

# GOOGLE AND THE LIMITS OF ANTITRUST: THE CASE AGAINST THE CASE AGAINST GOOGLE

GEOFFREY A. MANNE\* & JOSHUA D. WRIGHT\*\*

## ABSTRACT

The antitrust landscape changed dramatically in the last decade. Within the last two years alone, the Department of Justice has held hearings on the appropriate scope of Section 2 of the Sherman Act and has issued, then repudiated, a comprehensive Report. During the same time, the European Commission has become an aggressive leader in single-firm conduct enforcement by bringing abuse of dominance actions and assessing heavy fines against firms including Qualcomm, Intel, and Microsoft. In the United States, two of the most significant characteristics of the new antitrust approach have been the increased focus on innovative companies in high-tech industries and the diminished concern that erroneous antitrust interventions will hinder economic growth. This focus on high-tech industries is dangerous, and the concerns regarding erroneous interventions should not be dismissed too lightly. This Article offers a comprehensive, cautionary tale in the context of a detailed factual, legal, and economic analysis of the next *Microsoft*:<sup>1</sup> the theoretical, but perhaps imminent, enforcement against Google. Close scrutiny of the complex economics of Google's disputed technol-

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\* Executive Director, International Center for Law & Economics; Lecturer in Law, Lewis & Clark Law School.

\*\* Associate Professor, George Mason University School of Law and Department of Economics; Director of Research, International Center for Law & Economics. We thank Judd Stone for superb research assistance. We also gratefully acknowledge a grant from the International Center for Law & Economics, which has previously received support from Google, among other companies. The analysis is our own and does not necessarily reflect the views of the International Center for Law & Economics, its affiliated academics, or any of its supporters. All errors are our own.

1. *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (en banc) (per curiam).

ogy and business practices reveals a range of procompetitive explanations. Economic complexity and ambiguity, coupled with an insufficiently deferential approach to innovative technology and pricing practices in the most relevant case law, portend a potentially erroneous—and costly—result. Our analysis, by contrast, embraces the cautious and evidence-based approach to uncertainty, complexity, and dynamic innovation contained within the well-established error-cost framework. As we demonstrate, though there is an abundance of error-cost concern in the Supreme Court precedent, there is a real risk that the current, aggressive approach to antitrust error, coupled with the uncertain economics of Google’s innovative conduct, will yield a costly intervention. The point is not that we *know* that Google’s conduct is procompetitive, but rather that the very uncertainty surrounding it counsels caution, not aggression.

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## I. INTRODUCTION

Much has changed in the monopolization law landscape since the watershed *Microsoft* decision over a decade ago. In the past two years, the Department of Justice has issued, and then repudiated, a comprehensive report on Section 2 of the Sherman Act, and the European Commission has risen as a leader in single firm conduct enforcement by bringing claims against firms including Qualcomm, Intel, and Microsoft. Meanwhile, China has passed its own antitrust law and has become an important participant in debates over the future of international antitrust. Most recently, the Federal Trade Commission (FTC) controversially invoked its authority under Section 5 of the Federal Trade Commission Act (FTC Act) to challenge Intel's pricing practices in the microprocessor market.<sup>2</sup>

Applying antitrust laws to innovative companies in dynamic markets has always been a perilous proposition, and despite significant advances in economics and jurisprudence, it remains so. Successful firms such as Google, which compete in markets characterized by innovation, rapid technological change, and a strong reliance on intellectual property rights, are especially likely, and especially problematic, targets.<sup>3</sup>

Contemporary monopolization enforcement in the US is focused substantially on innovative companies in high-tech industries, creating substantial concerns that antitrust error in the form of successful interventions against pro-competitive innovations and business practices will hinder economic growth. Given the fundamental difficulty of identifying the competitive consequences of business practices generally, and innovations especially, concern with the social costs of these errors ("error costs") has been a mainstream consideration in antitrust policy discourse for the last quarter century. Unfortunately, current antitrust enforcers in the US have minimized these error cost

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2. Complaint, *In re Intel Corp.*, No. 9341, FTC (Dec. 16, 2009), <http://www.ftc.gov/os/adjpro/d9341/091216intelcmpt.pdf>, The case was eventually settled. See *In re Intel Corp.*, No. 9341, FTC (Oct. 29, 2010), <http://www.ftc.gov/os/adjpro/d9341/101102inteldo.pdf>.

3. The Assistant Attorney General for Antitrust, Christine Varney, has suggested that Google, in particular, is of concern to the government. Christine Varney, U.S. Asst. Att'y Gen for Antitrust, Remarks Before the American Antitrust Institute (Feb. 11, 2008), available at [http://www.antitrustinstitute.org/files/20080619\\_pv\\_aai061908holemanbreakout\\_020320091323.mp3](http://www.antitrustinstitute.org/files/20080619_pv_aai061908holemanbreakout_020320091323.mp3).

concerns, with one even declaring that “*there is no such thing as a false positive.*”<sup>4</sup> At the same time, enforcers at the FTC have brought a complicated and controversial case against Intel under Section 5 of the FTC Act, precisely in order to make an end-run around Sherman Act jurisprudence that enshrines error cost concerns.<sup>5</sup> Less than a year after the Supreme Court reinforced that error costs were a central component of monopolization doctrine, antitrust enforcers in the United States have adopted a dramatically different—and opposing—view of the role that antitrust errors should play in future enforcement decisions.<sup>6</sup>

Things have also changed in the web-based economy. As is to be expected in dynamic markets, it would have been difficult to predict in 1998 the challenge that Linux would pose to Microsoft, the growth of Google, the commercial success of the iPod, the transformative role of mobile and cellular computing, and many other welfare-enhancing innovations over the last decade. But despite these apparent changes in the legal and economic environment, the antitrust community finds itself facing the same debate that raged before the *Microsoft* wars: What is the appropriate role of antitrust, and monopolization law in particular, in the New Economy? Much has been written on this topic, with virtually every conceivable policy position having been taken in some form or another. Some have argued that the economy moves too fast for antitrust remedies to be fully effective.<sup>7</sup> Others have argued that antitrust rules simply

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4. *Id.*

5. Jan Leibowitz, Chairman, Fed. Trade Comm’n & J. Thomas Rosch, Comm’r, Fed. Trade Comm’n, Statement Regarding *In re Intel Corp.* No. 9341 (Dec. 16, 2009), available at <http://www.ftc.gov/os/adjpro/d9341/091216intelchairstatement.pdf>.

6. *Pac. Bell Tel. Co. v. Linkline Commc’ns, Inc.*, 129 S. Ct. 1109, 1113–14 (2009) (“Recognizing a price-squeeze claim where the defendant’s retail price remains above cost would invite the precise harm we sought to avoid in *Brooke Group*: Firms might raise their retail prices or refrain from aggressive price competition to avoid potential antitrust liability” and finding it “most troubling [that] firms that seek to avoid price-squeeze liability will have no safe harbor for their pricing practices.”).

7. Robert W. Crandall & Clifford Winston, *Does Antitrust Policy Improve Consumer Welfare? Assessing the Evidence* 17 J. ECON. PERSP. 3 (2003). In the *Microsoft* context, see also William H. Page, *Mandatory Contracting Remedies in the American and European Microsoft Cases*, 75 ANTITRUST L.J. 787 (2008); William H. Page & Seldon J. Childers, *Measuring Compliance with Compulsory Licensing Remedies in the American Microsoft Case*, 76 ANTITRUST L.J. 239 (2009); William H. Page & Seldon J. Childers, *Software Development as an Antitrust Remedy: Lessons from the Enforce-*

should not apply where innovation and dynamic competition are at stake because of the potential chilling effects on innovation.<sup>8</sup> Still others have argued that anticompetitive abuses are even more likely to stifle innovation and harm consumers in the modern economy, and thus antitrust enforcers should be especially active in these markets.<sup>9</sup>

This Article will discuss the problems of antitrust enforcement in the Internet economy, and the theoretical case against the antitrust community's contemporary *bête noir*, Google. It will embrace the cautious and evidence-based approach to uncertainty, complexity, and dynamic innovation contained within the error-cost framework, a mainstream and well-developed method of evaluating legal rules generally, and, in this case, for balancing the full social benefits and costs of proposed antitrust interventions. This approach is well accepted in the antitrust literature among lawyers and economists.<sup>10</sup> But many antitrust enforcers and a vocal subset of commentators have shunned the approach, because they view the error-cost framework as an annoying impediment to more vigorous enforcement.<sup>11</sup> For example, at least

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ment of the Microsoft Communications Protocol Licensing Requirement, 14 MICH. TELECOMM. & TECH. L. REV. 77 (2008).

