to: see for example Carr, “How Good (or Not Evil) Is Google?” NY Times, 21 June, 2009, available at [http://www.nytimes.com/2009/06/22/business/media/22carr.html?\\_r=2&pagewanted=2&ref=technology](http://www.nytimes.com/2009/06/22/business/media/22carr.html?_r=2&pagewanted=2&ref=technology), quoting then Google CEO, Eric Schmidt, “We are one click away from losing you as a customer, so it is very difficult for us to lock you in as a customer in a way that traditional companies have.”

<sup>101</sup> *Microsoft*, supra note 24, at 52 (“The District Court found that consumers would not switch from Windows to Mac OS in response to a substantial price increase because of the costs of acquiring the new hardware needed to run Mac OS (an Apple computer and peripherals) and compatible software applications, as well as because of the effort involved in learning the new system and transferring files to its format.”)

<sup>102</sup> Fisher, supra note 46, at 7 (“By focusing on whether products are in or out of the market, one converts a necessarily continuous question into a question of yes or no. The temptation is to regard products which are in as all counting equally and products which are out as not counting at all.”).

<sup>103</sup> Mark Patterson, “How Can We Measure Google’s Market Power?” *Antitrust Competition and Policy Blog*, May 21, 2012, available at [http://lawprofessors.typepad.com/antitrustprof\\_blog/2012/05/is-there-a-basis-in-antitrust-law-for-requiring-neutral-search-results-comments-of-mark-patterson.html](http://lawprofessors.typepad.com/antitrustprof_blog/2012/05/is-there-a-basis-in-antitrust-law-for-requiring-neutral-search-results-comments-of-mark-patterson.html).

<sup>104</sup> See Kent Walker, “Improving quality isn’t anti-competitive”, *Google Europe Blog*, August 27, 2015 (“[S]howing ads based on structured data provided by merchants demonstrably improves ad quality and makes it easier for consumers to find what they’re looking for. We show these ad groups where we’ve always shown ads -- to the right and at the top of organic results -- and we use specialized algorithms to maximize their relevance for users. Data from users and advertisers confirms they like these formats. That’s not “favoring” -- that’s giving our customers and advertisers what they find most useful.”).

<sup>105</sup> Geoffrey A. Manne & Joshua Wright, “If Search Neutrality Is the Answer, What’s the Question?” Lewis & Clark Law Sch. Legal Research Paper Series, Paper No. 2011-14, at 12, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1807951](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1807951).

evaluated directly by users.<sup>106</sup> Users trust, on the basis of Google’s reputation for providing relevant and comprehensive search results, that it does so for every search.<sup>107</sup> However, they do not know whether their searches would have been better conducted on a rival general search engine or on some vertical search engine, and the cost of learning whether this is the case is unduly high for most simple searches.<sup>108</sup> This implies that Google derives market power from the fact that users, despite facing negligible switching costs, cannot evaluate their searches such that they know *whether* or *when* to switch.<sup>109</sup>

Relatedly, there is the argument that Google’s storage of data on its individual users creates a cost for users that would otherwise be tempted to switch to a rival search engine, through the apprehension that a rival would deliver a less personalized experience (i.e. less relevant results) due to the fact that the user’s current search service of choice has a historical record that enables it to provide more personalized and relevant results.<sup>110</sup> Although user data is an important part of delivering relevant advertisements to users, the extent of its use in delivering natural search results is less

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<sup>106</sup> Mark R. Patterson, “Google and Search-Engine Mark Power”, Fordham Law Legal Studies Research Paper No. 2047047, April 27, 2012, available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2047047](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2047047).

<sup>107</sup> Google advances this as an argument in the *Streetmap* litigation. See *Streetmap*, *supra* note 20, at para 105 (“[Users] trusted Google to place the most relevant result at the top because, in summary, Google Search does such a good and careful job in ranking the answers it provides to a search query.”).

<sup>108</sup> Patterson, *supra* note 106, at at 8-9.

<sup>109</sup> See further Adam Candeub, “Behavioral Economics, Internet Search, and Antitrust,” 9 ISJLP 407 (2014).

<sup>110</sup> See, for example, Frank Pasquale, “Internet Nondiscrimination Principles for Competition Policy Online,” Testimony Before the Task Force on Competition Policy and Antitrust Laws of the House Committee on the Judiciary, July 15, 2008, at 6 (“Another factor that may raise switching costs is the trend toward personalized search, which effectively “trains” a service to tailor its results to match the patterns of a user. Just as users “invest” in learning how to use Microsoft Word or Excel, and are reluctant to switch to a new program, they “invest” in training personalized search engines how to find the materials most suited to their interests. The correlation between the quality of search and the length of use in personalized search is likely to further lock users in with an existing provider.”).

clear. Indeed, a recent study shows how the possession of historical user-data has little bearing on the relevancy of search results delivered.<sup>111</sup>

Because the analysis of switching costs will be a complex issue when assessing Google's market power, its inclusion at the market definition stage is inappropriate, especially because an enforcement agency which determines the market definition on the basis of the hypothetical ease of substitution, as per the tradition of the courts, will probably end its inquiry there. Skipping the market definition exercise and proceeding straight to the impact that switching costs have on Google's market power would allow the complex distinction between the cost of switching, on one hand, and knowing when to switch, on the other, to fully inform the analysis of whether Google can profitably degrade the quality of its search results.

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To conclude this section, the binary nature of the market definition exercise (a product is either “in” the market or “out” of the market) means that, in the case of online search where many firms offer search-orientated services, a narrow market definition will exclude some firms that significantly constrain Google's market power, whereas a broad market definition will include products with which Google's cross-elasticity will vary immensely according to user preferences and browsing habits. The continuous nature of differentiation on the web, from both a demand and supply perspective, and the difficulty of determining the ease of substitution between various services, means that substitution is better placed in the market power analysis to the exclusion of the market definition exercise in its entirety.

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<sup>111</sup> Lesley Chiou & Catherine Tucker, “Search Engines and Data Retention: Implications for Privacy and Antitrust”, MIT Sloan School Working Paper 5094-14, May 27, 2014, available at <http://ssrn.com/abstract=2441333>. DuckDuckGo's growing popularity also demonstrates that relevant search results that users value need not rely on vast amounts of user data, nor need a firm rely on extensive data-collection in order to attract advertisers to its platform. See DuckDuckGo, Traffic. Last accessed February 26, 2016, at <https://duckduckgo.com/traffic.html>.

## v. The Advertising Side of Google’s Business Model

### a. Google as a Two-Sided Platform

A narrow market definition which encompasses only general search engines may lead one to conclude that Google is without market power given the lack of positive monetary price charged to users.<sup>112</sup> The Northern District of California in *KinderStart vs Google* took this approach, reasoning that “the search market is not a ‘market’ for the purposes of antitrust law” because the claimant could cite “no authority indicating that antitrust law concerns itself with competition in the provision of free services”.<sup>113</sup> However, this stance ignores the interdependence of consumers and advertisers on either side of Google’s business. Google may charge nothing to searchers,<sup>114</sup> but it charges advertisers to publish advertisements on its platforms.<sup>115</sup> As such, attempting to relate price to marginal cost as a measure of market power is a fallacy in these circumstances.<sup>116</sup> Furthermore, as we saw above, Google can properly exercise market power on the user-side by decreasing the quality of its search engine below that which would prevail in a more competitive environment, rather than increasing the price of its service. However, if and when it does so, it must always take into account the feedback effects that this would have on the demand for its advertising product — because Google is a two-sided platform.

