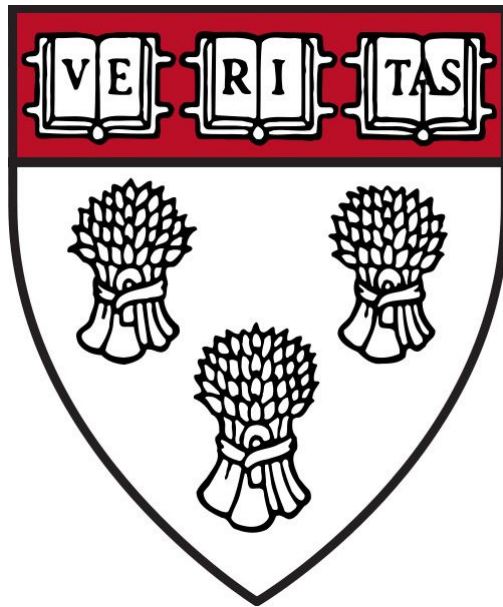


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GOOGLE AND SEARCH-ENGINE MARKET POWER

By Mark R. Patterson



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GOOGLE AND SEARCH-ENGINE MARKET POWER

Mark R. Patterson*

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I. INTRODUCTION

Allegations of anticompetitive conduct by Google have prompted investigations by antitrust agencies on both sides of the Atlantic,¹ as well as several unsuccessful private suits. Although the al-

* Professor of Law, Fordham University School of Law. I am grateful for comments received from Aditi Bagchi, James Grimmelmann, Martin Hansen, Giorgio Monti, Frank Pasquale, Steven Thel, and participants at presentations at a Columbia Law and Economics Workshop and at the November 2011 Mediadem conference on “Pluralism and Competition in the Regulation of New Media” at the European University Institute, for which an earlier version of this paper was prepared. I would also like to acknowledge the organizers of that conference, Fabrizio Cafaggi and Pier Luigi Parcu. I received valuable research assistance from Maxwell Meadows. This paper is part of a larger project addressing the competition law implications of information intermediaries like search engines.

1. Michael Liedtke & Joelle Tessler, *Google Confirms FTC Antitrust Investigation*, HUFFINGTON POST, June 24, 2011, http://www.huffingtonpost.com/2011/06/24/google-confirms-ftc-antitrust-investigation_n_883951.html; Press Release, European Commission, Antitrust: Commission probes allegations of antitrust violations by Google (Nov. 30, 2010), <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/10/1624>; Claire Cain Miller, *Texas Probes Google on Ranking of Search Results*, N.Y. TIMES, Sept. 3, 2010, at B3, available at <http://www.nytimes.com/2010/09/04/technology/04google.html?>

legations are of several kinds, the primary one is that Google has manipulated its search results — either its so-called “organic”² search results or the results provided by its AdWords sponsored-advertising program — in order to disadvantage competitors or potential competitors. Generally speaking, the claims are that Google has artificially pushed competitors down in its search results,³ making it more difficult for them to reach searchers seeking the sorts of services that those competitors provide. That is, the claims are that Google does not deliver the results that would best serve consumers, but instead alters those results to serve its own competitive interests.

The competitors that Google is alleged to have disadvantaged are of two kinds: information providers like Yelp, and so-called “vertical search engines.”⁴ Web sites like Yelp allege both that Google has misappropriated their content and that Google demotes them in its organic results in order to give an advantage to Google products like Google Places and Zagat.⁵ “Vertical search engines” are search engines like Foundem⁶ or TradeComet⁷ that are aimed at those seeking particular sorts of information, such as medical information or information about the prices of consumer electronics goods. These vertical search engines allege that Google has manipulated the pricing of its AdWords program to disadvantage them as potential competitors of Google.⁸ Because it may be feasible to develop a successful search

2. Google uses “organic” to describe its main search results, i.e., the list of results that are not sponsored advertising. See *The Power of Google: Serving Consumers or Threatening Competition?: Hearing Before the Subcomm. On Antitrust, Competition Policy, & Consumer Rights of the S. Comm. on the Judiciary*, 112th Cong. 5 (2011) (testimony of Eric Schmidt, Executive Chairman, Google Inc.) [hereinafter *Schmidt Testimony*], available at <http://www.judiciary.senate.gov/pdf/11-9-21SchmidtTestimony.pdf> (“Google was one of the first search engines to clearly distinguish advertisements from our organic search results.”).

3. For AdWords, the effectively equivalent claim is that Google artificially charges its competitors more for placement in the AdWords results.

4. In fact, the definition of “vertical search engine” is broad enough and vague enough that it could encompass information providers like Yelp.

5. *The Power of Google: Serving Consumers or Threatening Competition: Hearing Before the Subcomm. On Antitrust, Competition Policy, & Consumer Rights of the S. Comm. on the Judiciary*, 112th Cong. (2011) (testimony of Jeremy Stoppelman, Cofounder and CEO, Yelp! Inc.), available at http://www.judiciary.senate.gov/hearings/testimony.cfm?id=3d9031b47812de2592c3baeba64d93cb&wit_id=3d9031b47812de2592c3baeba64d93cb-5-1; see also Matthew Ingram, *Google’s Zagat Buy Could Give Search Critics More Ammo*, GIGAOM, Sept. 9, 2011, <http://gigaom.com/2011/09/09/googles-zagat-buy-could-give-search-critics-more-ammo/>.

6. See Adam and Shivaun Raff, *Background to EU Formal Investigation*, SEARCHNEUTRALITY.ORG (Nov. 30, 2010 8:01 PM), <http://www.searchneutrality.org/foundem-google-story/eu-launches-formal-investigation>.

7. See Complaint, *TradeComet.com LLC v. Google Inc.*, No. 09-CIV-1400 (S.D.N.Y. Feb. 17, 2009).

8. *Id.*; see also Jeff Bliss and Sara Forden, *Google Ad Rate for Microsoft Said to Be Investigated by U.S.*, BLOOMBERG NEWS, Sept. 21, 2011, <http://www.businessweek.com/news/2011-09-21/google-ad-rate-for-microsoft-said-to-be-investigated->

engine in a limited area at relatively low cost, a vertical search engine could gain a foothold in a particular area and pose a competitive threat to Google and other general search engines, at the very least taking away advertising revenue for searches in that area.

The theory of an antitrust claim against Google would be that the manipulation of search results excludes competitors — vertical search engines, say — from effectively competing to serve those seeking information, either generally or through Google. Foreclosure from access to those Google users, even if only through being pushed down in Google’s results, could effectively exclude competitors from the search market. Moreover, this sort of exclusion would also harm consumers if consumers value the services that those vertical search engines provide, and would prefer that they be included, or appear higher, in Google’s results. The U.S. antitrust statute applicable to such a claim is Sherman Act § 2, under which a monopolization violation can be established by proof of two elements: possession of monopoly power, and willful acquisition or maintenance of that power.