8. Daniel F. Spulber, *Unlocking Technology: Antitrust and Innovation*, 4 J. COMP. L. & ECON. 915 (2008).

9. See, e.g., Carl Shapiro, *Exclusivity In Network Industries*, 7 GEO. MASON L. REV. 673, 674–75 (1999).

10. See, e.g., RICHARD A. POSNER, *ANTITRUST LAW*, at ix (2nd ed. 2001); C. Frederick Beckner & Steven C. Salop, *Decision Theory and Antitrust Rules*, 67 ANTITRUST L.J. 41 (1999); Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1 (1984); David S. Evans & A. Jorge Padilla, *Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach*, 72 U. CHI. L. REV. 73 (2005); Luke Froeb et al., *Vertical antitrust policy as a problem of inference*, 23 INT'L J. INDUS. ORG. 639 (2005); Keith N. Hylton & Michael Salinger, *Tying Law and Policy: A Decision-Theoretic Approach*, 69 ANTITRUST L.J. 469 (2001); Geoffrey A. Manne & Joshua D. Wright, *Innovation and the Limits of Antitrust*, 6 J. COMPETITION L. & ECON. 153 (2010).

11. This conflation of activity level with success has come from a number of sources, including then-presidential candidate Barack Obama. See Barack Obama, Senator, Statement to the American Antitrust Institute (Nov. 5, 2009), available at [http://www.antitrustinstitute.org/archives/files/aai-%20Presidential%20campaign-%20-%20Obama%209-07\\_092720071759.pdf](http://www.antitrustinstitute.org/archives/files/aai-%20Presidential%20campaign-%20-%20Obama%209-07_092720071759.pdf) (promising to “reinvigorate antitrust enforcement” and asserting that the activity level of enforcement during the Bush administration caused negative consequences for consumers). Officials also have largely repudiated the well-accepted error-cost framework. The FTC Chairman and Commissioner declared that “there is no such thing as a false positive.” See Varney, *supra* note 3; see also J. Thomas Rosch, Comm’r, Fed. Trade Comm’n, Thoughts on the Withdrawal of the Section 2 Report, Remarks Before IBA/ABA Conference on Antitrust in a Global Economy (June 25, 2009).

one Federal Trade Commissioner has lamented the evolution of antitrust rules that, in his view, systematically under-deter anti-competitive behavior because of the incorporation of the error-cost framework and concomitant concerns about false positives into Sherman Act jurisprudence.<sup>12</sup>

These recent developments, which are impelled by the implicit belief that antitrust intervention is nearly always beneficial from a long-term consumer-welfare perspective, portend a movement away from competition policy informed by error-cost analysis. This approach stands in stark contrast to the error-cost framework, which presumes that errors are an inevitable and core feature of the antitrust enterprise. The new approach implies that concerns about over-deterrence should not affect either enforcement decisions or the design of liability rules. Indeed, advocates of this approach suggest that error-cost concerns are antiquated in the New Economy, and that false positives are no longer a concept capable of contributing to the antitrust policy debates. This is a problematic stance that is contrary to modern economics and the logic of legal rules, and it portends a costly mistake in the perhaps inevitable antitrust case against Google.

Part II will argue that, contrary to these recent critics and agency authorities, error-cost analysis is not only helpful, but essential to identifying and designing optimal antitrust rules in the New Economy.<sup>13</sup> The application of the error-cost framework in antitrust originates with Judge Frank Easterbrook's seminal analysis, *The Limits of Antitrust*, which was built on twin premises: first, that false positives are more costly than false negatives because self-correction mechanisms mitigate the latter but not the former, and second, that errors of both types are inevitable because distinguishing procompetitive conduct from anticompetitive conduct is an inherently difficult task in the single-firm context.<sup>14</sup> At its core, the error-cost framework is a simple but powerful analytical tool that requires inputs from

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12. Rosch, *supra* note 11.

13. Judge Richard A. Posner defined the "New Economy" to denote the rise of three industries: manufacture of computer software, Internet-based business, and communication services. Richard A. Posner, *Antitrust in the New Economy 2* (Univ. of Chi. Law Sch., John M. Olin Law & Econ. Working Paper No. 106, 2000), available at <http://www.law.uchicago.edu/files/files/106.Posner.pdf>.

14. Easterbrook, *supra* note 10.

state-of-the-art economic theory and empirical evidence regarding the competitive consequences of various types of business conduct, and that produces outputs in the form of legal rules. Although legal scholars typically avoid rigorous attempts to work through the available economic theory and evidence when discussing the optimal design of legal rules, economists frequently fail to assess their analyses in a realistic institutional setting and avoid incorporating the social costs of erroneous enforcement decisions into their analyses and recommendations for legal rules. Part II outlines the common sources and the history of antitrust error, setting the stage for an assessment of the case against Google.

Part III will discuss the markets, business conduct, and economics of online search advertising relevant to the primary monopolization arguments leveled against Google. In particular, this Part highlights the indeterminacy and the complexity of the economic implications of Google's market and its conduct—characteristics that contribute significantly to the risk of an inefficient intervention.

Part IV will discuss the potential monopolization claims against Google, and we highlight the pitfalls of the hypothetical case, concluding that the suit is a recipe for a costly false-positive outcome. Our goal in this paper is to harness the power of the error-cost framework to introduce an Easterbrookian, error-cost-minimizing approach to antitrust intervention in Google's primary activities—areas where innovation is a critical part of the competitive landscape. Given recent activities in the antitrust enforcement arena—identifying innovative firms in high-tech markets as likely antitrust targets combined with recent discussions of error costs from leading enforcers,<sup>15</sup> at the Section 2 Hearings,<sup>16</sup> and elsewhere<sup>17</sup>—systematic analysis of the relationships between innovation, anti-

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15. See Varney, *supra* note 3.

16. U.S. DEP'T OF JUSTICE, COMPETITION AND MONOPOLY: SINGLE-FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT (2008), available at <http://www.usdoj.gov/atr/public/reports/236681.pdf>. The report was withdrawn the following year. See Press Release, U.S. Dep't of Justice, Justice Department Withdraws Report on Antitrust Monopoly Law (May 11, 2009), available at [http://www.justice.gov/atr/public/press\\_releases/2009/245710.htm](http://www.justice.gov/atr/public/press_releases/2009/245710.htm).

17. See, e.g., Stacey L. Dogan & Mark A. Lemley, *Antitrust Law and Regulatory Gaming*, 87 TEX. L. REV. 685, 700–03 (2009) (discussing the costs of false positives and false negatives).

trust error, optimal liability rules and the business and economics of Google is timely and essential.

Part V will conclude that in light of the antitrust claims arising out of innovative contractual and pricing conduct, and the apparent lack of any concrete evidence of anticompetitive effects or harm to competition, an enforcement action against Google is ill advised. Enforcement on these grounds creates substantial risk for a false positive, which would chill innovation and competition that currently provides immense benefits to consumers.

## II. INNOVATION, ERROR COSTS, AND THE LIMITS OF ANTITRUST<sup>18</sup>

The primary contribution of Judge Easterbrook's *The Limits of Antitrust* was to force the antitrust community to think much more rigorously about the relationship between errors and antitrust liability rules. Although the error-cost framework is a critical conceptual tool that can comfortably be applied to any area of the law, it is especially useful in antitrust given the underappreciated difficulty of the task that antitrust law assigns to judges: to distinguish anticompetitive behavior from procompetitive behavior given limited evidence, along with any clues economic theory might provide. Thus, the problem of dealing with error in the design of the liability rules themselves is an important innovation in antitrust. From simple legal and economic assumptions, this framework provides a coherent structure within which judges can think about the optimal design of antitrust rules in the face of expected errors. The framework's assumptions are as follows: First, both Type I (false positive) and Type II (false negative) errors are inevitable in antitrust cases because of the difficulty in distinguishing efficient, procompetitive business conduct from anticompetitive behavior.<sup>19</sup> Second, the social costs associated with Type I er-

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18. Part II is distilled from our recent work, Manne & Wright, *supra* note 10.

19. There are two separate points here. The first is the inevitability of errors with decision by legal rule generally. See Easterbrook, *supra* note 10, at 14–15 (reiterating that “[o]ne cannot have the savings of decision by rule without accepting the costs of mistakes”). The second point is that the likelihood of antitrust error depends crucially on the development of economic science to produce techniques and methods by which we can successfully identify conduct that harms consumers. See Frank H. Easterbrook, *Workable Antitrust Policy*, 84 MICH. L. REV. 1696, 1712 (1986).



rors are generally greater than the social costs of Type II errors because market forces offer at least some correction with respect to Type II errors, but none with regard to Type I errors.<sup>20</sup> Third, optimal antitrust rules will minimize the expected sum of error costs subject to the constraint that the rules be relatively simple and reasonably administrable.<sup>21</sup> This framework gives rise to a number of simple filters that can be used to minimize error costs. Plaintiffs can be required to affirmatively demonstrate that the firm at issue actually has market power and that the practices at issue are substantially likely to harm consumers. Courts can question whether firms in the industry use different methods of production or distribution, whether the evidence is consistent with a reduction in output, and whether the complaining firm is a rival in the relevant market.<sup>22</sup>

Judge Easterbrook's analysis of antitrust errors lends itself to a Bayesian decision-theoretic framework, designed to address problems of decisionmaking under uncertainty. Economists have applied the framework to identify optimal rules for a range of practices including tying, exclusive dealing, mergers, and resale price maintenance.<sup>23</sup> Applying the Bayesian approach, the regulator, court, or policymaker holds an earlier belief about the likelihood that a specific business practice is anticompetitive. Earlier beliefs are updated with case-specific information or new evidence as the theoretical and empirical understanding of the practice evolves. The optimal decision rule is then based on the new, updated likelihood that the practice will be anticompetitive

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20. Judge Easterbrook well articulated this phenomenon: "[T]he economic system corrects monopoly more readily than it corrects judicial [Type I] errors." Easterbrook, *supra* note 10, at 15.