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<sup>112</sup> Economic theory indicates that market power and higher prices go hand-in-hand. The Lerner formula tells us that one over the price elasticity of demand should equal the percentage markup of price over and above the marginal cost of production, such that a firm which prices to any degree above its marginal cost must possess proportional market power. Looking at Google Search through the lens of traditional economic theory might indicate that, because Google gives away its Google Search product at a monetary price of zero, it must be severely lacking in market power. See Carlton & Perloff, *supra* note 48, at 92-93.

<sup>113</sup> *KinderStart.com, LLC v. Google*, 2007 WL 831806 (N.D.Cal.).

<sup>114</sup> By this I mean that Google Search is free in dollar-terms. Professor Randal C. Picker has argued that Google charges an advertising price to consumers: see Randy Picker, “Picker American Enterprise Institute Talk: Google and Antitrust,” October 6, 2012, available at <http://www.youtube.com/watch?v=mSGuO4RqQeo>.

<sup>115</sup> Evans, *supra* note 136, at 45-46. (“A key difference between the one-sided and two-sided firms is that, as Rochet and Tirole show, the two-sided monopolist must choose a pricing level (what total price to charge to buyers and sellers) and a pricing structure (how to divide the total price between buyers and sellers).”)

<sup>116</sup> See Wright, J. “One-Sided Logic in Two-Sided Markets.” *Review of Network Economics* 3, no. 1 (2004). doi:10.2202/1446-9022.1042.

There are strong indirect network effects flowing from users to advertisers because advertisers value a search platform with more users.<sup>117</sup> Advertisers value a search platform with more users due to the high heterogeneity of consumers and advertised products and the resulting increased likelihood that there will be a successful match between buyer and seller, leading to a value-enhancing trade.<sup>118</sup> But the increased likelihood of a match taking place also stems from the fact that a search engine with a high number of users, and a high number of repeat users, can collect more data and better target specific advertisements at specific individuals.<sup>119</sup> So more users searching on Google and using its other services attracts more advertisers. By giving away its search service at a zero-price, Google can attract a sufficiently wide audience and collect enough data to make it worthwhile for advertisers to advertise using its platform.<sup>120</sup> Other search engines follow suit with their pricing strategies; in fact, Microsoft subsidizes the adoption of its Bing search engine on the user-side through its Bing Rewards program.<sup>121</sup> Therefore, assuming that Google Search lacks market power because it is free to the user overlooks the fact that Google instead profits from advertisers on the other side of its platform.

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<sup>117</sup> Michael L. Katz & Carl Shapiro, “Systems Competition and Network Effects,” 1994, at 94 (“Another situation in which consumer coordination is vital arises when consumers must choose durable hardware, as when they purchase a device to play a new format of prerecorded music. In making such a choice, each consumer will have to form expectations about the availability of software (in this example, the availability of recordings in that format). In the presence of economies of scale in the production of software, the availability of software will depend on what other consumers do, which gives rise to positive-feedback effects.”). One example is operating systems: as the number of users grows, developers will be more likely to develop software for that operating system or port existing software over from an existing operating system. This analysis is pertinent to the decision in *Microsoft*, *supra* note 24.

<sup>118</sup> David S. Evans, “The Online Advertising Industry: Economics, Evolution, and Privacy,” (2009) available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1376607](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1376607).

<sup>119</sup> James D. Ratliff & Daniel L. Rubinfeld, “Online Advertising: Defining Relevant Markets”, 6 *Journal of Competition Law and Economics* 653 (2010), 660-662, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1734015](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1734015).

<sup>120</sup> Evans, *supra* note 136, at 50. (“One way to [get both sides of a two-sided market on board] is to obtain a critical mass of users on one side of the market by giving them the service for free or even paying them to take it. Especially at the entry phase of firms in multi-sided markets, it is not surprising to see precisely this strategy”).

<sup>121</sup> Bing Rewards, “Search Bing. Earn free rewards.”, available at <http://www.bing.com/explore/rewards> (“Earn credits by using Bing as your search engine. Redeem credits for popular gift cards and to enter exclusive sweepstakes for great prizes. All you have to do is stay signed in to Bing Rewards as you search.”).

With many two-sided platforms, indirect network effects flow in both directions: users of an operating system platform will value the platform with the greatest number of available applications, while developers will prefer to write applications for the platform with the greatest number of users. The standard explanation for why the market power of two-sided platforms is curbed by network effects is that, because each side of the market's demand schedule is a function of the demand on the other side, an implementation of market power on one side of the market which causes users on that side to leave the platform reduces the value of the platform to users on the other side of the platform, such that some users also leave that side. This further reduces the value of the platform on the first side, leading more users to leave — and so on. Call this the “unravelling effect”.<sup>122</sup> Essentially, the complementarity of the second side magnifies the effect of a price increase on the first side, making demand on the first side more elastic. But in the search model, this correlation is not so obvious. Recall the notion above that one way Google could exercise market power is by showing users more advertisements without them switching to competing search platforms. This assumes that users value a search engine with less advertising, and that advertisements “are not consistent with the aim of the search”.<sup>123</sup> Under this assumption, network effects do not flow from advertisers to users, such that once Google gets as many users as it can searching on its platform, it will then be able to attract more and more advertisers.<sup>124</sup> It is unlikely that Google could have started by attracting lots of advertisers and using the large number of advertisers to attract users, because they simply do not value advertising that much.

So the unravelling effect may not occur. That is not to say that if that a quality decrease on the search side caused users to leave the platform, Google's revenue would not fall — advertisers still value Google more when it has more users, such that some

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<sup>122</sup> This is the opposite of the “positive feedback loop” that exists between users on either side of the platform, whereby more users on one side leads to more adopters on the other side, which leads to more adopters on the first side, and so on. This leads to “explosive growth” of the platform: see Carl Shapiro & Hal S. Varian, *Information Rules: A Strategic Guide to the Network Economy* (Boston: Harvard Business School Press, 1999) (hereinafter *Information Rules*), 13.

<sup>123</sup> Luchetta, *supra* note 20, at 195.

<sup>124</sup> Google in fact did just this, attracting users first and adopting the advertising model later.

may leave the platform if Google did decrease quality on the user side. But this is where the buck should stop if users do not value advertising: a consequent loss of advertisers should not lead to a subsequent loss of users.

However, the assumption that users do not benefit from a greater number of advertisers may need to be relaxed somewhat. Online advertising is often referred to as a Schumpeterian gale of creative destruction,<sup>125</sup> disrupting the traditional advertising industry<sup>126</sup> as a result of the fact that online advertisements can be targeted much more effectively at individual users than traditional forms of advertising, based on data possessed by the intermediary through which the parties interact.<sup>127</sup> Online advertising on the basis of user-data is far more effective than traditional forms of advertising and produces a larger return on investment. This is because the advertisements that Google displays are selected on the basis of both the willingness to pay of the advertiser and the relevancy of the advertiser's product or service to the user's query. The lower the advertiser's relevancy quality score for a certain search, the more it has to pay to secure an advertisement on that specific SERP. There is therefore an incentive for advertisers to bid for keywords that are relevant to their own products or services, both because it will be cheaper and because advertisements more closely related to users' searches equate to a higher chance that users will click on the advertisements. If users value highly relevant advertisements, the network effects flowing to them from advertisers may well be positive.