A significant and growing body of commentary considers whether possible manipulation of search results by Google could satisfy the second, conduct-focused element of monopolization.⁹ Some argue that deviations from some “objective” or “unbiased” standard for providing search results can constitute exclusionary and anticompetitive conduct. Others argue that such conduct should not be the basis for an antitrust violation, either because Google and other search engines should be free to provide whatever results they like or because it is too difficult to distinguish procompetitive from anticompetitive conduct in this area.

Surprisingly, though, little serious attention has been paid to whether Google satisfies the power element of a monopolization claim.¹⁰ Under Sherman Act § 2 (or its European analogue, Article

by-u-s-.html (“U.S. antitrust enforcers are investigating whether Google Inc. illegally increased advertising rates 50-fold for rival Microsoft Corp.”).

9. For examples of the allegations against Google, see the sources cited in notes 5–8 *supra*. Those who appear to advocate or accept the possibility of such liability include, *e.g.*, Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness, and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149 (2008); Mark R. Patterson, *Non-Network Barriers to Network Neutrality*, 78 FORDHAM L. REV. 2843 (2010). Those who reject it, either on factual or legal grounds, are James Grimmelmann, *Some Skepticism About Search Neutrality*, in THE NEXT DIGITAL DECADE: ESSAYS ON THE FUTURE OF THE INTERNET (Berin Szoka & Adam Marcus eds., 2010); Daniel Crane, *Search Neutrality as an Antitrust Principle* (Univ. of Michigan L. School, Pub. L. Working Paper Series, No. 256); Geoffrey A. Manne & Joshua D. Wright, *Google and the Limits of Antitrust: The Case Against the Case Against Google*, 34 HARV. J.L. & PUB. POL’Y 171 (2011); Joshua D. Wright, *Defining and Measuring Search Bias: Some Preliminary Evidence* (Geo. Mason L. & Econ. Research Paper No. 12–14, 2011), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2004649.

10. Some blogs have briefly addressed the issue. See, *e.g.*, Amit Runchal, *Let’s Stop Saying Google Has a Monopoly*, INTERACTIONED (Mar. 2, 2013, 10:43 PM), <http://www.interactioned.com/post/15743869510/lets-stop-saying-google-has-a-monopoly>

102 TFEU), a plaintiff, whether private party or government, must show that the defendant possesses monopoly power (or, in Europe, dominance), which is a large degree of market power. Those who favor antitrust scrutiny of Google generally cite its large market share, from which they infer or assume its power.¹¹ Those who are skeptical of competition law's role in regulating search, on the other hand, usually cite Google's "competition is only a click away" mantra to suggest that Google's market position is precarious.¹² In fact, the issue of Google's power is more complicated and interesting than either of these approaches suggests.

A fundamental problem is that for information intermediaries like Google, the most commonly used measure of monopoly power, market share, is not a valid one.¹³ To that extent, the "competition is a click away" story is an accurate one. Consumers can indeed easily find and switch to alternatives. But the ease of clicking to another search site does not mean that Google has no power. For the ease of clicking away to constrain Google, it must also be the case both that users do not suffer other costs in switching and that they can determine just when it is advantageous to click away. That is, it is important that both switching costs and information costs are low. Although some of Google's practices seem designed to increase switching costs, such costs probably do remain low.¹⁴ Information

None of the monopoly definitions that people have been throwing around are very clearly defined, which may be part of the problem when we start arguing about this stuff. But however you want to define it, you can't argue that Google has any 'real' monopolistic powers, even if they controlled 90% of the search market.

And an article co-authored by former F.T.C. Commissioner Pamela Jones Harbour addressed the issue of defining markets in "new-technology markets," discussing Google but not focusing particularly on it. Pamela Jones Harbour & Tara Isa Koslov, *Section 2 in a Web 2.0 World: An Expanded Vision of Relevant Product Markets*, 76 ANTITRUST 769 (2010).

11. *The Power of Google: Serving Consumers or Threatening Competition?: Hearing Before the Subcomm. on Antitrust, Competition Policy, & Consumer Rights of the S. Comm. on the Judiciary*, 112th Cong. (2011) (question of Sen. Herb Kohl to Eric Schmidt, Executive Chairman, Google Inc.), available at <http://www.gpo.gov/fdsys/pkg/CHRG-112shrg71471/pdf/CHRG-112shrg71471.pdf> ("But you do recognize that in the words that are used in antitrust kind of oversight, your market share constitutes monopoly, dominant — special power, dominant firm, monopoly firm?").

12. Miguel Helft, *Google Makes a Case That It Isn't So Big*, N.Y. TIMES, June 28, 2009, at B1 (quoting Dana Wagner, Google senior competition counsel, as saying "Competition is a click away"); *Schmidt Testimony*, *supra* note 2, at 7 ("[I]f consumers don't like what one website is providing them, they can switch to another website with just one click.").

13. See *infra* part IIA.

14. That is true at least for those who use a search engine's home page. For search through other pages, Google has paid considerable sums to be the default search engine, suggesting a belief that there is value in being the first search engine users see and that users will not necessarily switch to the engine that serves them best. See Kara Swisher, *Google Will Pay Mozilla Almost \$300M Per Year in Search Deal, Besting Microsoft and Yahoo*, ALL THINGS D, (Dec. 22, 2011), <http://allthingsd.com/20111222/google-will-pay-mozilla-almost-300m-per-year-in-search-deal-besting-microsoft-and-yahoo/>; see also Matthew Panzarino, *The FTC subpoena of Apple could spell the end of Google's default search status*

costs, however, can be significant. This essay argues that it could be quite difficult for search engine users to determine whether the results they are receiving from a particular search engine justify switching to another.

The analysis of power for Google or other information providers is also complicated by the multifaceted role played by information. The commentary on Google has not focused on information as a product and generally has not considered the ways in which it differs from other products. A key feature of information is described by Arrow's paradox regarding information: "its value for the purchaser is not known until he knows the information, but then he has in effect acquired it without cost."¹⁵ In many instances of search, a consumer will be seeking information in circumstances in which she will be unable to evaluate the quality of the information she receives. As will be discussed in more detail below, this lack of transparency in quality can give an information provider market power, just as can an absence of transparency in price for other products. The significance of this effect, however, is difficult to evaluate.

This paper proceeds in several steps. It begins in Part II with a brief discussion of factors that make assessment of Google's power more difficult than for many other sellers. This discussion emphasizes the particular characteristics of markets for providing information, and explains how those characteristics serve to make market share a poor measure of power. Part III then specifically examines the task of measuring informational market power, arguing that a focus on the difficulty of assessing the quality of information is critical. Part IV tentatively suggests an approach to measuring Google's power that relies on its position as a two-sided market platform, and uses the pricing of Google's paid AdWords placements as a means of measuring its power. Lastly, Part V discusses a particular informational issue, the objectivity of Google's search results, and its implications for market power. Part VI concludes.

on the iPhone, THE NEXT WEB, (Mar. 13, 2012), <http://thenextweb.com/apple/2012/03/13/the-ftc-subpoena-of-apple-could-spell-the-end-of-googles-default-search-status-on-the-iphone/>.