21. This point is most often attributed to then-Judge Breyer's well-known admonition that antitrust rules "must be administratively workable and therefore cannot always take account of every complex economic circumstance or qualification." *Town of Concord v. Bos. Edison Co.*, 915 F.2d 17, 22 (1st Cir. 1990). But the Chicago School of antitrust has traditionally shared with Breyer's Harvard School a preference for using economics to generate simple and administrable rules rather than overly sophisticated economic tests. See William E. Kovacic, *The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix*, 2007 COLUM. BUS. L. REV. 1, 32-35; Joshua D. Wright, *The Roberts Court and the Chicago School of Antitrust: The 2006 Term and Beyond*, 3 COMPETITION POL'Y INT'L 25, 37 (2007).

22. Easterbrook, *supra* note 10, at 18.

23. See generally Beckner & Salop, *supra* note 10; Hylton & Salinger, *supra* note 10; Joshua D. Wright, *Overshot the Mark? A Simple Explanation of the Chicago School's Influence on Antitrust*, 5 COMPETITION POL'Y INT'L 179 (2009).

by minimizing a loss function measuring the social costs of Type I (false positive) and Type II (false negative) errors.<sup>24</sup>

The fundamental insight from the *Limits of Antitrust*, the insight that drives a wedge between the treatment of Type I and Type II errors, is that Type I errors are likely, on average, to be more costly to society and consumers than Type II errors because market forces place some constraints on the latter but not the former.<sup>25</sup> This insight becomes more important as our collective economic wisdom about a new business practice decreases—when a challenged practice or setting is innovative. The error-cost framework calls for a more interventionist antitrust rule only when Type II error costs are substantial, there is a long-standing precedent indicating that the given practice is anticompetitive, and theory and evidence suggest a strong likelihood that the practice is anticompetitive.

There are several potential sources of error in antitrust analysis and enforcement, however, this Article focuses almost exclusively on the most significant type of error: a court or regulator's erroneous conclusion that a practice is anticompetitive due to the difficulty of identifying anticompetitive conduct and distinguishing it from precompetitive conduct in any specific case. Judges are often prematurely led to condemn business practices as anticompetitive because antitrust lawyers and economists tend to systematically assign anticompetitive explanations to conduct that is novel and not well understood.<sup>26</sup> Moreover, judges not generally trained in economics are asked to make increasingly sophisticated economic determinations, and errors

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24. See James C. Cooper et al., *Vertical Antitrust Policy as a Problem of Inference*, 23 INT'L J. INDUS. ORG. 639 (2005); see also Keith N. Hylton, *The Law and Economics of Monopolization Standards*, in ANTITRUST LAW AND ECONOMICS 82 (Keith N. Hylton ed., 2d ed. 2010).

25. Multiple academics review the existing theory and evidence on vertical restraints and single-firm conduct more generally and uniformly conclude that the practices at issue are generally procompetitive and that antitrust rules should "slant" towards requiring plaintiffs to demonstrate clear anticompetitive effect before condemning finding violations. See, e.g., Cooper et al., *supra* note 24; Francine Lafontaine & Margaret Slade, *Exclusive Contracts and Vertical Restraints: Empirical Evidence and Public Policy*, in HANDBOOK OF ANTITRUST ECONOMICS 391 (Paolo Buccirossi ed., 2008); Daniel P. O'Brien, *The Antitrust Treatment of Vertical Restraints: Beyond the Possibility of Theorems*, in THE PROS AND CONS OF VERTICAL RESTRAINTS 40 (Swedish Competition Auth. ed., 2008), available at [http://www.konkurrensverket.se/upload/Filter/Trycksaker/Rapporter/Pros&Cons/rap\\_pros\\_and\\_cons\\_vertical\\_restraints.pdf](http://www.konkurrensverket.se/upload/Filter/Trycksaker/Rapporter/Pros&Cons/rap_pros_and_cons_vertical_restraints.pdf).

26. See, e.g., *infra* note 31.

are inevitable, not because the economic theory is demonstrably wrong or inadequate (although sometimes it may be), but rather because reliance on the theory may be inappropriate.<sup>27</sup>

Consider, for example, economic knowledge concerning the relationship between market concentration and price. During the late 1950s and early 1960s, economic analysis viewed market concentration and oligopolistic collusion as the “principal defect of present antitrust law.”<sup>28</sup> Scholars urged Congress to pass new legislation aimed at reducing market concentration across the economy, and a White House Task Force Report on Antitrust Policy endorsed various forms of such proposals.<sup>29</sup> Case law of the era largely mirrored this economic analysis,<sup>30</sup> and as the analysis has been debunked, the case law has come to be universally criticized.<sup>31</sup>

Even at the time, dissenting Justices scrutinized economic errors and contradictions in the Court’s analyses. In his dissent in *Von’s Grocery v. United States*,<sup>32</sup> for example, Justice Stewart noted that “even the most superficial analysis of the record makes plain the fallacy of the Court’s syllogism that competition is necessarily reduced when the bare number of competitors has declined.”<sup>33</sup> Nor did the relationship between antitrust error and innovation escape Justice Stewart, who admonished the majority in *Von’s Grocery* that “[the Clayton Act] was never intended by Congress for use by the Court as a charter to roll

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27. See generally Michael R. Baye & Joshua D. Wright, *Is Antitrust Too Complicated for Generalist Judges? The Impact of Economic Complexity & Judicial Training on Appeals*, J.L. & ECON. (forthcoming 2010) (finding a statistically significant tendency for economically trained judges to perform better in simple antitrust cases, but not those involving sophisticated economic evidence).

28. CARL KAYSEN & DONALD F. TURNER, *ANTITRUST POLICY: AN ECONOMIC AND LEGAL ANALYSIS* 110 (1959).

29. Phil C. Neal et al., *Report of the White House Task Force on Antitrust Policy*, 2 *ANTITRUST L. & ECON. REV.* 11, 14–15, 65–76 (1968–69).

30. *FTC v. Procter & Gamble Co.*, 386 U.S. 568 (1967); *United States v. Pabst Brewing Co.*, 384 U.S. 546 (1966); *United States v. Von’s Grocery Co.*, 384 U.S. 270 (1966); see also William E. Kovacic & Carl Shapiro, *Antitrust Policy: A Century of Legal and Economic Thinking*, 14 *J. ECON. PERSP.* 43, 51–52 (2000); William E. Kovacic, *The Influence of Economics on Antitrust Law*, 30 *J. ECON. INQUIRY* 294, 295–96 (1992) (describing the features of the U.S. competition policy system that give economists a major role in shaping antitrust rules).

31. See generally ROBERT H. BORK, *THE ANTITRUST PARADOX* (1993); Posner, *supra* note 10.

32. 384 U.S. 270 (1966).

33. *Id.* at 287 (Stewart, J., dissenting).

back the supermarket revolution” and made the obvious economic point that “the numerical decline in the number of single-store owners is the result of transcending social and technological changes that positively preclude the inference that competition has suffered because of the attrition of competitors.”<sup>34</sup> But the costly errors in *Von’s Grocery* and other cases from that era were largely attributable to the Court’s reliance on, rather than rejection of, then-current economic science.

Without a serious methodological commitment to economic science, the incorporation of economics into antitrust is merely a façade, allowing regulators and judges to select whichever economic model fits their earlier beliefs or policy preferences rather than the model that best fits the real-world data. Still, economic theory remains essential to antitrust law. Economic analysis constrains and harnesses antitrust law so that it protects consumers rather than competitors. It is also responsible for the successful evolution of antitrust from its economically incoherent origins to its present state. Thus, a fundamental challenge for antitrust is the existence of too many theories without methodological commitments from regulators and courts on how to select among them.

As a result of the proliferation of economic models that came with the rise of post-Chicago economics, the integration of game theory into industrial organization, and the increasing calls to incorporate insights from behavioral economics into antitrust and competition policy, regulators and courts now have a broad spectrum of models to choose from when analyzing an antitrust issue. At the same time, antitrust law does not provide these decisionmakers with sensible criteria for selecting which model to use. Taken to the extreme, this model-selection problem threatens to strip the disciplining force that economics has placed on antitrust law. This disciplining force has played a key part of the successful evolution of antitrust law over the last fifty years.<sup>35</sup> The power of the error-cost framework is that it allows regulators, judges, and policymak-

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34. *Id.* at 288.