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<sup>125</sup> Joseph Schumpeter, "Capitalism, Socialism and Democracy" (1942, Harper & Brothers).

<sup>126</sup> Where it has been suggested, in the context of newspapers (another form of advertising-based media), that advertising is considered to be at least as important as editorial content: James M. Ferguson "Daily Newspaper Advertising Rates, Local Media Cross-Ownership, Newspaper Chains, and Media Competition," 26 J.L. & ECON. 637 (1983) ("Readership studies show that advertising, especially retail advertising, is considered as important as, or more important than, editorial content.")

<sup>127</sup> Evans, *supra* note 72. This formed the basis of a finding that offline and advertising are not sufficiently substitutable to be included in the same relevant product market by the European Commission when clearing the merger of Google and DoubleClick in 2008. See Commission Decision of 11/03/2008 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement (Case No COMP/M.4731 – Google/ DoubleClick), at para 45 ("As opposed to offline advertising, online advertising is considered to be capable of reaching a more targeted audience in a more effective way. Advertisers can precisely target their audience by combining information regarding geographical location, time of day, areas of interest, previous purchasing record of the user and search preferences. This option is not available in the case of offline advertising, for which the amount of "wasted circulation" is undoubtedly higher.").

Users conducting “transactional queries”, that is, queries seeking a potential website to transact with,<sup>128</sup> are more likely to derive positive externalities from the ads displayed next to the natural results because they are actively looking for a firm with which to transact. Transacting is the central goal of their searches and advertising is less of an intrusion. It has been suggested that, because these queries represent only 10% of all searches,<sup>129</sup> we should focus instead on advertisements accompanying other types of search, which exhibit no positive externalities for the user.<sup>130</sup> But often other types of SERPs (informational and navigational) do not have accompanying ads — in which case, of course, no network effects flow from advertisers to users. However, if users conducting product-searches value advertisements, the strength of network effects flowing from advertisers to users is 10% the size it would be if users derived positive value from all searches conducted on Google. It goes without saying that 10% of all searches on Google is still a significant number. This insight is also significant for the European Commission’s allegations regarding Google’s display of its own shopping-comparison advertisements, which only appear when product searches are conducted. In the narrow context of the EU investigation, indirect network effects flowing from advertisers to users may well be present and it may be wrong to claim that the positive externalities flowing from advertisers to users are non-existent or negligible, although they would be much weaker than those flowing from users to advertisers.<sup>131</sup>

Once the assumption that users do not value advertising is relaxed, there is more scope to argue that indirect network effects in Google’s business model limit its ability to profitably raise the price or reduce the quality of its service due to the link between users and advertisers that affects the price elasticity of demand on either side

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<sup>128</sup> Bernard J. Jansen, Danielle L. Booth & Amanda Spink, “Determining the Informational, Navigational, and Transactional Intent of Web Queries,” 44 *INFO. PROCESSING & MGMT.* 1251 (2008).

<sup>129</sup> Luchetta, *supra* note 30 at 195. Citing Jansen, Booth & Spink, *ibid.*

<sup>130</sup> *Ibid.*

<sup>131</sup> Note that this does not alter the scenario above where Google exercises market power by showing more ads — it could be the case that Google Shopping is a less relevant result than competing providers of shopping-comparison websites, such that, despite the fact that users conducting product searches value product advertisements, they would prefer to see results from competing providers.

of the platform.<sup>132</sup> The aforementioned unravelling effect could indeed take place if Google reduced the quality on the search-side. Users could switch to other competing search engines and, because demand on the advertising-side depends *inter alia* on the number of users on the search-side, this drop in users would consequently constitute a decrease in quality on the advertising-side, prompting advertisers to switch to competing platforms. Now, unlike before, users value lots of advertisers when they are making product-searches — especially with Google Shopping, which takes the form of a shopping-comparison website where users can find the best prices. Due to the (albeit relatively small) increase of value that users derive due to the presence of relevant advertisements (as a result of there being a large number of advertisers), this drop in the number of advertisers would constitute a further decrease in quality on the search-side, driving even more users away — perhaps to another search engine, or even directly to a different shopping-comparison website. This being the case, the presence of indirect networks effects constrains Google’s market power — a constraint not accounted for by a market definition that excludes the advertising side of Google’s business (such as that adopted by the European Commission). Notably, this is especially, perhaps *only*, true when we think about product searches, making it all the more relevant for the current case in the EU.

The question then becomes, why not extend the market definition to include the advertising side of Google’s business so that the market definition can yield meaningful market shares? The alternative, one might argue, is to define the relevant product market as that for search results (general and/or specialized) *and* some form of advertising too (search-based advertising being the most narrow definition possible). Indeed, Ratliff and Rubinfeld have argued that the relevant market must include both sides of Google’s business model due to the interrelatedness of pricing on either side of the market.<sup>133</sup> They argue that, since organic search cannot exist on a zero-cost

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<sup>132</sup> Richard Schmalensee and David S. Evans, “Industrial Organization of Markets with Two-Sided Platforms”, *Competition Policy International*, Vol. 3, No. 1, Spring 2007, at 173. This was the case before we relaxed the assumption that users do not benefit from advertising, because the loss of users due to a quality decrease on the search-side equates to a quality reduction on the advertising-side. But this is where the feedback loop would stop in a world where users do not care about advertisers.

<sup>133</sup> Ratliff & Rubinfeld, *Is There a Market for Organic Search*, *supra* note 10.

basis without search advertising, and because “the price of one product affects the prices of another product sold by the same company,” both the market for general search results and the market for search-advertising must be included in the relevant product market.<sup>134</sup>

However, doing so adds a fresh level of complexity to the market definition exercise by examining the demand-side substitution behavior of two distinct consumer groups, namely searchers and advertisers. It is unclear whether any court, at least in the U.S., has ever done this at the market definition stage.<sup>135</sup> The interaction between the two sets of customers (i.e. the network effects flowing between them) is better suited to the market power analysis where the *relative strength* of the indirect network

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<sup>134</sup> Ratliff & Rubinfeld, *Is There a Market for Organic Search*, *supra* note 10, at 536, quoting J. Thomas Rosch, Fed. Trade Comm’n, Dissenting Statement In the Matter of Laboratory Corporation of America and Laboratory Corporation of America Holdings, No. 9345 & No. 101–0152 (F.T.C. Nov. 30, 2010).