15. Paper by Kenneth J. Arrow, Econ. Div., RAND Corp., *Economic Welfare and the Allocation of Resources and Invention* 10 (Dec. 15, 1959), available at <http://www.rand.org/pubs/papers/2006/P1856.pdf>.

II. SEARCH ENGINE MARKETS

A. *The Irrelevance of Market Share*

In cases under Sherman Act § 2 and Article 102 TFEU, the usual measure of market power is market share.¹⁶ Competition law uses market share as proxy for power because it often reflects the ability of a firm to act without regard to competition. Generally speaking, if a firm with a large market share seeks to act anticompetitively, smaller competitors will be unable to compensate for the anticompetitive acts by meeting the unmet demand themselves, because their response will be limited by their relatively smaller size. Although antitrust typically uses sales to measure market share, it is actually capacity that is the relevant measure.¹⁷ That is so because it is unused or expanded capacity that allows competitors to respond to anticompetitive demand by a monopolist, not current sales. In most instances, however, at least in traditional product markets, capacity and sales are closely related, so the distinction is unimportant.

Where the product is information, however, firms may be able quickly to expand output. Consider a search engine that competes with Google, for example. If Google were to act anticompetitively, its competitor would easily be able to “produce” products to meet the demand of those who were unsatisfied with Google’s products. After all, the products at issue are search results, and the algorithm for producing them is already available, so the only obstacle to producing more of them is the availability of server capacity to deliver the results to customers. Although expanding server capacity imposes some costs and takes some time, those limitations are small compared with, say, expansion of capacity in the production of the archetypal widget. Hence, market share is a relatively poor proxy for power when the product at issue is information.¹⁸

It should be emphasized, however, that the focus on capacity here is a narrow one, referring only to the capacity to deliver search results to users. There is another, perhaps more important element related to the volume of search results delivered: the advantage a search engine

16. *See, e.g.*, *United States v. Aluminum Corp. of America*, 148 F.2d 416 (2d Cir. 1945); *Case 85/76, Hoffmann-La Roche & Co. AG v Commission*, 1979 ECR 461 ¶ 39 (“The existence of a dominant position may derive from several factors which, taken separately, are not necessarily determinative but among these factors a highly important one is the existence of very large market shares.”).

17. *See* U.S. DEP’T OF JUSTICE & FEDERAL TRADE COMM’N, HORIZONTAL MERGER GUIDELINES (1992, revised 1997).

18. The value of approaches focused on market definition and market share is a subject of current debate. *Cf.* Louis Kaplow, *Why (Ever) Define Markets?*, 124 HARV. L. REV. 437 (2010) with Gregory J. Werden, *Why (Ever) Define Markets? An Answer to Professor Kaplow* (Feb. 13, 2012) (unpublished manuscript) (on file with U.S. Dep’t. of Just., Antitrust Div.), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2004655.

gains from the information gathered from searches. A search engine delivering a larger volume of search results gains valuable information from its users' searches and thus is able to deliver better search results. This advantage is akin to learning effects, and it could be viewed as lowering the cost of delivering high-quality results. The advantage is not, however, so much an effect of current market share as one of the cumulative number of searches delivered. For that reason, it does not support using current market share as a measure of power. It is better treated, perhaps, as privileged access to a valuable input, in the sense that prior searches are the raw material from which search results are in part derived.¹⁹ The focus of this paper is on demand-side effects, but supply-side effects such as this one may also be important.

B. The Importance of Quality

If market share is not the source of power in the search-engine market, then what is? Market power can derive from the inability of consumers to evaluate the quality of the product they are receiving. If the quality of a search engine's results is difficult for consumers to assess, the result can be the diminished competition that provides market power. The issue can be illustrated by reference to George Stigler's classic description of the problem of price dispersion in the market for consumer purchase of automobiles:

Price dispersion is a manifestation — and, indeed, it is the measure — of ignorance in the market. Dispersion is a biased measure of ignorance because there is never absolute homogeneity in the commodity if we include the terms of sale within the concept of the commodity. Thus, some automobile dealers might perform more service, or carry a larger range of varieties in stock, and a portion of the observed dispersion is presumably attributable to such differences. But it would be metaphysical, and fruitless, to assert that all dispersion is due to heterogeneity.²⁰

In the case of Google, it is quality, not price, that is at issue. Price is homogeneous because search engines provide search results for free, but quality of course differs among search engines.²¹

19. It has been argued that this raw material should be shared among search engines.

20. George J. Stigler, *The Economics of Information*, 69 J. POL. ECON. 213, 214 (1961).

21. Some factors, like search response time and the ease of use of web sites, could be placed either in the price or quality category. That is, they might be viewed as part of the quality that one receives from a search engine, or they might be viewed as factors in the price that one must pay to receive search results.

Whether the issue is price or quality, the basic insight still holds. Just as prices for homogeneous products like automobiles differ (and Stigler provides evidence that they do), the quality of homogeneously priced search results will differ. And one reason is the same: consumer ignorance. As will be described further below, it is difficult for consumers to assess the quality of at least some of the search results they receive, which means that search engines need not provide the highest quality of search results to succeed. They cannot provide very poor results, of course, but the difficulty and cost to users of assessing search results means that there is some freedom to provide less than the very best quality, just as the cost (once higher) of price comparisons means that automobile dealers need not always sell at the very best price.

The task of assessing Google's power is also complicated because there is no established baseline for comparison. For price, cost is at least in theory a measure against which price can be compared, because competition tends to drive price to marginal cost. Analogously, if there were some clear measure of the quality of search information that *should* be provided for free, then perhaps we could say that providing search information of lower quality would be an exercise of power. In fact, as will be discussed below,²² Google has at times claimed that it provides un-manipulated search results, so that could be a standard applied to assess its power. It is not clear, however, that this is a proper standard. For example, should a finding of power turn on whether a search engine states or denies that it manipulates its search results?²³

In any event, if competition does not force search engines to provide high-quality search results (and the next part of this essay argues that it does not), that freedom will give them some degree of market power. That is, Google's ability, if any, to provide less-than-optimal search results would be evidence of market power. But the distortion of search results is also the anticompetitive conduct of which Google is accused. Thus, the same evidence shows both power and conduct. This is theoretically reasonable. If a firm has the ability to engage in anticompetitive conduct, that ability alone is evidence that the firm possesses market power; otherwise, its lack of power would constrain its ability to act anticompetitively. Indeed, there is a movement in competition law toward looking directly to conduct to determine the existence *vel non* of market power. This essay applies that approach to the search-engine market.

22. *See infra* part VI.