35. See Joshua Wright, *Commissioner Rosch, Rhetoric, and the Relationship Between Economics and Antitrust*, TRUTH ON THE MARKET (June 12, 2009, 11:55 AM), <http://www.truthonthemarket.com/2009/06/12/commissioner-rosch-rhetoric-and-the-relationship-between-economics-and-antitrust/>; see also Baye & Wright, *supra* note 27.

ers to harness the power of economics (and state of the art theory and evidence) through the formulation of simple and sensible filters and safe harbors, rather than convert themselves into amateur econometricians, game theorists, or behaviorists.

Innovation has the potential to magnify these errors in two important ways. First, innovation, by definition, generally involves new business practices or products. Antitrust authorities historically have not treated novel business practices or innovative products kindly, and economists have a longstanding tendency to ascribe anticompetitive explanations to new forms of conduct that are not well understood. As Nobel Laureate Ronald Coase described in lamenting the state of the industrial organization literature:

[I]f an economist finds something—a business practice of one sort or other—that he does not understand, he looks for a monopoly explanation. And as in this field we are very ignorant, the number of ununderstandable practices tends to be very large, and the reliance on a monopoly explanation, frequent.<sup>36</sup>

With the increasing integration of economic concepts into antitrust law and almost universal agreement that modern economics contains useful tools for incorporating innovation effects into traditional antitrust analysis,<sup>37</sup> the antimarket bias described by Professor Coase is likely to produce even more significant policy consequences in modern antitrust. From an error-cost perspective, the critical point is that antitrust scrutiny of innovation is likely to be biased toward assigning a higher likelihood that a given practice is anticompetitive than later literature and evidence will ultimately suggest is reasonable or accurate.

Second, this bias toward committing Type I error is further skewed because economists generally know much less about the relationship between competition, innovation, and consumer wel-

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36. Ronald H. Coase, *Industrial Organization: A Proposal for Research*, in POLICY ISSUES AND RESEARCH OPPORTUNITIES IN INDUSTRIAL ORGANIZATION 59, 67 (Victor R. Fuchs, ed., 1972). For more modern critiques of the industrial organization literature in the same vein, see Evans & Padilla, *supra* note 10, at 73; Bruce H. Kobayashi, *Game Theory and Antitrust: A Post Mortem*, 5 GEO. MASON L. REV. 411 (1997); Timothy J. Muris, *Economics and Antitrust*, 5 GEO. MASON L. REV. 303 (1997).

37. ANTITRUST MODERNIZATION COMM'N, REPORT AND RECOMMENDATIONS 32 (2007) (recommending that "in industries where innovation, intellectual property, and technological change are central features . . . antitrust enforcers should carefully consider market dynamics in assessing competitive effects").

fare than they do about standard price competition.<sup>38</sup> The anti-trust community appears to endorse enthusiastically the propositions that antitrust analysis should more rigorously incorporate dynamic efficiencies and innovation effects, and that it could comfortably do so within its current analytical framework. The Anti-trust Modernization Commission, for example, has stated that: "Current antitrust analysis has a sufficient grounding in economics and is sufficiently flexible to reach appropriate conclusions in matters involving industries in which innovation, intellectual property, and technological change are central features."<sup>39</sup>

This assertion is almost certainly overstated. Although we know that innovation is critical to economic growth, the theoretical literature relating to competition and innovation remains insufficient to instill any great confidence in our ability to determine which antitrust policies will encourage innovation and result in net consumer welfare gains. Specifically, our ability to apply antitrust standards depends on our ability to predict how a rule will impact the mixture of competitive forms that will exist after the policy is implemented and to rank these mixtures on consumer welfare or efficiency criteria.<sup>40</sup> On this dimension, current economic theory is indeterminate at best.<sup>41</sup>

Moreover, it is enormously difficult to identify when a specific application of the theory can be rejected. This difficulty is a key cause of both economists' incentives to identify theoretical possibilities of anticompetitive behavior and the "inhospitality" tradition of enforcers to take advantage of it. "Whenever an anti-trust court is called upon to balance efficiency against monopoly,

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38. See, e.g., Robert Cooter, *Information, Capital Markets, and Planned Development: An Essay*, in REGULATING INNOVATION: COMPETITION POLICY AND PATENT LAW UNDER UNCERTAINTY (Geoffrey A. Manne & Joshua D. Wright eds., forthcoming 2011), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1462489](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1462489); Joshua D. Wright, *Antitrust, Multi-Dimensional Competition, and Innovation: Do We Have An Antitrust Relevant Theory of Competition Now?*, in REGULATING INNOVATION: COMPETITION POLICY AND PATENT LAW UNDER UNCERTAINTY (Geoffrey A. Manne & Joshua D. Wright eds., forthcoming 2011), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=142489](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=142489).

39. ANTITRUST MODERNIZATION COMM'N, *supra* note 37, at 38.

40. See Wright, *supra* note 35.

41. Richard J. Gilbert, *Competition and Innovation*, in 1 ISSUES IN COMPETITION LAW AND POLICY 577, 583 (W. Dale Collins ed., 2008) ("Economic theory does not provide unambiguous support either for the view that market power generally threatens innovation by lowering the return to innovative efforts or for the Schumpeterian view that concentrated markets generally promote innovation.").

there is trouble; legal uncertainty, and the likelihood of error, soar.”<sup>42</sup> Certainly an exclusionary innovation is not always anticompetitive. Even an innovation that might be anticompetitive sometimes will unlikely be anticompetitive all the time. Thus, a key critique of the modern industrial organization literature and its possibility theorems involving anticompetitive behavior has been that it fails to produce consistent, testable implications.<sup>43</sup> Indeed, a review of the leading modern industrial organization textbooks and literature surveys reveals game-theoretic models identifying conditions under which almost every contractual arrangement, product innovation, or business activity could result in consumer harm.<sup>44</sup>

The critical point is that innovation is closely related to antitrust error. Because innovation involves new products and business practices, courts’ and economists’ initial misunderstanding of these practices will increase the likelihood that they view the innovation as anticompetitive and subject to antitrust scrutiny. That modern antitrust analysis relies even more heavily on economics exacerbates this problem. This bias is likely to do even more damage when economists have less systematic theoretical and empirical knowledge about the relationship between competition and innovation on policy-relevant margins than they do about other traditional forms of competition.

The stakes are also higher in cases involving innovation than in a regular antitrust case. Although the empirical literature does not contain reliable information on the relative magnitudes of Type I and Type II error costs, the well-established empirical link between innovation and economic growth tells

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42. Posner, *supra* note 10, at 7.

43. See generally Baye & Wright, *supra* note 27; Evans & Padilla, *supra* note 10. In addition to a general insensitivity to the facts and market conditions of the particular cases in which these theorems are to be applied, as noted above, the literature is particularly insensitive to the institutional and political economy limitations of enforcers and courts.

44. See, e.g., JEAN TIROLE, THE THEORY OF INDUSTRIAL ORGANIZATION (1988); see also Timothy J. Muris, Comments on Antitrust Law, Economics, and Bundled Discounts 7 (July 15, 2005), available at [http://govinfo.library.unt.edu/amc/commission\\_hearings/pdf/Muris.pdf](http://govinfo.library.unt.edu/amc/commission_hearings/pdf/Muris.pdf) (“In the same way that a visitor from Mars who reads only the mathematical IO literature could mistakenly conclude that the U.S. economy is rife with monopoly power, it would be a mistake to infer that the growing volume of theoretical papers examining bundling or bundled rebates as an exclusionary device implies that there is *any* growing or significant danger from the anticompetitive use of bundling.”).

us that the stakes of error are much higher.<sup>45</sup> Additionally, new goods are generally quite valuable, and the cost of deterring the introduction of new goods and expenditures on innovation, both of which are potentially costly and extremely risky, is high.<sup>46</sup> For the same reason, regulatory interventions of all sorts, especially antitrust ones, against a product innovation are particularly risky. Type I errors are likely to be significantly more costly than Type II errors because market forces offer at least a partial corrective in the case of the latter. In the innovation context, successful antitrust challenges of business or product innovations will likely dampen innovation across the economy, whereas Type II errors are at least mitigated in part by entry and other competition.

Although some innovations—particularly technological advances—are evident, others may be somewhat more difficult to identify but nonetheless generate enormous welfare gains for consumers.<sup>47</sup> It is because of these dynamic and often unanticipated consequences of technological innovation that both the likelihood and social cost of erroneous interventions against innovation are increased. Less obviously, but of at least equal importance, business innovations—innovations in organization, production, marketing, or distribution—can have similar, far-reaching consequences.<sup>48</sup>

Unfortunately, a significant portion of important antitrust cases can be characterized as interventions undertaken under uncertainty, in the face of a novel business practice or product, relying on fundamentally flawed or misapplied economic analysis, later demonstrated to have been mistaken.<sup>49</sup> In some cases the courts correct the error of the initial enforcement or litigation decision; in most cases they do not.