<sup>135</sup> Evans, “The Antitrust Economics of Free”, *supra* note 53, at 21, (“The preferred approach [for multi-sided markets] usually involves recognizing that competition takes place between multi-sided platforms, and that the market consists of these firms as well as other firms operating on either side that impose competitive constraints. ... However, no U.S. court, to my knowledge, has defined a market consisting of multi-sided platforms that provide services to distinct groups of customers. The other approach involves defining relevant antitrust markets separately for the free and paid sides of the platform, but then taking the interdependencies into account in the analysis of market power. Again, so long as this analysis is not abbreviated, it could lead to the same result. Errors are minimized so long as the market definition and market power inquiries consider the full set of competitive constraints, including those coming from both sides of the platform.”).

effects and their impact on Google’s behavior can be assessed more fully.<sup>136</sup> Ratliff and Rubinfeld indicate that the *mere fact* of strong indirect network effects as between users and advertisers — an outlandish assumption in itself<sup>137</sup> — means that the relevant product market must at least be as wide as the two-sided market for search and search-based advertising.<sup>138</sup> As shown, the feedback effects flowing from advertisers to users, though present in the case of product-searches, are much weaker than those flowing from users to advertisers, and thus weigh against a market definition that includes the advertising side of Google’s business when doing so would bluntly include search-based advertising in the relevant market without considering the *degree* to which the two-sided nature of Google’s business model disciplines its exercise of market power on either side of the platform. This could lead to a false negative result, given the ready use of low market shares to dismiss cases at the summary judgment stage and the market power Google may derive from sources exogenous to this market definition.

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<sup>136</sup> Indeed, the authors’ reliance of the economic literature of two-sided markets definition is misplaced. Citing David Evans, they conclude that it “is not possible to address the question of market power in multi-sided platforms without considering the combined and interrelated effects on all customer groups served by the platform.” See Ratliff & Rubinfeld, *Is There a Market for Organic Search*, *supra* note 10, at 538, citing David S. Evans, “The Antitrust Economics of Multi-Sided Platform Markets”, 20 *Yale J. On Reg.* 325, 357, 360 (2003). But this simply advises enforcement agencies to *consider* the feedback effects between parties on either side of the market, which can easily form part of the market power analysis once the relevant market has been defined. The same applies to the other conclusion the authors cite, this time by David Evans and Michael Noel, that “it is not possible to analyze the competitive constraints on weekly television guides—the essence of the market definition and power examination—without considering the sale of advertising directly through the guides.” (David S. Evans & Michael Noel, “Defining Antitrust Markets When Firms Operate Two-Sided Platforms”, 2005 *Colum. Bus L. Rev.* 667, 699 (2005)). In fact, David Evans has argued elsewhere that a sensible market power analysis can cure the possibility of a false positive resulting from a market that is narrowly defined (to the exclusion of the other side of its two-sided business model). See Evans, “The Antitrust Economics of Free”, *supra* note 53, at 19-20, (“In terms of reaching the right answer a sensible market power analysis can cure all defects in a market definition analysis. If the market is defined too narrowly, then constraints, *such as those coming from the provision of complementary products*, can demonstrate that the firm at issue lacks the ability to engage in harmful behavior. If a market is defined too broadly, then an analysis of constraints can find that a firm could engage in harmful behavior even though it seems like a relatively small participant in the market. In that case, under case law there would probably need to be a rethinking of the market boundaries. This result is not surprising since the analysis of market definition and market power are both really about identifying the set of competitive constraints that determine whether or not a firm can engage in harmful behavior with respect to its customers.” (emphasis added))

<sup>137</sup> Remember above that whether indirect network effects flow from advertisers to users depends on the type of search query that is conducted.

<sup>138</sup> Ratliff & Rubinfeld, *Is There a Market for Organic Search*, *supra* note 10, at 538.

## **b. Substitution on the Advertising Side**

Advertising services on the web are, as with the search-side, highly heterogeneous and thus the market is characterized by a long spectrum of differentiation. The cross-elasticity of Google's platform vis-a-vis other advertising platforms is hard to quantify because different advertisers respond to price increases in different ways. For example, Heyer, Shapiro & Wilder consider the possible responses of an advertiser faced with displacement from the top advertisement position by a higher competing bid on the keyword:

“The advertiser can increase its bid to regain the top position, increase its bids on related keywords on the same platform, increase its bids on the same or related keywords on other platforms, or simply do nothing.”<sup>139</sup>

The authors then point to the varying speed with which different advertisers response to changes in relative prices, noting that some advertisers “monitor tens of thousands of keywords in-house on a daily basis, others outsource their campaigns to specialized advertising firms known as search engine marketers, or SEMs, subject to budget constraints; still others bid on a few keywords and check in every few weeks to see how their ads are performing.”<sup>140</sup> This all points to the conclusion that cross-elasticity as between different advertising platforms is extremely difficult to quantify empirically.

For example, Google competes in both search advertising and display advertising (advertising on web-pages), and there is significant divergence between courts and enforcement agencies as to whether they are sufficiently substitutable to be part of the same relevant market. For example, The European Commission, when clearing the merger of Google and DoubleClick in 2008, declined to determine whether search and display-based ads were insufficiently substitutable to be part of two distinct sub-markets in the online advertising market.<sup>141</sup> On the other hand, the

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<sup>139</sup> Ken Heyer, Carl Shapiro & Jeffrey Wilder, “The Year in Review: Economics at the Antitrust Division, 2008–2009,” *Rev Ind Organ* (2009) 35:349, 358.

<sup>140</sup> *Ibid.*

<sup>141</sup> See Commission Decision of 11/03/2008 declaring a concentration to be compatible with the common market and the functioning of the EEA Agreement (Case No COMP/M.4731 – Google/ DoubleClick), at para 49. The Commission addressed the issue again in 2010, and again left the question open: see Case No COMP/M.5727 - MICROSOFT/ YAHOO! SEARCH BUSINESS, at para 75.

FTC in the U.S. version of the same case found that “the advertising space sold by search engines is not a substitute for space sold directly or indirectly by publishers or vice versa”,<sup>142</sup> while the U.S. District Court, just the previous year, held that there is “no logical basis for distinguishing the Search Ad Market from the larger market for Internet advertising”.<sup>143</sup>

At the time, search and display advertisements were targetable in their own ways: search ads had the benefit of recognizing consumers’ immediate needs and interests, whereas display ads could recognize consumers’ broad interests and other demographics from the context of the web-page they were displayed in. Since 2008, when the Google/DoubleClick merger was cleared, search and display have converged such that the difference in targeting is much smaller, though display ads remain better suited for brand-awareness advertising campaigns.<sup>144</sup> Due to the increased use of cookies, display ads often show users advertisements completely unrelated to the web-page on which they are found, based on other targeting factors like the user’s browsing history. As such, display and search may be more substitutable than they were in 2008. And, as Evans points out, the increased use of technology in online advertising has led to a greater degree of substitutability between advertisement

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<sup>142</sup> Fed. Trade Comm’n, Statement of Federal Trade Commission Concerning Google/DoubleClick, FTC File No. 071-0170, at 3, 7 (Dec. 20, 2007), available at <http://www.ftc.gov/os/caselist/0710170/071220statement.pdf> (“[T]he evidence in this case shows that the advertising space sold by search engines is not a substitute for space sold directly or indirectly by publishers or vice versa. Or, to put it in terms of merger analysis, the evidence shows that the sale of search advertising does not operate as a significant constraint on the prices or quality of other online advertising sold directly or indirectly by publishers or vice versa.”) (citations omitted).

<sup>143</sup> KinderStart, *supra* note 113, at para 6. The paragraph continues, “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.”