23. *See id.*

C. The Google-Bing Comparison

The insignificance of market share has important implications for Joshua Wright's very interesting comparison of search "bias" by Google and Bing.²⁴ Wright provides data that indicates that the frequency of bias by Bing is comparable to, and perhaps greater than, that by Google. From this data, he concludes that "'bias' is not a function of market power, but an effective strategy that has arisen as a result of serious competition and innovation between and by search engines."²⁵ The basis for drawing this conclusion, presumably, is that if Bing, which does not have a large market share, engages in bias, then the practice must be procompetitive. Or, as Wright says, "that both this percentage [of own-content bias] and the absolute level of own content inclusion is similar across engines indicates that this practice is not derivative of one's misuse of its market power, but an industry standard."²⁶

However, this conclusion does not follow unless one assumes that Bing's share is in fact evidence of a lack of power. If instead the source of power for search engines is not market share but the inability of searchers to evaluate search results, then all search engines, regardless of market share, could have power. The limits on information created by restrictions on advertising, for example, have been found to be associated with higher prices, and those higher prices are charged by small sellers as well as large ones.²⁷ In the same way, the unavailability to searchers of information that would allow them to evaluate the quality of the results they are receiving could allow low quality results to be provided by small search engines as well as large ones.²⁸

Some of Wright's commitment to the view that bias is not a problem for search engines appears to derive from his claim that there is "a well-understood economic analysis of the competitive effects of a vertically integrated firm's 'discrimination' in favor of its own products or services, including widespread recognition that such arrangements generally produce significant benefits for consumers."²⁹ To be sure, some discrimination by sellers in favor of their own products is procompetitive, but other such discrimination is not, as reflected by

24. See Wright, *supra* note 9.

25. Wright, *supra* note 9, at 46.

26. *Id.* at 47.

27. See, e.g., John E. Kwoka, Jr., *Advertising and the Price and Quality of Optometric Services*, 74 AM. ECON. REV. 211 (1984).

28. There is also no reason to think that small search engines would have the ability and incentive to constrain the power of larger ones. First, competing search engines are likely to have the same problems as do consumers in evaluating the results provided by other search engines. Second, as the Supreme Court observed in *Kodak*, competitors with similar sources of market power may choose to "live and let live," rather than engage in competition that could make all of them worse off.

29. Wright, *supra* note 9, at 5.

antitrust rules condemning some tying arrangements and exclusive dealing. And the search-engine market is new enough, and unstudied enough, to counsel caution regarding broad claims about what competitive effects discrimination “generally” has, particularly when the support for such claims is not identified.

Also without support is Wright’s claim that “Google users likely prefer Google content.”³⁰ Wright quite reasonably objects to those who do not consider the possibility of competitive product differentiation, pointing to work by Benjamin Edelman and Benjamin Lockwood comparing search results.³¹ But despite his advocacy of “evidence-based” assessment, Wright offers no evidence that would suggest that the differences among search engines are the product of consumer preferences.³² The closest that Wright comes is to quote Danny Sullivan, a frequent defender of Google: “If someone’s searching for ‘maps’ on Google, they may be more likely to want Google Maps than Yahoo Maps — and vice versa.”³³ This might be true, but it is also possible — one might even say likely — that searchers want whatever search engine they are using to deliver the best map available, not the one that happens to be affiliated with the search engine.³⁴ This is not to say that delivering affiliated content is necessarily anti-competitive, as Wright claims some argue. It is merely to say that the fact that search engines deliver different content cannot be assumed to show that they are responding to consumer demand, as Wright suggests. The competitive costs or benefits of own-content bias must be determined independent of assumptions based on market share or on views regarding the effects of vertical integration in general.

30. *Id.* at 13.

31. *Id.*

32. Moreover, if there were different search preferences of this kind, that itself would suggest that search engines have market power. If search engines were differentiated, Google could not necessarily exploit those that preferred a Bing-type search engine, but it could exploit the subset of consumers that preferred a Google-type search engine. In other words, the Google-type search engine could be a submarket, and Google could have power in that submarket.

33. *Id.* at 6 n.10 (quoting Danny Sullivan, *Study: Google “Favors” Itself Only 19% of the Time*, SEARCHENGINELAND, (Jan. 19, 2011), <http://searchengineland.com/survey-google-favors-itself-only-19-of-the-time-61675>).

34. Wright offers some exceedingly strained explanations of evidence offered by Edelman and Lockwood that suggests that consumers may not be satisfied by some own-content favoritism by Google. *Id.* at 18. Edelman and Lockwood show that although Google provides a link to its own Gmail first in its results and a link to Yahoo Mail second, 29% of clicks go to Gmail while 54% go to Yahoo. Wright says that “any number of other benign reasons could explain this anomalous ranking; for example, users might realize after running this search that they know of a more efficient way of accessing Gmail, or they may simply have clicked on Yahoo Mail first, immediately returned to the search page, and subsequently clicked on Gmail. *Id.* (citing Danny Sullivan, *Study: Google “Favors” Itself Only 19% of the Time*, SEARCH ENGINE LAND, (Jan. 19, 2011), <http://searchengineland.com/survey-google-favors-itself-only-19-of-the-time-61675>).

III. SEARCH RESULT QUALITY AND INFORMATION COSTS

As stated above,³⁵ although there are several potential sources of market power for Google,³⁶ this paper will focus on only one: information costs. The key question is whether, if Google were to act anti-competitively, users could determine whether there is a sufficient benefit to justify switching to another search engine. Or, to put the question another way, could Google provide low-quality search results without causing users to switch to other search engines? If so, then there would be reason to say that Google has market power.

A. Search, Experience, and Credence Goods

Economists divide products into three types of goods with respect to the means by which consumers can evaluate the quality of the goods. Search goods are those whose quality can be evaluated before the good is purchased, often by searching for evaluations of the product. Experience goods are those that are difficult to evaluate before purchase, but that can be evaluated as they are used. Credence goods are those that are difficult for consumers to evaluate even after they are used. Thus, a painting would likely be a search good, a restaurant meal will typically be an experience good, and a vitamin supplement may be a credence good.

In which of these categories are search results? It depends on the nature of the search. Rarely will a search be a classic search good, in that generally one will not often be able to find, before searching, information about the quality of particular searches. There are many searches, however, which one can be confident will produce good results, even before the search is conducted. A search for a word's definition, for example, or for a recent sports score, is almost certain to produce the result sought.

Other search results are experience goods. For example, if one searches not for a fact, but for more complex information, like an explanation of a natural phenomenon, one will probably not know before conducting the search what will be the quality of the results, but it is likely that they can be evaluated once received. Or if one seeks information about a person, such as a long-lost friend, one cannot be sure of finding that information, but it will probably be possible to tell whether the information provided is about the person sought.

Finally, for some searches, and these are the ones of most interest here, one may not know even after performing the search whether the quality of the results was high. For example, if one searches with the keywords "best price iPhone 5" or "nice inexpensive New York ho-

35. *See supra* text following note 19.

36. *See supra* text accompanying note 16 and following note 18.

tels,” it will be difficult to evaluate the quality of the results. Even after reviewing the search results, one often will have no way of knowing whether the search engine performed well. For example, even if one receives a web site with what one thinks is a good price on an iPhone 5, one will not always know whether better prices are available. And a user who searches for “nice inexpensive New York hotels” cannot know whether the results are in fact nice inexpensive New York hotels, let alone the nicest or most inexpensive New York hotels, or if better results might have been available. Even if the user ran the search on another engine and obtained different results, it would not be clear which results were better. In that sense, search results can be credence goods.