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45. See, e.g., Charles I. Jones & John C. Williams, *Measuring the Social Return to R&D*, 113 Q.J. ECON. 1119 (1998) (estimating that the social return to research and development investment far exceeds the private return, meaning existing incentives for innovation are already lower than optimal).

46. See Jerry A. Hausman, *Valuation of New Goods under Perfect and Imperfect Competition*, in *THE ECONOMICS OF NEW GOODS* 209 (Timothy F. Bresnahan & Robert J. Gordon eds., 1997); see also Easterbrook, *supra* note 10, at 15 (stating that the cost of deterring beneficial conduct is high).

47. See, e.g., Hausman, *supra* note 46 (discussing the consumer welfare gains from new product introductions and product line extensions).

48. See OLIVER E. WILLIAMSON, *MARKETS AND HIERARCHIES: ANALYSIS AND ANTITRUST IMPLICATIONS* (1975).

49. See *supra* notes 22–25 and accompanying text.



When viewed through the error-cost lens, the combination of (1) the antimarket bias in favor of monopoly explanations for innovative conduct that courts and economists do not understand, and (2) the increased stakes of antitrust intervention against innovative business practices is problematic from a consumer welfare perspective.

A proper application of error-cost principles would deter intervention in cases meeting the two criteria until empirical evidence could be amassed and assessed. But it is precisely when these factors are met, unfortunately, that intervention is more likely. On the one hand, the increased likelihood of intervention might be because in the absence of information disproving a presumption of anticompetitive effect, there is an easier case to be made against the conduct—despite putative burden-shifting rules that would place the onus on the complainant. On the other hand, successful innovations are also more likely to arouse the ire of competitors and customers, and thus both their existence and negative characterization are more likely to be brought to the attention of courts and enforcers—abetted in private litigation by the lure of treble damages.

This hostile stance toward novel economic behavior and the institutionalization of laws and processes that tend to condemn innovative behavior absent clear procompetitive justification are particularly problematic because there may be only a weak connection between corporate actors' actions and their consequences. Judge Easterbrook highlights this problem:

Wisdom lags far behind the market. It is useful for many purposes to think of market behavior as random. Firms try dozens of practices. Most of them are flops, and the firms must try something else or disappear. Other practices offer something extra to consumers—they reduce costs or improve quality—and so they survive. In a competitive struggle the firms that use the best practices survive. Mistakes are buried.

Why do particular practices work? The firms that selected the practices may or may not know what is special about them. They can describe *what* they do, but the *why* is more difficult. Only someone with a very detailed knowledge of the market process, as well as the time and data needed for

evaluation, would be able to answer that question. Sometimes no one can answer it.<sup>50</sup>

It makes little sense to demand that economic actors identify, understand, and assess the procompetitive, profit-maximizing basis for their behavior, as they are hampered by “imperfect foresight and human inability to solve complex problems containing a host of variables even when an optimum is definable.”<sup>51</sup>

*A fortiori*, cognitive limitations apply even more strongly to regulators and courts. Such limitations should counsel enforcers against assuming that unexplained, novel economic behavior (or worse, the anticompetitive intentions of economic actors) has anticompetitive consequences. Yet such speculative assumptions are as frustratingly common as they are problematic.

Consider, for example, the *Microsoft* case.<sup>52</sup> *Microsoft* offers the standard jurisprudential approach for high-tech monopolization cases. The fundamental error in *Microsoft* was not necessarily in the court’s conclusion, but rather in its approach to assessing the complex and novel economics of the case. At first, the court’s approach to fairly standard categories of specific exclusionary conduct undertaken by Microsoft (for example, its interactions with Netscape), seems fact-specific, difficult to generalize, and relatively uncontroversial for a case involving a finding of monopoly power.<sup>53</sup>

The court’s approach to the monopoly power determination itself, however, is more troubling.<sup>54</sup> The court bases this determination on tenuous economic assumptions, ad hoc resolution of complex economic disputes, and a dearth of direct economic evidence.<sup>55</sup> Predictably, the court based its decision on the presumed implications of a theoretical analysis of a set of market conditions and business conduct that, the court says, grants market power to Microsoft.<sup>56</sup> There was an unfortunate

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50. Easterbrook, *supra* note 10, at 5.

51. Armen A. Alchian, *Uncertainty, Evolution, and Economic Theory*, 58 J. POL. ECON. 211, 212 (1950).

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

53. *Id.* at 47–50.

54. *Id.* at 50–58.

55. *Id.* at 56–58.

56. *Id.* at 50–58.

lack of evidence of harm to the competitive process from specific acts that resulted in monopoly power,<sup>57</sup> which is a requirement of modern Sherman Act jurisprudence.<sup>58</sup>

The court's approach shunned Microsoft's offer of direct evidence on market power, instead substituting a set of conclusions built on controversial economic theory without empirical support.<sup>59</sup> Such an approach is particularly problematic not only in the face of the court's ignorance about the economics and technology involved, but also the economic ramifications of over-detering investment in innovative technologies and business practices.

The remainder of this Article will discuss the application of the principles of the error-cost framework to what may be the next great monopolization case: Google. Even if the government never brings an enforcement action against Google, the hypothetical case presents a fascinating set of facts.<sup>60</sup> In particular, although most commentators seem to view Google largely as a product innovator,<sup>61</sup> it is in fact both a product innovator and a business innovator. Moreover, the two categories of innovation are inextricably intertwined, perhaps multiplying the likelihood of erroneous antitrust enforcement decisions. In the absence of obvious exclusionary business practices or innovations, Google may well escape significant government antitrust attention or liability. Google presents a unique melding of business and product innovation, and thus is an interesting and important case for study.

### III. THE UNCERTAIN ECONOMICS OF GOOGLE'S BUSINESS AND MARKET

Antitrust agencies and commentators have already taken significant interest in Google. The United States Department of Justice (DOJ) investigated Google's proposed joint venture with

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57. *See id.* at 56–58.

58. *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004).

59. *See Microsoft*, 253 F.3d at 50–58.

60. Google already has defended several private antitrust suits—surely this will not be the last. *See, e.g., Kinderstart.com, LLC v. Google, Inc.*, No. C06-2057JF(RS), 2007 WL 831806 (N.D. Cal. Mar. 16, 2007).

61. *See, e.g., Ben Elgin, Managing Google's Idea Factory*, *BUSINESSWEEK* (Oct. 3, 2005), <http://www.businessweek.com/magazine/contents/05-40/63953093.htm>.

Yahoo!,<sup>62</sup> and the Federal Trade Commission (FTC) continues to investigate Google and Apple's interlocking boards.<sup>63</sup> Google faces ongoing scrutiny (and a formal DOJ investigation) for its settlement of a suit arising from its Google Books project.<sup>64</sup> Moreover, Google has faced a full antitrust review in multiple jurisdictions of its merger with DoubleClick,<sup>65</sup> full review by the FTC of its merger with AdMob,<sup>66</sup> and has also been the target of private litigation, including antitrust claims.<sup>67</sup>

Google is likely to face antitrust enforcement for several reasons. First, Google is a large, dominant, interesting, innovative, and high-tech company. If *Microsoft* is an analogue, then each of these factors likely will provoke untoward antitrust scrutiny. Additionally, Google faces powerful competitors that feel threatened by Google's success<sup>68</sup> and the ubiquitous brand that Google enjoys. It conducts business in the high-tech world, from whence almost all modern monopolization cases come. Moreover, its business is information, the economics of which is poorly understood and of peculiar concern in today's world of ultra-low-transaction cost communication.<sup>69</sup>

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62. See, e.g., Stephen Shankland, *Yahoo-Google Deal Doomed? No, They Insist*, CNET.COM NEWS, Oct. 21, 2008, [http://news.cnet.com/8301-1023\\_3-10071478-93.html](http://news.cnet.com/8301-1023_3-10071478-93.html).

63. Paul Suarez, *FCC on Apple, DOJ on Google – the Feds are Tackling Tech*, PC WORLD (Sept. 19, 2009), [http://www.pcworld.com/article/172295/fcc\\_on\\_apple\\_doj\\_on\\_google\\_the\\_feds\\_are\\_tackling\\_tech.html](http://www.pcworld.com/article/172295/fcc_on_apple_doj_on_google_the_feds_are_tackling_tech.html).

64. Miguel Helft, *Justice Dept. Opens Antitrust Inquiry Into Google Books Deal*, N.Y. TIMES, Apr. 29, 2010, at B5, available at <http://www.nytimes.com/2009/04/29/technology/internet/29google.html>. Note the DOJ's brief in the case, the court's grant of a delay and ongoing renegotiations.