<sup>144</sup> See “Google AdWords: Google Search vs. Google Display,” *Dealerinspire.com*, accessed on April 23, 2016, at <https://www.dealerinspire.com/google-adwords-search-and-display-networks/>.

publishers, regardless of the heterogeneity of their services or content.<sup>145</sup> So, for example, an advertiser using Google’s platform could switch to advertising on Facebook if Google were to implement a price increase or quality decrease. Indeed, research supports the proposition that the bang-for-your-buck does not vary greatly between various competing advertising platforms — advertising on Google may be more expensive than advertising on Facebook, but it is also more effective.<sup>146</sup> One further question, answered in the negative by the European Commission when approving the Google-DoubleClick merger, is whether offline advertising sufficiently constrains online advertising such that they should be in the same relevant market.

The ease of substitution between advertising platforms further complicates matters. As with the search side, the degree to which other advertising services constrain Google’s exercise of market power on the advertising side of its business model depends on how easily advertisers can switch to competing platforms in response to either a price increase (i.e. a higher Cost-Per-Click) or quality decrease (i.e. less users on the search side). This is an issue previously considered both by the FTC and the European Commission, and in both cases Google vowed to make it easier for advertisers to transport their advertising data by allowing third parties to intermediate between Google and the advertisers. The ease of substitution is a further complicating factor that would need to be considered in detail if the advertising side of Google’s business model were included in the relevant market.

Any attempt to define a relevant product market that incorporates both Google’s search service and advertising service simultaneously would involve frank and

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<sup>145</sup> Evans, *Attention Rivalry*, supra note 72, at 29 (“The existence and widespread use of cross-channel marketing technologies shows that advertisers (or advertising and marketing firms that serve as their agents) see different online channels as substitutes. Otherwise they would not be using products that facilitate the comparison of their marginal returns on investment. The availability and widespread use of these technologies also makes it likely that these different channels have relatively high degrees of substitution. Advertisers compare them using a single metric and can make quick adjustments to their campaigns depending on the rates of return, which depend on costs and results.”)

<sup>146</sup> Larry Kim, “Google Display Network vs. Facebook Advertising [Infographic],” Wordstream.com, May 15, 2012, available at <http://www.wordstream.com/blog/ws/2012/05/15/ipo-facebook-vs-google-display-advertising>. See also Howard Beales, “The Value of Behavioral Targeting,” December 16, 2009, available at [http://www.networkadvertising.org/pdfs/Beales\\_NAI\\_Study.pdf](http://www.networkadvertising.org/pdfs/Beales_NAI_Study.pdf), finding that behaviorally targeted advertising was 2.43 times as effective and 2.68 times as expensive as less targeted advertising.

harsh choices as to reasonable substitutability between advertising services, ignoring the continuous spectrum of differentiation that characterizes the market. It is also not clear how one would calculate a market share if the market was defined as including both the search and advertising sides of Google's business. Including only search-based advertising on the advertising side would likely give Google a high share of this side, but, as with the search side definition process, would exclude significant competitive constraints imposed by other forms of online advertising. This fluidity strongly indicates that the effects on Google's market power brought about by the advertising side of its business are better suited to the market power analysis; not to the broad-brush treatment of the market definition exercise. Indeed, the only way to take full account of the nuances of Google's business model is to proceed straight to the market power analysis, skipping the market definition exercise entirely.

## vi. Implications For Google’s Litigation

As noted throughout this paper, there are two uses to which market shares of a properly defined market can be put: a high market share can be used to infer a concomitant high degree of market power, i.e. the ability to profitably raise price above or reduce quality below the competitive level, whereas a medium-to-low market share can be employed by judges to quickly dismiss monopolization cases at the summary judgment stage. Market shares are better used for the latter purpose due to the large risk of error when used for the former purpose.<sup>147</sup> Given that, in many cases, a defective market definition exercise can be cured by a diligent market power analysis, it is worth considering what practical effect of either using or abandoning the market definition exercise might have in both the European Union or the United States. As we will see, over-reliance on market shares as part of the form-based approach to unilateral conduct in the EU is more likely to lead to a false positive than in the US, unless a more sensible approach is adopted.

### a. Europe: Market Shares and the “Form-Based” Approach

As described in Part II, the charges leveled at Google will rest on some notion of liability based on the fact that Google has some level of market power in a relevant market.<sup>148</sup> The ordoliberal origins of competition law in the European Union, which envisage a real-world version of perfect competition, and with which economic power over consumers or competitors is inconsistent, resulted in a historical reliance on structural presumptions and a formalistic approach to dealing with unilateral behavior

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<sup>147</sup> Carlton, *supra* note 58, at 27 (“My view is that the definition of a market and the use of market shares and changes in market shares are at best crude first steps to begin an analysis. I would use them to eliminate frivolous antitrust cases when shares are low, but would use them cautiously for anything else. Their usefulness in Section 2 cases is especially weak. Despite their limitations, when they can be used to eliminate frivolous antitrust cases, that use can contribute enormous value to society.”). Courts are already cautious of inferring conclusive measures of market power from shares of a the relevant antitrust market. As the European Court of Justice held in *Hoffmann-La Roche*, “A substantial market share as evidence of the existence of a dominant position is not a constant factor and its importance varies from market to market according to the structure of these markets, especially as far as production, supply and demand are concerned.” Case 85/76 *Hoffmann-La Roche & Co. v Commission* [1979] ECR 461, paragraph 39-41. See also Commission Guidance, *supra* note 29, at para 15. In the US, see *Microsoft*, *supra* note 24, at 58.

<sup>148</sup> The *level* of market power required is a separate issue.

by dominant firms.<sup>149</sup> Ordoliberalism demands that, if certain monopolies are unavoidable, they should be forced to act as if they were part of a competitive market. In the late 1990s European competition law veered towards an economics-based approach in merger and horizontal agreements, but unilateral conduct was largely left behind. As such, many types of conduct that have since been defended as economically justifiable in many — if not most — circumstances, such as tying or resale price maintenance, fall as *per se* illegal without full inquiry into their effects on competition.<sup>150</sup> For example, in 1999 the European Commission found that from 1992 to 1999 British Airways had abused its dominant position by foreclosing competition in the airline market through certain rebate agreements with travel agents.<sup>151</sup> On appeal, what was then the Court of First Instance (CFI) rejected British Airways' argument that it could not be liable absent proof of actual exclusionary effects on competitors, stating:

“[British Airways] cannot accuse the Commission of failing to demonstrate that its practices produced an exclusionary effect. ... For the purposes of establishing an infringement of [Article 102 TFEU], it is not necessary to demonstrate that the abuse in question had a concrete effect on the markets concerned. It is sufficient in that respect to demonstrate that the abusive conduct of the undertaking in a dominant position *tends to restrict competition*, or, in other words, that the conduct is *capable of having, or likely to have*, such an effect” (emphasis added).<sup>152</sup>

In 2007 the CFI affirmed the Commission's decision that Microsoft had illegally tied its media player to the Windows operating system, holding that “there was a reasonable likelihood that tying Windows and Windows Media Player would lead to a lessening of competition so that the maintenance of an effective competition structure would not be ensured in the foreseeable future.”<sup>153</sup> Consistent with this form-

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<sup>149</sup> Christian Ahlborn & Carsten Grave, “Walter Eucken and Ordoliberalism: An Introduction from a Consumer Welfare Perspective,” 2(2) Competition Policy International 197 (2006), at 208.