It is significant that the particular competitors against which Google is alleged to have discriminated compete against Google in providing exactly this sort of credence information. Those competitors have primarily been vertical search engines that claim to provide consumers with product information in particular areas. In seeking such product information, consumers are unlikely to know, if a search engine (like TradeComet, a vertical search engine at issue in one case against Google) includes a particular seller in its results, whether that result is valuable, or more valuable than alternatives. Similarly, if the vertical search engine (like Foundem, one of the complainants in the EU case) provides a particular price for a given consumer product, the consumer may not know whether that is a good price, or if better ones are available.

B. The Effects of Ignorance

The difficulty of evaluating search results makes it less likely that Google, or any other search engine, will be constrained by competition.³⁷ Some searchers, when they receive unsatisfactory search results, might go to Bing, for example, but others might believe that Bing will do no better and thus remain with Google. If so, Google will not be greatly constrained by the presence of Bing or other search engines. Google is not, of course, completely unconstrained — it cannot regularly produce poor results — but it likely has some freedom to

37. Although the issue is surely contestable, the history of search engines does not appear to demonstrate that better algorithms alone determine success or cause consumers to switch search engines. The web site Search Engine History states that AltaVista lost its position as market leader “[d]ue to poor mismanagement, a fear of result manipulation, and portal related clutter.” SEARCHENGINEHISTORY, <http://www.searchenginehistory.com/> (last visited Mar. 2, 2013). Inktomi “failed to develop a profitable business model.” *Id.* Overture (now Yahoo) “had two major downfalls which prevented [it] from taking Google’s market position:” it chose not to become a search destination itself, but instead was distributed through partners; and it did not have as profitable an advertising model as Google. *Id.* Although the reference to result manipulation as one cause of AltaVista’s troubles suggests that quality can be important, this web site, at least, represents business issues as playing a greater role.

provide less-than-optimal results, particularly if it does so only in certain areas and not routinely.

The difficulties of evaluating search results can be seen by comparing them with the difficulties of evaluating other information sources. Wikipedia, for example, is a commonly used information source, despite the fact that it is known to contain inaccuracies. The accuracy of Wikipedia is fairly easy to assess, though, because in many cases there are alternative sources, like print encyclopedias, of the information it provides.³⁸ For search engines, there usually are not such alternative sources, except other search engines. The fact that Wikipedia is widely used despite its inaccuracies, combined with the fact that search engines are more difficult to evaluate than is Wikipedia, suggests that competition is not likely to serve as a strong constraint on search-engine quality.

An alternative comparison is that of magazines and web sites that provide reviews of consumer products. The reviews that these organizations provide are in some respects search goods, because they include information like product features, and the value of this information is immediately apparent. Reviews often provide more qualitative information like “ease of use,” however, which is probably best thought of as an experience good, in that not every consumer will view “ease of use” in the same way. Once the reviewed product is purchased, though, the value of the review is likely apparent, so the product itself serves as the benchmark against which the review is compared, just as print encyclopedias can for Wikipedia. As noted above, though, there may be no such outside benchmark for search engines, even after search results are obtained.

Google and other search engines may be able to operate with some degree of freedom from competition, but of course that freedom is not complete. For example, Google recently changed its algorithm to make its search results more timely, and it did so, reportedly, in response to competition.³⁹ More specifically, it was reported that Google’s motivation was the more timely nature of search on Twitter.⁴⁰ The very particular nature of the competitive threat of Twitter, though, is unusual and confined to a particular problem. Although Twitter provided a competitive benchmark for search engines, it did so only with respect to a very specific dimension, timeliness. The

38. Moreover, Wikipedia articles often cite external sources, which makes checking the accuracy of the articles easier. There are no such external sources for comparison in the case of search engines.

39. Claire Cain Miller, *Google Changes Search Algorithm, Trying to Make Results More Timely*, N.Y. TIMES, Nov. 3, 2011, available at <http://bits.blogs.nytimes.com/2011/11/03/google-changes-search-algorithm-trying-to-make-results-more-timely/> (“The new algorithm is recognition that Google, whose dominance depends on providing the most useful results, is being increasingly challenged by services like Twitter and Facebook, which have trained people to expect constant updates with seconds-old news.”).

40. *Id.*

specificity of that constraint only emphasizes that there is no such benchmark for search results more generally.⁴¹ The upshot is that it seems reasonable to suspect that search engines have some degree of market power over their users, even if these comparisons provide little to show the magnitude of that power.

C. Search Engine Optimization

Further evidence of the possibility of manipulation of search results is found in the active market for search engine optimization (SEO), the “optimization” of web sites to improve their position in search results.⁴² To some extent, the very existence of SEO demonstrates the power of search engines, particularly if, as Google claims, some SEO lessens the quality of search results.⁴³ Searchers continue to use Google and other search engines with little concern regarding the effects of SEO, which suggests that search result quality can be degraded with little market effect. To be sure, Google seeks to adjust its algorithm to minimize the negative effects of SEO. Still, given the amount of money spent on SEO, the effects likely are significant.

It might not be possible to derive any implications regarding search-engine power if SEO affected all search engines equally. In that case, the degradation of Google’s results would be accompanied by similar degradation of Bing’s results and those of other search engines, and competitive positions would be unchanged.⁴⁴ But the primary target of SEO is Google.⁴⁵ Consequently, it is likely that SEO

41. The issue is complicated also because there are no doubt skilled users, or users who are skilled in certain types of searches, and search engines might have to respond to those users. But it is likely the larger quantity of unskilled users that provide advertising profits. Therefore, even if skilled users were to switch to another search engine from Google, it is possible that Google would be able to lure them back, perhaps with improvements to its algorithms, before the profitable unskilled users, who probably lag behind the skilled ones, also leave Google. If this is true, and if other search engines know that it is true, competition will be weakened. I will explore this issue more fully in an expanded version of this paper, and I am grateful for discussions on this topic with Fabrizio Dell’Acqua, a student in the master’s program of the Department of Economics at Bocconi University.

42. The market is active enough to justify a web site that ranks the top providers. *See Best: Top 50 Search Engine Optimization Companies*, TOP SEOS (Mar. 2, 2013, 11:52 PM) <http://www.topseos.com/rankings-of-best-seo-companies>.

43. There are two kinds of SEO, so-called “black hat” SEO, which distorts search results, at least in the view of search engines, and “white hat” SEO, which more “accurately” presents a site to search engines’ algorithms, thus improving search results.

44. In theory, *all* search engines could find their competitive positions worsened if users ceased or lessened their use of search engines. It is not clear, however, what could serve as a substitute for a search engine, at least for a user seeking a web site. A user seeking the answer to a particular factual question could turn to other information sources, though.

45. Sharon Nelson and John Simek, *Making Your Web Site Visible: How to Find A Good Seo Company*, L. PRACTICE, May–June 2010, at 24 (“Despite the existence of other search engines like Yahoo, Bing and Ask, Google remains the indisputable king, with over 65 percent of market share at present. That’s why most search engine optimization (SEO) is done primarily with Google in mind.”).

disproportionately affects Google's search results. If so — that is, if the quality of Google's results is lessened more than those of its competitors, yet Google suffers little or no market effect — then Google's power must be significant.