65. Steve Lohr, *Google Deal Said to Bring U.S. Scrutiny*, N.Y. TIMES, May 29, 2007, at C1, available at <http://www.nytimes.com/2007/05/29/technology/29antitrust.html>; Press Release, Fed. Trade Comm'n, Fed. Trade Comm'n Closes Google/DoubleClick Investigation (Dec. 20, 2007), available at <http://www.ftc.gov/opa/2007/12/googledc.shtm>.

66. Press Release, Fed. Trade Comm'n, FTC Closes its Investigation of Google AdMob Deal (May 21, 2010), available at <http://ftc.gov/opa/2010/05/ggladmob.shtm>.

67. See *Kinderstart.com, LLC v. Google, Inc.*, No. C06-2057JF(RS), 2007 WL 831806 (N.D. Cal. Mar. 16, 2007).

68. Nicholas Thompson & Fred Vogelstein, *The Plot to Kill Google*, WIRED (Jan. 19, 2009), [http://www.wired.com/techbiz/it/magazine/17-02/ff\\_killgoogle](http://www.wired.com/techbiz/it/magazine/17-02/ff_killgoogle).

69. On the economics of information, economists have progressed little since Professor George Stigler's important account of the economics of information and the importance of search—of obvious salience here. See George J. Stigler, *The Economics of Information*, 69 J. POL. ECON. 213 (1961). Although much of the economics of networks and information technology has made important advances, Professor

Defining relevant antitrust markets for Google, therefore, poses an interesting problem: Google performs a fairly traditional function, but in a novel medium, and the economics of its business are poorly understood. As a result, whether Google's businesses—particularly its advertising businesses—exist in the same economically relevant market as more traditional forms of advertising remains unclear. Many of Google's innovations have served to differentiate its product from more traditional versions—offering, for example, much more targeted advertising than is possible in many other settings. Thus, not only the medium but also Google's technological and business innovations differentiate it from more traditional competitors.

Google appears to have a large share of some markets in which it participates. Whether these large shares are economically relevant is a difficult, but essential, question. The answer turns not only on whether the market is properly defined, but also on whether we understand the implications of high concentration and the nature of competition and contestability in these markets. Moreover, Google's particular contractual and pricing practices are undertaken in an uncertain context, generally unanticipated by current models and often misunderstood by businessmen and policymakers alike.

Finally, Google has extremely active competitor-complainants and confronts a relatively hostile antitrust enforcement community that rejects the error-cost concerns raised earlier in this Article.<sup>70</sup> Whether enforcers' hostility is rooted in ideological predisposition to alternative models, or a stringent preference for more interventionist antitrust policy, it nonetheless threatens to cast a broad shadow over Google's future business decisions.

The difficulty is in parsing out the difference between anti-competitive conduct undertaken by a monopolist and "growth or development as a consequence of a superior product, business acumen, or historic accident."<sup>71</sup> This differentiation is particularly difficult to make in the environment of uncertainty and problematic incentives that Google faces. The remainder of this Part offers an overview of Google's business and the markets in which it op-

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Stigler's (and Friedrich von Hayek's) fundamental point that information is a good like any other, subject to the economics of scarcity, still undergirds our understanding today.

70. See *supra* Part II; see also Varney, *supra* note 3.

71. *United States v. Grinnel Corp.*, 384 U.S. 563, 571 (1966).

erates. The discussion is intended to highlight some of the complexities of Google's business structure and some of the basic dynamics of Google's markets, including the role of network effects in its primary search advertising business.

Although Google engages in a wide array of businesses and sells a wide array of products, its antitrust challenges to date (with the exception of its ambitious Google Book project) have centered around its search and display advertising businesses. Indeed, Google's core is in the advertising business.<sup>72</sup> Our discussion centers most heavily on Google's search advertising business, where Google has the most significant presence. To the extent that we discuss Google's display advertising business, it is largely ancillary to the discussion of its search advertising business.

#### A. *Some Basics of Online Search*

When a user enters a query on Google's search website, two types of results are generated: organic or natural results and sponsored or paid links.<sup>73</sup> Google's organic search results are generated at no direct cost to the websites to which they link.<sup>74</sup> Google's search engine reviews webpage content and produces a list of the pages most relevant to each user's particular search query.<sup>75</sup> The search engine also assesses how relevant a website's content is to a user's query by looking at how many other relevant websites link to it.<sup>76</sup> The final organic results are located on the left-hand side of Google's search results page.<sup>77</sup>

Google's sponsored links are produced for businesses interested in advertising and willing to pay Google when users click on their ads.<sup>78</sup> Advertisements are generated by the keywords a user enters into Google's search engine.<sup>79</sup> Sponsored links are lo-

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72. See KEN AULETTA, *GOOGLED: THE END OF THE WORLD AS WE KNOW IT* 16 (2009) (quoting Google CEO Eric Schmidt as saying, "We are in the advertising business").

73. *Results Page*, GOOGLEGUIDE, [http://www.googleguide.com/results\\_page.html](http://www.googleguide.com/results_page.html) (last visited Nov. 6, 2010).

74. *Ads*, GOOGLEGUIDE, <http://googleguide.com/ads.html> (last visited Nov. 6, 2010).

75. *Id.*

76. *Results*, *supra* note 73.

77. *Ads*, *supra* note 74.

78. *Id.*

79. *Id.*

cated on the top or right-hand side of the search results page.<sup>80</sup> The majority of Google's revenue comes from the sale of sponsored links and other similarly generated search advertisements.<sup>81</sup>

Google's products—whether organic or paid—are built on its innovative PageRank method, an algorithm developed by Larry Page and Sergey Brin, who founded Google.<sup>82</sup> Similar ranking systems are now used on most each engines. PageRank remains an essential part of Google's search business, but is embedded within a complex set of additional innovations, some of which facilitate the sale of search results to advertisers. In addition to PageRank, Google's search results are built on a host of innovative technologies, including:

[1.] language models (the ability to handle phrases, synonyms, diacritics, spelling mistakes, and so on), [2.] query models (it's not just the language, it's how people use it today), [3.] time models (some queries are best answered with a 30-minute old page, and some are better answered with a page that stood the test of time), and [4.] personalized models (not all people want the same thing).<sup>83</sup>

The amount that Google charges for sponsored links is calculated according to a keyword auction conducted through Google's AdWords platform.<sup>84</sup> These auctions are automated based on a set of parameters specified by each advertiser, and they occur instantaneously each time a keyword is entered into Google's search engine.<sup>85</sup> An advertiser who places a higher bid for a keyword will receive better placement of its advertisements when a user enters that keyword as part of his search.<sup>86</sup> Additionally, Google employs an innovative quality metric that adjusts the placement and cost to the advertiser of sponsored links based on the links' relevance to the search query and the quality of the underlying webpage.<sup>87</sup> Advertisers pay Google

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80. *Id.*

81. VIRGINIA SCOTT, COMPANIES THAT CHANGED THE WORLD: GOOGLE 76 (2008).

82. AMY N. LANGVILLE & CARL DEAN MEYER, GOOGLE'S PAGERANK AND BEYOND: THE SCIENCE OF SEARCH ENGINE RANKING 25 (2006).

83. Udi Manber, *Introduction to Google Search Quality*, THE OFFICIAL GOOGLE BLOG (May 20, 2008, 6:20 PM), <http://googleblog.blogspot.com/2008/05/introduction-to-google-search-quality.html>.

84. HOWIE JACOBSON, GOOGLE ADWORDS FOR DUMMIES 1-3 (2d ed., 2009).

85. *Id.*

86. *Id.*

87. *Ads, supra* note 74.

only if a user actually clicks on the displayed advertisement, and the amount they pay is generally a function of the next-highest bid and the quality score adjustment (where higher quality scores may result in lower costs).<sup>88</sup>

Google also receives advertising revenue by selling advertisements through its AdSense application. AdSense allows Google to place advertisements in designated spaces on third-party websites.<sup>89</sup> Like AdWords, Google's AdSense application displays advertisements based on the keywords a user enters as part of his query (if there is one) along with a quality score adjustment.<sup>90</sup> Again, advertisers pay Google only when a user clicks on the displayed advertisement.<sup>91</sup> Google then splits the revenue with the third-party website that hosted the advertisement.<sup>92</sup>

### B. Google's Market

A preliminary issue for assessing Google's business is determining the relevant market in which it operates. Although colloquially it is understood that Google is the dominant search and search advertising provider in an online search market comprised of Google, Microsoft, and Yahoo!, the antitrust relevance of this assessment is questionable.

The competitive landscape Google confronts is complex, and the company plainly faces competitive threats from a range of sources, both actual and potential; the notion of a well-cabined, "online search advertising market" is decidedly messy. The antitrust-specific question is whether this messiness is significant enough to cast doubt, absent viable econometric data, on the antitrust relevance of a simplified "online search advertising market." There is reason to be skeptical.