<sup>150</sup> *Id.*

<sup>151</sup> Commission Decision 2000/74/EC.

<sup>152</sup> Case T-219/99 *British Airways v Commission*, EU:T:2003:343, para 293. This question was not addressed on appeal to the European Court of Justice, though Advocate General Kokott agreed with the CFI on this point in her Opinion. See Case C-95/04P. EU:C:2006:133.

<sup>153</sup> *Microsoft v Commission*, Case T-201/04, at para 1089.

based approach is the fact that a monopolist cannot defend its anti-competitive intention by reasoning that it did not achieve its intended consequences.<sup>154</sup>

A formalistic approach to monopolization cases entails that the enforcement agency ticks a series of boxes when determining whether the conduct is illegal.<sup>155</sup> In the context of tying, for example, it is required that i) the firm under scrutiny is dominant in the tying-product market, ii) the tied and tying products are distinct, and iii) the tying practice is likely to lead to anti-competitive foreclosure.<sup>156</sup> This can lead to condemnation without looking at the actual anti-competitive effects of the conduct, which could be defended on efficiency or consumer-welfare enhancing grounds, especially when a party appeals beyond the European Commission.<sup>157</sup> Theoretically, it is open to the dominant firm to raise the “objective justification defense”, though this rarely succeeds in practice.<sup>158</sup>

Importantly for present purposes, one further characteristic of the form-based approach to assessing unilateral conduct in the EU is the structural presumptions that attach to market shares. Indeed, it has been held that a firm whose market share exceeds 50% of the relevant market is presumed to be dominant, i.e. it satisfies what is

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<sup>154</sup> *British Airways*, *supra* note 152, at para 279.

<sup>155</sup> Neils & Jenkins, “Reform of Article 82 EC: Where the Link between Dominance and Effects Breaks Down,” (2005) 26 E.C.L.R. 605, at 605 (“[O]ne of the fundamental shortcomings in the current case law is the virtual *per se* prohibition of certain practices once a firm is deemed to be dominant — in other words, dominance is used as a shortcut to infer anti-competitive effects.”).

<sup>156</sup> Commission Guidance, *supra* note 29, at para 50.

<sup>157</sup> See Arezzo, “Is there a Role for Market Definition and Dominance in an effects-based Approach?” MPI Studies on Intellectual Property, Competition and Tax Law, Vol. 5, M.O. Mackenrodt, B. Conde Gallego & S. Enchelmaier, eds., Springer, 2008. A more economic approach is welcomed by the European Commission: see Report by the EAGCP, “An economic approach to Article 82,” July, 2005, at 14, available at [http://ec.europa.eu/dgs/competition/economist/eagcp\\_july\\_21\\_05.pdf](http://ec.europa.eu/dgs/competition/economist/eagcp_july_21_05.pdf) (“[A]n effects-based approach needs to put less weight on a separate verification of dominance.”). However, the CFI in *Microsoft* refused to adopt the Commission’s effects-based approach, instead holding that “the Commission’s findings in the first stage of its reasoning are in themselves sufficient to establish that [the foreclosure element is satisfied]”. See *Microsoft v Commission* T-201/04, at para 1058. See further Christian Ahlborn and David S. Evans, “The Microsoft Judgment and its Implications for Competition Policy Towards Dominant Firms in Europe,” *Antitrust Law Journal*, Vol. 75, No. 3, 2009.

<sup>158</sup> *Id.* at 12-13.

the first condition of many unilateral abuse of dominance offenses.<sup>159</sup> Conversely, the European Commission, when deciding whether to bring Article 102 suits, considers that a firm with a market share of 40% or less is generally not likely to be dominant.<sup>160</sup> Changes in market shares also lead to structural presumptions. For example, it has been presumed without further inquiry that a greater loss in market shares by a dominant firm leads to a corresponding increase in consumer welfare.<sup>161</sup>

The combination of a box-ticking approach towards abuse of dominant position allegations, a structural reliance on market shares as an indicator of market power, and the near impossible ability of a firm to defend its conduct as efficient or welfare enhancing, increases the likelihood that a large market share of an improperly defined market will lead to a false positive in *any* antitrust case, let alone in the Commission's current saga with Google. But the danger is especially high in the case of Google due to the complexity of its business model and the many factors affecting its market power (some increasing it, some decreasing it) not accounted for by the adopted market definition. As Manne and Wright note, the "likelihood of error in the face of Google's immensely complicated product and business innovations seems unacceptably high, particularly coupled with the dynamic consequences of deterring innovations exactly like Google's that have proven to be enormously welfare enhancing."<sup>162</sup> This harks back to the oft-cited error-cost framework in antitrust law which warns that errors in the antitrust analysis are inevitable due to the complexity of single-firm conduct and the inability to distinguish between pro and anti-competitive

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<sup>159</sup> Case C-62/86, *AKZO v. Commission*, 1991 E.C.R. I-3359, at para 60 ("[T]he Court has held that very large shares are in themselves, and save in exceptional circumstances, evidence of the existence of a dominant position. That is the situation where there is a market share of 50% such as that found to exist in this case.") (citation omitted).

<sup>160</sup> Commission Guidance, *supra* note 29, para 14.

<sup>161</sup> *Virgin/British Airways*, Case IV/D-2/34.780, OJ [2000] L30/1, at para 107.

<sup>162</sup> Manne & Wright, *supra* note 20.

behavior.<sup>163</sup> A form-based approach that lets a high market share and the fulfillment of certain other criteria that indicate that the firm's conduct may *potentially* have anticompetitive effects, that has little to no regard for the actual effects of a firm's conduct (or its off-setting efficiencies) runs a significant risk of deterring future innovation by web-economy firms, and punishing Google when it may have simply been competing on the merits of its product.

## **b. The United States: Market Shares and the Effects-Based Approach**

Unlike in Europe, antitrust authorities in the US have historically seen no problem with monopolies (at least on their face) due to the dynamic sense in which they promote innovation and induce start-up risks. As early as 1911 it was recognized that innovating to produce a product that consumers value and then charging a high price for it is not the sort of conduct that warrants antitrust intervention.<sup>164</sup>

That said, US courts are too guilty of relying on market shares to infer the degree of a firm's market power. For example, a merger which leads a combined firm to control a sufficiently large share of the relevant market (i.e. over thirty per cent) is

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<sup>163</sup> Frank H. Easterbrook, "Limits of Antitrust," 63 *Texas Law Review* 1, at (1984). The US Department of Justice captured this idea in the guidelines it issued for enforcement of monopolization cases. See US Department of Justice, *Competition and Monopoly: Single Firm Conduct Under Section 2 of the Sherman Act* (2008), at 45, available at <http://www.usdoj.gov/atr/public/reports/236681.pdf> (“[C]onduct that potentially has both procompetitive and anticompetitive effects is anticompetitive under section 2 if its likely anticompetitive harms substantially outweigh its likely procompetitive benefits... [The test] recognizes that the cost of legal rules that erroneously condemn procompetitive conduct likely will be higher and more persistent than the cost of rules that erroneously exonerate anticompetitive conduct.”). Notably, while US antitrust policy generally favors this approach, the European Commission seems more concerned with false negatives than false positives. See discussion in David S. Evans, “Why Different Jurisdictions Do Not (and Should Not) Adopt the Same Antitrust Rules,” *Chicago Journal of International Law*: Vol. 10: No. 1, Article 9, at 180, available at: <http://chicagounbound.uchicago.edu/cjil/vol10/iss1/9>.