Google's ability to maintain its position despite SEO could be explained in at least three ways. First, it could be that SEO has little effect. As suggested above, however, this seems unlikely, given both the amount of money spent on SEO and the significance of the efforts of Google and other search engines to respond to it. Second, it could be that Google's pre-SEO quality is sufficiently greater than that of other search engines that the quality can be reduced by SEO and still remain higher. Third, it could be that Google's quality is thought to be high by searchers, regardless of the effect of SEO, so that Google's market position is unaffected. The latter two possibilities would both be evidence of market power.⁴⁶

Of course, the more significant consequence of the possibility that minor degradations in search result quality do not cause significant losses in user share is not the ability of SEO to degrade quality but the ability of Google to do so. Just as SEO providers can profit from manipulating search results, so too could Google. Indeed, given that Google knows its own algorithm, its capacity to manipulate results, unlike that of the SEO providers, is not limited by trade secrecy but only by its willingness to risk detection.

The common view is that Google would not engage in this sort of manipulation because of potential reputational effects, and that view is plausible. The reputational effects of manipulation are of course significant for Google in a way that they are not for SEO providers. But on several occasions Google has been found to have acted in ways that were inconsistent with its previous statements, and it is not clear that its reputation has suffered as a result. That is not evidence that Google has engaged in manipulation on other occasions, but it does suggest that the reputational threat may not be as great as is sometimes stated. If so, then the constraint that reputation imposes on Google may not be great.

IV. SEARCHERS AND WEB SITES

The preceding portions of this paper have focused primarily on the relationship between Google and searchers who use Google to find information. But Google has another set, or two other sets, of consumers: the web sites that appear in its organic results and those that purchase AdWords advertising. This has several implications. First, the interaction between Google's upstream and downstream

46. Note here that the existence of market power does not suggest that either the power or the method of obtaining it was anticompetitive.

customers creates difficult conceptual issues related to the analysis of two-sided markets. Second, any distortion by Google of its search results by excluding competing web sites could both demonstrate power over consumers and injure the web sites and advertisers that are trying to reach them. It is also possible, however, that the injury to excluded sites would not be an injury to consumers. Third, as in most cases of exclusion, the allegedly excluded parties — here, the web sites and advertisers — are not passive victims of the exclusion, but have means of responding to any discrimination by Google. Finally, the paragraphs below suggest that the two-sided nature of the Google market might provide a means of measuring the competitive effect of exclusion.

A. Two-Sided Markets

Google operates in a two-sided market: a market with two different customer groups that provide each other with network benefits. As Rochet and Tirole describe, in two-sided markets, platforms, like Google, “enable interactions between end-users, and try to get the two (or multiple) sides ‘on board’ by appropriately charging each side.”⁴⁷ In Google’s case, the two classes are searchers and advertisers.⁴⁸ As in other two-sided markets, the price, quality, and output relationships for the two sides are interrelated, which may make it inappropriate to consider the two markets in isolation in assessing Google’s power.⁴⁹ For example, in such a market the platform might be charging high prices to one user group, but if the prices are below cost to the other, it is not clear that the platform should be viewed as exercising market power.⁵⁰ Conversely, if the platform is providing a service to one user group for free, as Google does, it might be doing so in order to enable it to charge a higher price to the other, so that the zero price does not show that the platform lacks power.

It is not clear, however, that we should never consider price-quality relationships on one side of the market in isolation. After all, if the price to advertisers is high, it is no less high because the price to searchers is low. Advertisers receive benefits from lower prices to searchers, because the resulting greater quantity of searchers effec-

47. Jean-Charles Rochet & Jean Tirole, *Two-Sided Markets: An Overview* (Mar. 12, 2004) (unpublished manuscript), available at http://faculty.haas.berkeley.edu/hermalin/rochet_tirole.pdf.

48. In fact, one could count web sites as a third customer class of Google, though the web sites in the “organic” search results will often overlap with advertisers.

49. See David S. Evans & Richard Schmalensee, *The Industrial Organization of Markets with Two-Sided Platforms*, 3 *COMPETITION POL’Y INT’L* 151, 173–75 (2007); see also David S. Evans, *Two-Sided Markets*, in *MARKET DEFINITION IN ANTITRUST: THEORY AND CASE STUDIES* 437 (ABA Section of Antitrust Law ed., 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1396751.

50. Nor is it clear, however, that it should not be.

tively makes Google a higher-quality provider for advertisers, but it is not clear that the quality benefits compensate for the higher costs. This is not an economic question so much as it is a legal one: even if competition among providers in a two-sided market dissipates supracompetitive profits, the law might take the position that one side of the market should not be made to subsidize the other.

In fact, of course, Google provides its search results for free.⁵¹ Applying the principle just discussed, the law could focus on the search market and, despite the two-sided nature of a search engine, determine that Google is exercising market power in the search market.⁵² For example, suppose, referring to the allegations against Google, that Google chooses to downgrade in its search results other information providers that it perceives as posing competitive threats. In that case, Google would be deliberately providing less valuable information to its users. Should that be viewed as an exercise of power?⁵³ Or, considering the two-sided market perspective, should the answer to that question depend on whether and how Google's advertisers, the other side of the market, respond? Are we confident that the advertisers would respond at all, especially given that searchers might not even be aware of the distortion of search results? For competition-law purposes, the answers to these questions turn on decisions that have not yet been made regarding how competition law should treat two-sided markets.

For Google, though, it may be possible to use the advertiser side of the two-sided market to infer power on the searcher side. As suggested above, the ability to move a site up or down in search results without a significant consumer response could be viewed as evidence of market power. That is, to put it another way, moving a site down several spots in the results could be viewed as constituting a significant lowering of quality that in the absence of market power would cause a search engine to lose customers. If so, given that price stays the same at zero, the ability to lower quality significantly could be viewed as evidence of market power. This method of assessing power

51. Actually, one could take the view that in making searches on a search engine, users provide that search engine with valuable information for which they are not paid. *See supra* text following note 18.

52. Of course, even if Google were not *exercising* power in the market, it could still *possess* power in the market. For both Sherman Act § 2 and Article 102 TFEU, it is possession of monopoly power or dominance that is the element of the offense. For neither provision is the relationship of the conduct element of the offense to its power element well defined.

53. *See Evans & Schmalensee, supra* note 49, at 177 ("As a consequence, the two-sided platform may impose requirements on side A that do not benefit them directly and which customers on that side might even reject after comparing private benefits and costs."). The authors continue with some added complications: "But such requirements may benefit side B. And if the demand increases on side B, these requirements may increase the value placed on the platform on side A — and in fact could increase value so much that the feature provides a net benefit to side A." *Id.* at 177–78.

then requires some means of quantifying the loss in quality of moving sites in search results.