One set of facts, taken from Accuracast.com, a website recounting European search engine statistics from 2006–07, suggests a range of problems with the simplified market story. The website notes, among other things, that:

"On average searchers spent 27 minutes on search engines each month and viewed 93 search pages, accounting for 3.4%

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88. JACOBSON, *supra* note 84.

89. DAVID O'CONNELL, MAKING SENSE OF GOOGLE ADSENSE 4–8 (2008).

90. *Id.*

91. *Id.*

92. *Id.*



of total time spent online,” meaning that the vast majority of time spent online is spent on websites other than search engines—each of which presents a possible advertising outlet.

“Over 60% of search engine visitors use at least two different search engines,” meaning, as Google so often asserts, that competition really is “just a click away” for a significant number of users.

“Many users use a search engine as their point of entry to the Internet,” but many do not—suggesting that it is important to investigate how these alternative internet access portals (including vertical search engines, social media sites, and direct retail sites) compete with search engines.

“Searcher behavior varies on different search engines,” suggesting that users may optimize for different search engine characteristics, permitting successful product differentiation.

“62% of advertisers surveyed said they plan to increase search marketing spend [sic] over the next 12 months,” suggesting increasing advertising budgets devoted to online outlets and increasing pressure on the trade-off between traditional and online advertising.

“The main objective for most search marketers is to generate online sales and build brand awareness,” hardly surprising, but important to note that online search advertising is not only about generating sales, but also about the sort of brand marketing associated with traditional advertising.

“The main problem advertisers face was found to be increasing [sic] competition,” an important and unsurprising fact suggesting diminishing returns to scale, the absence of direct network effects, and an important opportunity for less-congested competitors to attract advertising revenues.

“Mobile search, video search, and pay per call are areas where advertisers plan to spend more in 2007.” This indicates that online search advertising faces competition from other non-traditional sources, as well, and the source of future competitive threats is uncertain.<sup>93</sup>

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93. *Search Engine Statistics for 2006–2007*, ACCURACAST (Feb. 28, 2007), <http://www accuracast.com/seo-weekly/se-statistics.php>.

These are hardly scientific assessments or a full blown economic analysis, but these facts and their implications do suggest that an assessment of the true economically-relevant market for search advertising is an extremely complicated endeavor. The assessment is highly prone to error and certainly more nuanced than colloquial assessments would suggest. That colloquial observations identify a given market by a specific product within that market does not obviate the need for critical, evidence-based analysis of the relevant product market in which Google operates.

In the absence of specific econometric data to determine the cross-elasticities of supply and demand, we are stuck with a more imprecise and qualitative assessment of Google's relevant market. Even a qualitative assessment, however, reveals that Google's market is almost certainly either broader or narrower than the presumed "online search advertising" market.

The first question is whether Google operates in a broad advertising market including all or most forms of advertising, both online and offline. There is actually substantial reason to doubt the propriety of a narrow market definition limited to merely online search advertising. In the first place, the general defense of the proposition is neither economic nor econometric, but anecdotal: Some advertisers suggest that they do not view print and online advertising as competitors, nor search, contextual, or display advertising as competitors.<sup>94</sup> But other advertisers clearly see the connection, especially within the constraints of limited advertising budgets. One survey of 200 online retailers found that "online advertisers do in fact perceive the three channels of online advertising [search, display and contextual] as substitutes."<sup>95</sup> Among other things, the survey found that "[i]n weighted terms, respondents representing 83 percent of all ad spending view graphic ads and search ads as substitutes."<sup>96</sup> At least one court has likewise determined

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94. See Fed. Trade Comm'n, Statement Concerning Google/DoubleClick, FTC File No. 071-0170, at 3 (Dec. 20, 2007), available at <http://www.ftc.gov/os/caselist/0710170/071220statement.pdf> ("Thus, search engines provide a unique opportunity for advertisers to reach potential customers. Advertisers view online content providers differently.").

95. Robert W. Hahn & Hal J. Singer, *An Antitrust Analysis of Google's Proposed Acquisition of DoubleClick* 5, 24-32 (AEI-Brookings Joint Center for Regulatory Studies, Working Paper No. 07-24, 2008), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1016189](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1016189).

96. *Id.* at 29.

that all forms of at least online advertising are in the same relevant market for antitrust analysis.<sup>97</sup>

Even where the purpose is different between the different types of advertising—brand recognition for display ads, efforts to sell for search ads—this is merely a difference in degree. Both are forms of reducing the costs of search a la Stigler<sup>98</sup>—and the relevant question is whether the difference is significant enough to render decisions in one market essentially unaffected by decisions or prices in the other.

There is some additional anecdotal evidence that this is not the case. One recent example is Pepsi's decision not to buy television advertising during the Super Bowl in 2010 to focus instead on a particular type of online campaign. "This year for the first time in 23 years, Pepsi will not have ads in the Super Bowl telecast. . . . Instead it is redirecting the millions it has spent annually to the Internet."<sup>99</sup> Would Pepsi's decision have been different if online advertising were somewhat more expensive? One logically has to assume that it would (although we do not know how inelastic its demand is) given that apparently financial constraints impelled Pepsi to forbear from certain expensive (and highly sought after) television advertising at the same time as engaging in its Internet strategy.<sup>100</sup>

Another study suggests that there is indeed a trade-off between online and more traditional types of advertising: Avi Goldfarb and Catherine Tucker demonstrate that display advertising pricing is sensitive to the availability of offline alternatives.<sup>101</sup> Companies have limited advertising budgets, distributed across a broad

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97. See *KinderStart.com LLC v. Google, Inc.*, No. C06-2057JF(RS), 2007 WL 831806 at \*6 (N.D. Cal. Mar. 16, 2007) (noting that "there is no logical basis for distinguishing the Search Ad Market from the larger market for Internet advertising"); *Person v. Google Inc.*, 456 F. Supp. 2d. 488 (S.D.N.Y. 2006).

98. GEORGE JOSEPH STIGLER, *THE ORGANIZATION OF INDUSTRY* 201 (Univ. of Chi. Press 1983) (1968).

99. Larry D. Woodard, *Pepsi's Big Gamble: Ditching Super Bowl for Social Media*, ABC NEWS, Dec. 23, 2009, <http://abcnews.go.com/print?id=9402514>.

100. Meanwhile, many advertisers do manage comprehensive advertising budgets that allocate spending between online and other media depending on a combination of effectiveness and price. This is hardly surprising.

101. Avi Goldfarb & Catherine Tucker, *Search Engine Advertising: Pricing Ads to Context* 96 (NET Institute Working Paper No. 07-23, 2007), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1021451&rec=1&srcabs=10084](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1021451&rec=1&srcabs=10084) (determining the price of "ambulance chaser" lawyer ads was significantly more expensive in states prohibiting direct mail solicitation by attorneys).

range of media and promotional efforts. As one commentator notes: "By 2011 web advertising in the United States was expected to climb to sixty billion dollars, or 13 percent of all ad dollars. This meant more dollars siphoned from traditional media, with the largest slice probably going to Google."<sup>102</sup>

At least one study concludes that online and offline advertising are not economically-relevant substitutes,<sup>103</sup> and no doubt these interactions and cross-elasticities are complicated, nuanced, and difficult to detect, isolate, and identify with certainty. Nevertheless, this study was limited to local advertising. While the reverse dynamic probably also exists (that is, online-only retailers probably find offline advertising less effective than online advertising<sup>104</sup>), the presence of a significant enough number of national or international advertisers without an online-only presence can exert a significant competitive pressure on advertising prices both online and offline, even if local-only advertising is not a significant constraint on online advertising.<sup>105</sup>

Advertising revenue on the Internet is driven initially by the size of the audience, with a significant multiplier for the likelihood that those consumers will purchase the advertisers' products<sup>106</sup> (based on a viewer's propensity to "click through" to the advertiser's site). Google's competition thus comes, in varying degrees, not only from other search sites, but also from any other

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102. AULETTA, *supra* note 72, at 16.

103. Leonard N. Reid et al., *Local Advertising Decision Makers' Perceptions of Media Effectiveness and Substitutability*, 18 J. MEDIA ECON. 35 (2005).

104. Although it is worth pointing out that Google itself recently advertised its online search on television during the Super Bowl.

105. And, not surprisingly, large national advertisers are among AdWords' top customers. During one thirty-day period in September 2009, the top five AdWords spenders included Progressive, Target, and Geico (the other two were Expedia and AOL, both of which have online-only presences). See *Biggest Online Ad Spenders with Adwords – Top PPC Advertisers*, FRUITION INTERNET MARKETING BLOG (Sept. 24, 2009), <http://fruition.net/ppc-management/biggest-online-ad-spenders-with-adwords-top-ppc-advertisers/>.

It should also be noted that the Goldfarb and Tucker study refutes even the claim that *local* advertisers do not see online and offline advertising as substitutes. See Goldfarb & Tucker, *supra* note 101, at 4 ("This implied substitutability of online and offline advertising suggests that when policy makers or market analysts seek to define advertising markets, they should consider both online and offline channels in their market definitions.").