<sup>164</sup> *Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1 (1911). See also *United States v. Grinnell Corp.*, 384 US 563, 571 (1966) (“The mere possession of monopoly power, and the concomitant charging of monopoly prices, it not only lawful; it is an important element of the free-market system. The opportunity to charge monopoly prices—at least for a short period—is what attracts “business acumen” in the first place; it induces risk taking that produces innovation and economic growth”). This contrasts directly with the EU, where excessive pricing is a form of potentially illegal unilateral conduct: see Article 102(a) TFEU.

presumed to be unlawful.<sup>165</sup> In the context of monopolization under Section 2 of the Sherman Act, Circuit Judge Learned Hand held in the *Alcoa* case that a market share of ninety per cent or above is enough to constitute a monopoly, though “it is doubtful whether sixty or sixty-four percent would be enough; and certainly thirty-three percent is not.”<sup>166</sup> Another example is *Jefferson Parish*, where it was held that more than a 30% share of a properly defined market indicates a level of market power over a product that warrants antitrust scrutiny of a tying arrangement under Section 1 of the Sherman Act.<sup>167</sup>

However, there are two key differences to the US approach to monopolization cases that makes reliance on market significantly less worrisome. For a start, almost all theories of antitrust liability for monopolization under US law are now examined under a rule of reason approach, meaning that, despite a firm’s high market share, it can be shown that the firm in fact lacks market power or that its conduct in fact had no anti-competitive effects. The only unilateral conduct that remains *per se* illegal, at least in theory, is a tying arrangement, but even that is in doubt after *U.S. v Microsoft*.<sup>168</sup> Secondly, US authorities are seemingly much more aware of the harms resulting from a false positive. They therefore often defer to firms’ product design choices, especially in cases where it is hard to separate a firm’s potentially anti-competitive conduct from its pro-competitive conduct. As the FTC pronounced in concluding its investigation into Google’s search practices, “[p]roduct design is an important dimension of competition and condemning legitimate product improvements risks harming

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<sup>165</sup> Steven C. Salop, “The Evolution and Vitality of Merger Presumptions: A Decision-Theoretic Approach”, 80 Antitrust L.J. 269 (2015), discussing the *Philadelphia National Bank* presumption (“[A] merger which produces a firm controlling an undue percentage share of the relevant market, and results in a significant increase in the concentration of firms in that market is so inherently likely to lessen competition substantially that it must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects”).

<sup>166</sup> *Alcoa*, *supra* note 45, at 424.

<sup>167</sup> *Jefferson Parish Hospital Dist. No. 2 v. Hyde*, 466 U.S. 2, 104 S.Ct. 1551, 80 L.Ed.2d 2 (1984)

<sup>168</sup> *Microsoft*, *supra* note 92. Scholars often refer to the test for tying laid down in *Jefferson Par. Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2 (1984) as the “modified” *per se* approach, due its market power requirement and its ability to account for efficiencies through the “distinct products” test. The test itself can be seen as a “proxy for competitive harm”. See, for example, Christian Ahlborn, David S. Evans and A. Jorge Padilla, “The Antitrust Economics of Tying: A Farewell to Per Se Illegality,” April 21, 2003, available at <http://www.ssrn.com/abstract=381940>.

consumers.”<sup>169</sup> When faced with design choices that both harm competitors and offer pro-competitive benefits, antitrust enforcement agencies therefore should be slow to second-guess and condemn firms’ design choices.<sup>170</sup> As such, the burden of proof of pro-competitive justifications or efficiencies in the US is significantly lower than in the EU.

Furthermore, some US courts have dismissed the need to define a relevant market when anti-competitive effects can be assessed directly.<sup>171</sup> As the Supreme Court asserted in *Ind. Fed’n of Dentists*,

“Since the purpose of the inquiries into market definition and market power is to determine whether an arrangement has the potential for genuine adverse effects on competition, proof of actual detrimental effects, such as a reduction of output, can obviate the need for an inquiry into market power, which is but a ‘surrogate for detrimental effects.’”<sup>172</sup>

Evidence of anti-competitive effects can sustain a finding of liability in the absence of an elaborate market definition or market power exercise,<sup>173</sup> the reason being that the presence of anticompetitive effects presupposes a sufficient degree of market power, and a sufficient degree of market power nullifies the need to use market share proxies in the first place.<sup>174</sup> This can work contrariwise, as we shall see below, by establishing that a firm’s conduct had no anti-competitive effects. Suffice to say that, under US law, market shares carry significantly less weight than in the EU. And, as we have seen, abandoning the market definition exercise materially decreases the risk of drawing conclusions about market power that could lead to a false positive result — especially in the case of Google.

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<sup>169</sup> See also FTC Statement Regarding Google’s Search Practices, *supra* note 21.

<sup>170</sup> *Ibid.*

<sup>171</sup> Kaplow, *supra* note 12, at 512.

<sup>172</sup> *FTC v. Ind. Fed’n of Dentists*, 476 U.S. 447, 460–61 (1986) (quoting 7 Phillip Areeda, *Antitrust Law*, 1511, at 429 (1986)).

<sup>173</sup> *Ibid.*

<sup>174</sup> See also *Toys “R” Us, Inc. v. FTC*, 221 F.3d 928, 937 (7th Cir. 2000) (“[T]he share a firm has in a properly defined relevant market is only a way of estimating market power, which is the ultimate consideration. ... The Supreme Court has made it clear that there are two ways of proving market power. One is through direct evidence of anticompetitive effects. ... The other, more conventional way, is by proving relevant product and geographic markets and by showing that the defendant’s share exceeds whatever threshold is important for the practice in the case.”).

### c. An Exemplary Approach: *Streetmap v. Google*

What should be clear at this stage is that the antitrust treatment of Google's search practices, especially regarding its Google Shopping product, is less likely to result in a false positive in the US than it is the European Union due to the different weight given to market shares and the market definition paradigm in each jurisdiction. However, one recent judgment by the High Court of England & Wales shows how the European approach to unilateral conduct can be sensibly applied to Google's search practices without its alleged high market share guiding the narrative.<sup>175</sup>

*Streetmap* concerned Google's incorporation of Google Maps into its SERPs to the alleged exclusion of other online mapping providers, such as Streetmap in the UK; not a far cry from the current shopping allegations. A pragmatic judgment in other respects,<sup>176</sup> Mr. Justice Roth noted the sensibleness of trying the abuse of dominant position allegations as a preliminary issue, leaving issues of market definition and power to be litigated at a further trial if the allegations were proved.<sup>177</sup> It might appear at first blush that this approach fits the US framework described above whereby the market definition paradigm can be avoided completely if anti-competitive effects are proved. However, the key to the US approach is that *actual* effects on competition must be shown in order for the market power analysis to be redundant. This is because only a firm with market power can use its market power to foreclose competition. Indeed, the US courts may even have negated to include the caveat that market power would be argued at a later trial if the allegations were proved.<sup>178</sup> Under a form-based approach, however, conduct by competitive and dominant firms alike could be condemned as anti-competitive in the absence of a market power analysis. This is

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<sup>175</sup> *Streetmap*, *supra* note 20.