One way to do this, offered tentatively below, is to use the prices paid for placement in Google's AdWords results. Because the value of search positions in the organic results is not quantified, but AdWords positions are, we can use AdWords as a proxy for the organic results.⁵⁴ Indeed, if the prices for positions in the AdWords results differ significantly, one would expect the difference in value between similar positions in the organic results to be even greater. That is so at least if, as seems likely, consumers value more highly the unpaid-for organic results than the paid-for AdWords results.

A more difficult question is whether we can use prices in the AdWords market as a proxy for consumer harm. Power over advertisers is relevant, but if searchers are not injured by the manipulation of the position of web sites, then the significance of such manipulation is less clear. For example, suppose there are several similar web sites, and Google disadvantages, or is able to disadvantage, only one. In that case, searchers might not be injured. But the sections below suggest that effects in the upstream advertising market could indeed be reasonable proxies for effects in the downstream searcher market.

B. Distortion as Abuse and Power

In the discussion above, Google's ability to provide less-than-optimal search results was suggested as evidence of market power. But the distortion of search results is also the anticompetitive conduct of which Google is accused. Thus, the same evidence shows both power and conduct. This is theoretically reasonable. If a firm is able to engage in anticompetitive conduct, that ability alone is evidence that the firm possesses market power; otherwise, its lack of power would constrain its ability to act anticompetitively. Indeed, there is a movement in competition law toward looking directly to conduct to determine the existence *vel non* of market power.

Separating power and conduct is difficult in exclusion cases in part because the exclusion of a competitor is also the injury to consumer, at least if consumers desire access to that competitor. So, in the case of Google the exclusion of Yelp from effective access to consumers would cause harm to those consumers if in fact they preferred Yelp to the alternative they were provided. As the reference to the arguments of Joshua Wright above describes, though, it is possible that Google denies, or makes more difficult, access to Yelp because Google knows that consumers prefer other services. In that respect, the fact of exclusion tells us little about whether the exclusion is pro-

54. Actually, some of the allegations against Google concern AdWords, not the organic results, so that the results in the text could be applied directly in that context.

competitive or anticompetitive, just as it tells us little about whether the party doing the excluding — Google here — has power.

The argument that Google is merely providing what consumers want seems more compelling for its organic search results than for AdWords, though. The organic results are Google's own product in a more direct way than are the AdWords links. In a sense, the organic results are the editorial content, where one would expect Google to exercise considerable control, but AdWords are advertisements, where one would expect Google to be more even-handed.⁵⁵ That is especially so in that AdWords advertisers pay Google for clicks to their sites, so that the sites must profit from consumer visits to avoid losing money on the advertisements. That would presumably limit the likelihood that advertisements unwanted by consumers would appear for long.

An analogy can be drawn here between Google and grocery stores. Grocery stores are often paid by manufacturers for shelf space, through payments known as slotting allowances or slotting fees, much as Google is paid for advertising space.⁵⁶ One of the arguments for why such payments can be procompetitive is that of signaling: "When a manufacturer believes its product is highly likely to succeed, it will be willing to pay a significant slotting fee, knowing that it is likely to recover this expense through profits earned from future sales."⁵⁷ Similarly, one would expect that advertisers who choose to pay for AdWords placement do so because they expect that their products will be likely to succeed by pleasing consumers. In other words, the prices that web sites are willing to pay for particular placements on AdWords might in fact reflect the value to consumers of information about those web sites. If so, then any distortion of that pricing could be evidence of market power, because it would reflect a deviation from consumer preferences.

C. Competitive Responses

If Google seeks to exclude competitors or potential competitors, though, those competitors will respond, and that may limit Google's power. That is, even if Google could, in general, provide low-quality results to searchers by excluding sites that searchers might prefer, and even though it could be difficult for searchers to recognize the low quality of the results, the excluded sites themselves might be able to prevent this. If those sites have alternative means of reaching consumers, any exclusion by Google would be ineffective and therefore prob-

55. *Cf.* Home Placement Serv., Inc. v. Providence Journal Co., 682 F.2d 274 (1st Cir. 1982).

56. *See* FEDERAL TRADE COMMISSION, SLOTTING ALLOWANCES IN THE RETAIL GROCERY INDUSTRY: SELECTED CASE STUDIES IN FIVE PRODUCT CATEGORIES (2003), available at <http://www.ftc.gov/os/2003/11/slottingallowancercpt031114.pdf>.

57. *Id.* at 1.

ably would not occur. The question, then, is whether effective alternative avenues exist.

Certainly web sites like vertical search engines could advertise on traditional media or on other web sites. Whether those means of advertising would be effective alternatives is not immediately obvious. The advantage of advertising on Google is that ads can be targeted to searchers seeking relevant products, and that same advantage cannot be offered to the same extent by other sites, let alone by traditional media. Therefore, although other means of reaching consumers exist, it is not easy to determine how effective they are.

Again, though, the prices paid for AdWords, and particularly the relative prices paid for AdWords placements, can provide an answer. One allegation against Google is that it uses AdWords “Quality Scores” to raise prices charged to its competitors or potential competitors for placement on AdWords.⁵⁸ For example, a web site that formerly paid \$X for placement in the first position might subsequently be forced, without a legitimate justification,⁵⁹ to pay the same price but only receive placement in the second position. If those prices are signals of value to consumers, this sort of distortion could reflect harm to consumers.

Moreover, the payments, and differences in payments, are an indicator of the value, or lack thereof, of alternative means of reaching consumers. For example, suppose that the price for placement as the first AdWords result were 20% greater than that for placement as the second result. If the value of the second placement is 20% lower than the value of the first, then it seems likely that the value of alternative means of reaching consumers is even less. Thus, not only do the prices paid for AdWords seem likely to reflect value of advertisements to consumers, differences in value seem likely to be evidence of alternatives. As such, an investigation of these values seems to be a reasonable approach to assessing Google’s power.

D. The Power to Manipulate Search Results

Although actual prices for AdWords are not easy to obtain, one can use Google’s own “Traffic Estimator”⁶⁰ to estimate some figures. For example, using the keyword phrase “kitchen faucet,” the Traffic

58. *See infra* text accompanying note 62.

59. Of course, Google argues that it has legitimate justifications for such moves, and that might be true; the purpose of this test is not to prejudge Google’s conduct, but to assess its power. As suggested above, though, the signaling explanation suggests that AdWords payments may reflect value to consumers, so that distortion of the AdWords market would be unjustified.

60. *Traffic Estimator*, GOOGLE ADWORDS, <https://adwords.google.com/select/TrafficEstimatorSandbox> (last visited Mar. 3, 2013) (registration required).

Estimator provides the following numbers for different specified maximum costs per click (“CPC”):⁶¹

Maximum CPC (specified)	Estimated average CPC	Estimated ad position	Estimated daily clicks	Estimated daily cost
\$2.50	\$1.26	1.49	404.08	\$510.90
\$2.00	\$1.11	1.71	379.86	\$421.63
\$1.50	\$0.92	2.14	338.75	\$312.35
\$1.00	\$0.70	3.00	264.30	\$184.10
\$0.50	\$0.44	5.83	119.69	\$ 52.16

As can be seen in the table, referring to the second and third columns, the price difference between ad positions 2 and 3 in these estimates is greater than $(\$0.92 - \$0.70) / \$0.92 = 23.9\%$. The difference between positions 1 and 2 appears to be greater than $(\$1.26 - \$0.92) / \$1.26 = 27.0\%$. For this keyword phrase, then, if Google could move a site from position 2 to position 3 or from position 1 to position 2, it would be decreasing the value of the placement by approximately 25%. The U.S. Merger Guidelines state that a price increase of 5–10% is evidence of “a significant loss of competition,” so one could infer that price differences of approximately 25% show the existence of market power and, because 25% is significantly greater than 10%, perhaps also monopoly power.

Admittedly, this approach poses some problems. It is not offered here so much as a precise means of assessing market power as an example of the kind of approach that could be used. One of the apparent problems, though, is not a real one, at least in certain circumstances. It might be thought that since the price paid goes down as the site’s position is lowered in the results, there is in fact no exercise of power, but only a simultaneous reduction in quality *and* price. This is not true, at least according to some of the allegations against Google. Google assigns a Quality Score to sites that use AdWords, and the effect of the quality score is to adjust the price paid.⁶² Consequently, although the prices shown in the table above present an unadjusted price that goes down with position in the results, Google in fact can selectively charge higher prices than the unadjusted ones. As a result, Google could charge a particular web site the same price for position

61. This experiment was conducted on March 3, 2012.

62. See *Check and understand Quality Score*, GOOGLE ADWORDS HELP (Oct. 14, 2012), <http://support.google.com/adwords/bin/answer.py?hl=en&answer=2454010>.

3 as it charges others for position 2 simply by adjusting the Quality Score. (Again, this article takes no position on whether Google actually does this. The point here is that it *could* do so, and that if it did, this conduct could demonstrate market power.)

V. THE OBJECTIVITY BASELINE

Although this paper does not aim to cover all the issues that are relevant to Google's market power, one final issue is worth considering, if only briefly. Google's statements regarding the objectivity of its search results have evolved in recent years.⁶³ In 2007, it said "Our search results are generated completely objectively and are independent of the beliefs and preferences of those who work at Google."⁶⁴ Subsequently it said that it was delivering the results that searchers wanted. More recently, it has said that "Google's search results are ultimately a scientific *opinion* as to what information users will find most useful."⁶⁵ At times, it makes no reference to the preferences of searchers at all, saying in its documentation, for example, that it "tried to clarify where possible that although we employ algorithms in our rankings, ultimately we consider our search results to be our opinion."⁶⁶ And Google, if it chose, could simply say, "We'll provide the search results that we want to provide."

Does objectivity have any implications for the assessment of Google's market power? Suppose that Google does in fact manipulate search results. On the one hand, we can ask if either its power to do so or the anticompetitiveness of its conduct would be less if it clearly stated that it manipulated results, or reserved the right to do so. On the other, we can ask if its power would be greater or its conduct worse if Google maintained that its results were entirely objective. The analogous issues rarely arise in the context of non-informational products, perhaps because in that context the competitive effect of conduct is more apparent, or at least less dependent on consumer perceptions.

Statements and perceptions about objectivity can have implications for consumer acceptance of information, but whether these effects should be relevant for competition law is less clear. Information costs have been recognized as a factor that can create or maintain

63. Cade Metz, *Google drops nuke on 'objective' search engine utopia*, THE REGISTER (Dec. 12, 2010, 1:25 PM), http://www.theregister.co.uk/2010/12/16/google_algorithms_are_google_opinions/.

64. *Google: An explanation of our search results*, GOOGLE (Mar. 21, 2007), <http://web.archive.org/web/20070321092528/http://www.google.com/explanation.html>.

65. *Schmidt Testimony*, *supra* note 2, at 3 (emphasis in original).

66. Matt Cutts, Comment to *In Google's Opinion . . .*, JOHN BATTELLE'S SEARCH BLOG (Dec. 1, 2010) http://battellemedia.com/archives/2010/12/in_googles_opinion.php; see also *Schmidt Testimony*, *supra* note 2.

market power for competition-law purposes,⁶⁷ and it seems that statements about information provided could play three possible roles. First, if no statement is made, then there is presumably no change in information costs. There is then presumably no effect on market power, and the failure to make any statement is not likely to be viewed as anticompetitive. Second, an information provider might publicly state that the information it provides is manipulated. In that case, the statement probably reduces the provider's market power, and of course making the statement would be procompetitive, or at least not anticompetitive (though the manipulation might remain anticompetitive).

The third possibility is that while providing biased information the provider states that it is not biasing the information. Although this would be a misrepresentation, it is not entirely clear that it should be viewed as raising information costs for competition purposes, though it certainly would not lower them. If the default understanding of consumers is that information is unbiased, then the misrepresentation would not change their perceptions, though it might make them less willing to reconsider them. Moreover, competition law is generally distinct from the law of false advertising, and it is not clear where the boundary lies. Perhaps a statement that applies to all of an information provider's products, like a statement by a search engine about the objectivity of its results, is a competition issue, while a statement about a particular product, like a statement that a food product is "organic," is false advertising. Because competition law does not have a well-developed approach to information products, this issue is unclear.⁶⁸

VI. CONCLUSION

The purpose of this paper is to take some first steps toward developing methods of assessing the market power of information providers like Google. As information products come to constitute a larger portion of the market, and a larger portion of allegations regarding

67. See *Eastman Kodak Co. v. Image Technical Serv., Inc.*, 504 U.S. 451 (1992).

68. A statement about objectivity could also have significance in the context of two-sided markets. As noted before, one of the difficulties posed by two-sided markets is the interrelationship between pricing and output on the two sides. That interrelationship means that exploitation of one side of the market is not necessarily an indicator of market power, because both sides must be considered. A supracompetitive price on one side of the market, if balanced by an infracompetitive price on the other, might not be proof of power. In some sense, though, if Google makes representations about the search side of its market, that could be viewed as isolating that side of the market for competition purposes. The idea would be that any statement that defines the price-quality relationship for a product, as a representation of objectivity in the context of zero price would, sets a baseline against which competition analysis could be performed. No longer could the provider argue that its conduct must be measured by its effect on *both* sides of the market, because it has chosen to limit its options on one side. In effect, the provider would have unilaterally assumed the obligation to act competitively on one side of the market. As suggested in part II.B *supra*, competition law might choose to impose that obligation in any case.

anticompetitive conduct, competition law must develop techniques for addressing the special problems posed by information. The value of information is difficult to determine, in part because it is often used for the production of other products, rather than for consumption. Relatedly, information is often provided for free in order to sell other products, so that information providers often operate in two-sided markets characterized by the interaction of two sets of consumers.

These problems are well illustrated by Google. Like many information providers in both the old and new media, Google provides its search results to consumers for free in order to sell advertising. In one important respect, though, Google differs from other information providers: there is no clear benchmark against which to evaluate the quality of the search results it provides. Consequently, the price-quality-cost relationship that determines market power is difficult to evaluate. This paper tentatively offers an indirect means of making that evaluation and offers some general observations regarding the treatment of information products in two-sided markets.