<sup>176</sup> See, for example, Mr. Justice Roth's vexation towards the stark disagreement between economic experts representing the parties: *ibid* para 133 ("I find it somewhat surprising that there should be such a sharp clash between the experts, each with a duty to assist the court, on the question of the methodology of averaging.").

<sup>177</sup> *Ibid* at para 42-43. At paragraph 9 he adds that "although Streetmap also alleged that Google was dominant in a distinct market for online search advertising, nothing turned on that potential alternative or additional dominant position for the purpose of the issues considered in this trial and it is unnecessary to consider it further". This analysis is obviously relevant to market power, so would have been considered at the later stage if the allegations were proven to be true.

<sup>178</sup> *Toys R Us*, *supra* note 174.

because the form-based approach requires only the constituent elements of the claim to be proved, along with a likelihood of anti-competitive effects. This latter part requires a market power analysis to be undertaken. Therefore, in the EU, it makes sense practically to assess the conduct first: if the allegations are unfounded or objectively justified (as was the outcome of this case), judicial resources can be saved by rendering the market definition and power analyses redundant.

The judge went further, however, in holding that evidence showing that Google's conduct in fact had no effects on the market for online maps could invalidate the entire form-based approach, departing from the CFI's (albeit *obiter*) statement in *British Airways* that, where a monopolist instigates anti-competitive conduct, "the fact that the hoped-for result is not achieved is not sufficient to prevent a finding of abuse of a dominant position within the meaning of [Article 102]."<sup>179</sup> In particular, Mr Justice Roth said,

"I would find it difficult in practical terms to reconcile a finding that conduct had no anti-competitive effect at all with a conclusion that it was nonetheless reasonably likely to have such an effect. The point is of some importance, since it was Google's contention that the [incorporation of Google Maps into its SERPs] had no effect on competition in the online mapping market. The appropriate approach... is that it is for Streetmap to establish that the conduct was reasonably likely to harm competition. In determining that question, *the court will take into account, as a very relevant consideration, evidence as to what the actual effect of the conduct has been.*" (emphasis added).<sup>180</sup>

The High Court judge further held that, where the alleged likelihood of anti-competitive effects occurs in some adjacent market (the market for online mapping in this case), the complaining party must show that there is a likelihood of an *appreciable* effect on competition in that market, moving further (albeit far from completely) towards the US approach.<sup>181</sup> The approach of this case is sensible and appropriate when dealing with allegations of anti-competitive effects in the online sphere, where devotion to the market definition exercise is highly misplaced. Assessing the allegations first means that, if they are proved, dominance can be assessed with the knowledge

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<sup>179</sup> *Streetmap*, *supra* note 20, at para 90 (quoting *British Airways*, *supra* note 152, at para 297).

<sup>180</sup> *Streetmap*, *supra* note 20, at para 90.

<sup>181</sup> *Ibid.*, at para 97, holding that the precedent of the European Court of Justice does not preclude him from holding that "where the likely effect relied on is on a non-dominated market, a *de minimis* threshold applies and that to constitute an abuse the effect must therefore be appreciable."

that Google *must* possess some degree of market power in order to implement the already proved conduct in the first place (a conclusion that can be drawn with more certainty in the US, due to the need to show *actual* effects on competition). In these circumstances, the court is more likely to assess market power directly than attempt to define a market that can provide a relevant proxy.

Indeed, the alternative would have seen the parties argue extensively over the relevant antitrust market and whether Google's share of that market adequately represented its market power.<sup>182</sup> If Google was successful in arguing for a wider market definition that includes more "substitutes" than other general search engines like Bing or Yahoo!, its resultant low market share may have led to dismissal of the case, whereas in fact Google may derive market power from factors exogenous to this market. Further, rigorously arguing the relevant market definition leaves less time for the parties to litigate Google's actual potentially abusive conduct and the offsetting efficiencies of the conduct. In Microsoft's "browser wars" case, each side was limited at trial to 12 witnesses in an attempt to achieve a speedy trial.<sup>183</sup> As a result, both parties spent an unwarranted amount of time litigating the definition of the market. It is possible that the tables may have turned had Microsoft focused less on the market definition aspect of the case and more on justifying its conduct as pro-competitive, because firms are accorded great deference when it comes to antitrust scrutiny of their product design choices.<sup>184</sup> Focusing more on the market definition exercise (which tells us next to nothing about the degree of Google's market power), necessarily leaves less time for the parties to furnish the court with evidence that would minimize the risk that the judge will condemn pro-competitive conduct as anti-competitive or vice

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<sup>182</sup> Ibid ("In its defence, Google denies that it is dominant. Google disputes the definition of online search as a relevant market and, in any event, contends that these figures are not a meaningful indication of market power.").

<sup>183</sup> "Microsoft trial witnesses limited to 12 per side", *Gadsden Times*, June 10, 1998.

<sup>184</sup> See, for example, *Microsoft*, *supra* note 24, at 65 ("As a general rule, courts are properly very skeptical about claims that competition has been harmed by a dominant firm's product design changes. In a competitive market, firms routinely innovate in the hope of appealing to consumers, sometimes in the process making their products incompatible with those of rivals; the imposition of liability when a monopolist does the same thing will inevitably deter a certain amount of innovation. This is all the more true in a market, such as this one, in which the product itself is rapidly changing. Judicial deference to product innovation, however, does not mean that a monopolist's product design decisions are *per se* lawful." (internal citations omitted)).

versa.<sup>185</sup> The approach in *Streetmap* achieved this judicial efficiency while adhering to the European form-based approach to unilateral conduct.

So even if the enforcement agency elects to define a market in this case (which the Commission has done), it still has to conduct a rigorous market power analysis, the outcome of which will be uncertain *ex ante*. As a result, conducting a market definition exercise to derive an accurate inference of market power is a fruitless endeavor from the outset, and doing so risks misleading courts and the public as to the extent of Google's dominance in online search.

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<sup>185</sup> The same applies to investigations by enforcement agencies, whose resources are limited.

## **vii. Conclusion**

In this paper I have attempted to show how the market definition exercise cannot fulfill its role as an indicator of market power sufficient to warrant antitrust scrutiny in the field of online search. Differentiation on the web is so high and the cost of switching between heterogeneous services is so low that the traditional delineator of relevant market boundaries, namely reasonable substitutability, cannot coherently be applied to establish a market for general search engines, the shares of which would accurately reflect Google's ability to raise its price above or reduce its quality below the competitive level. Defining a market based on some concept of search, whether narrowly or broadly defined, would commit to the background of the case key factors influencing market power, such as network effects, prices and dynamic supply-side substitution online. However, defining the market more widely to include either the advertising side of Google's business model or more firms on the search-side would complicate matters and dilute Google's market share to the extent that antitrust scrutiny would be unwarranted, regardless of Google's real level of market power. The only way to properly account for the nuanced factors affecting Google's market power is to commit to a full market power analysis, to the exclusion of the market definition exercise in its entirety. An effects-based approach to unilateral conduct by dominant firms is better able to deal with alleged anticompetitive harm when the market definition exercise cannot perform its primary function.