106. David S. Evans, *The Economics of the Online Advertising Industry*, 7 REV. OF NETWORK ECON. 359, 359–60 (2008).

site that offers a service, product, or experience that consumers might otherwise obtain by first searching through Google.

Social media sites like Twitter and Facebook are therefore significant competitors as well, occupying, as they do, a considerable amount of Internet “eyeball” time. The Pepsi deviation of advertising revenue from the Super Bowl to the Internet is not likely to inure much to Google’s benefit as the strategy is a “social media play,” building on the expressed brand loyalties and peer communications that propel social media.<sup>107</sup> In a world of scarce advertising dollars and effective marketing via social media sites, Google and all other advertisers, online and off, must compete with the growing threat to their revenue from these still-novel marketing outlets. “If Facebook’s community of users got more of their information through [the Facebook] network, their Internet search engine and navigator might become Facebook, not Google.”<sup>108</sup>

Most obviously (and perhaps most significantly) Google faces competition from its own (and other search engines’) organic search results. As noted above, Google’s paid search results appear on search result pages alongside organic results.<sup>109</sup> Searchers—and thus advertisers—take advantage of different characteristics of the different types of search results and use organic and paid results accordingly, and the two sources of marketing plainly vie for advertising dollars:

Advertisers have been grappling with the trade-offs in each of these two forms of referrals. . . . Some anecdotal evidence suggests that there is a potential disconnect between the perception of sponsored listings by business and users, with consumers having a positive bias towards organic search listings . . . . Moreover, there is also some anecdotal evidence suggesting that paid search may lead to higher conversions than organic search . . . . These mixed findings then motivate the question regarding that to what extent should firms invest in sponsored search advertisements when they also ap-

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107. See Woodard, *supra* note 99.

108. AULETTA, *supra* note 72, at 172–73.

109. *Ads*, *supra* note 74.

pear in the organic listings for a given search query in that search engine.<sup>110</sup>

Advertising firms and the companies that hire them spread their marketing budgets across these different sources of online marketing, and “search engine optimizers”—firms that help websites to maximize the likelihood of a valuable “top-of-list” organic search placement—attract significant revenue.<sup>111</sup>

The relationship between organic and paid search results is nuanced. Both organic and paid search results compete for users’ eyeballs and clicks:

One distinction of the co-listing structure is that it creates two lists competing with each other for consumer attention. . . . [T]hose merchant websites interested in sponsored advertising may also appear in the organic list and thus could get significant attention from the organic list without paying anything. In this sense, the organic list not only competes for consumer attention but also plays a dominating role in such competition.<sup>112</sup>

The last point is particularly important, given that organic search results are available to advertisers at no cost paid to the search engine,<sup>113</sup> suggesting they could have a strong disciplining effect on a search engine’s ability profitably to charge a monopoly price.

More importantly, perhaps, the true interaction between paid and organic search results is exceedingly complex:

Compared to the case with no organic list, organic listing results in lower revenue for the search engine in general, whereas it may induce a higher level of social welfare and sales diversity. On the one hand, organic listing essentially subsidizes the leading advertisers in prominence for free to dilute their bidding incentive for sponsored slots, which hurts revenue for the

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110. Sha Yang & Anindya Ghose, *Analyzing the Relationship Between Organic and Sponsored Search Advertising: Positive, Negative or Zero Interdependence?*, 29 *MARKETING SCI.*, 602, 603 (2010).

111. See, e.g., Bo Xing & Zhanghi Lin, *The Impact of Search Optimization on Online Advertising Market*, in *ICEC 2006 PROCEEDINGS OF 8TH INTERNATIONAL CONFERENCE ON ELECTRONIC COMMERCE* 519 (2006).

112. Lizhen Xu et al., *Too Organic for Organic Listing? Interplay Between Organic and Sponsored Listing in Search Advertising* 1, 2–3 (McCombs Research Paper Series No. IROM-13-09, 2009), available at [http://www.mcombs.utexas.edu/news/research\\_calendar/IROM\\_Xu\\_10\\_16\\_09.pdf](http://www.mcombs.utexas.edu/news/research_calendar/IROM_Xu_10_16_09.pdf).

113. Advertisers may incur costs, nevertheless, through the process of search engine optimization in an effort to maximize the likelihood that they will secure a better placement in organic search results.

search engine. On the other hand, with a diluted incentive for leading advertisers, weak advertisers have a greater chance to win a prominent sponsored slot to complement their unsatisfactory prominence level in the organic list, which leads to a higher level of social welfare and sales diversity. From the search engine's perspective, organic listing serves as a balance between short-term and long-term benefit—sacrificing short-term revenue to enhance total welfare and sales diversity, which could lead to long-term prosperity of the online community and the search advertising industry.<sup>114</sup>

Although the extent of competition along these dimensions varies considerably by search term and by advertiser and industry characteristics, the existence of such competition suggests that relevant markets may be narrower or broader than presumed and market power difficult to determine. In either case, the complex interactions between organic and paid search results, which are at once both complements and substitutes, dramatically complicates the U.S. Department of Justice Merger Guidelines' traditional, narrowest-possible-market test.<sup>115</sup>

This raises an interesting caveat to the facile claims of well-defined advertising markets: many distinct search terms and their search results pages—each the product of a particular auction and a particular set of web pages crunched through Google's PageRank algorithm—would constitute separate relevant markets under a Small but Significant and Non-Transitory Increase in Price (SSNIP) test.<sup>116</sup> The SSNIP test, a staple of American antitrust analysis under the 1992 Horizontal Merger Guidelines, determines the appropriate scope of a product market by imposing a small but substantial non-transitive price increase upon a product and measuring the resulting elasticity of demand for the theoretical market.<sup>117</sup> Google does not set uniform prices for ad placements across keywords and auctions; rather, each keyword is priced in its own repeated auction. Nor is there much trade-off among search terms for scarce space on search results pages; rather, each search term generates its own results page, and there is little competition be-

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114. *Id.* at 6.

115. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES 7 (2010), available at <http://www.ftc.gov/os/2010/08/100819hmg.pdf>.

116. *Id.* §§ 8–10.

117. *Id.*

tween keywords for space. Consumers might complicate market determinations in narrower markets even further by bypassing search engines altogether. For example, Google might have no market power at all in the market for online book advertising if consumers go straight to online booksellers.

Thus, Google competes not only with other general search engines (and possibly all other forms of advertising) but also with so-called vertical search engines. These are search engines and e-commerce websites with search functionality that specialize in specific content: Amazon in books, music, and other consumer goods; Kayak in travel services; eBay in consumer auctions; WebMD in medical information and products; SourceTool in business-to-business supplies; and many others. To the extent that Internet users bypass Google and begin their searches at one of these specialized sites (as is increasingly the case), the value to these heavily-trafficked websites from advertising on Google decreases.<sup>118</sup> At the same time, these sites and other aggregators like them offer valuable advertising outlets for other websites and for manufacturers.

Competition from vertical search engines is intensified because click-through rates likely are higher when consumers are actively searching for something to buy—just as search advertising targets consumers who express some interest in a particular search term, the effect is magnified if the searcher can be identified as an immediate consumer. Thus online retailers like CDnow that can establish their own brands and their own navigation channels<sup>119</sup> can draw searchers—and advertisers—away from Google. That a consumer goes directly to a retail site with a search itself conveys important and valuable information to advertisers that is not otherwise available from most undifferentiated Google searches—it certainly increases the chance that the searcher is searching to buy a CD rather than learn something about the singer. Because this “ready-to-buy” traffic is the most valuable, there is a possibility of a separating equilibrium, with most high-value traffic bypassing search engines for direct retail sites, and with Google and other search

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118. For example, in the thirty days ending on February 23, 2010, less than ten percent of visits to eBay.com originated from a search engine. See *eBay.com Site Info*, ALEXA, <http://www.alexa.com/siteinfo/eBay.com> (last visited Nov. 6, 2010).

119. See Donna L. Hoffman & Thomas P. Novak, *How to Acquire Customers on the Web*, HARV. BUS. REV., May–June 2000, at 3, 5, 7.



engines serving primarily nontargeted, lower-value traffic. Amazon has even developed its own search engine, specialized for consumer searches.<sup>120</sup> The implication is that even relatively small-scale competition may present a potentially catastrophic threat to Google's search business.

Google faces competition from a number of sources and in a number of nuanced ways. Absent reliable empirical evidence, it is difficult to identify Google's antitrust-relevant market, but there is reason to doubt the traditional "online search advertising" market, because it ignores a number of important dynamics within that proposed market definition. Ultimately, any market definition should be established with econometric data and pertinent theories of supplier and consumer behavior. Absent this, any market power determinations that depend on intuition and market share calculations are suspect and likely to exacerbate already costly Type I error problems.

Most troublingly, however, reliable evidence of these (and other) complicated market dynamics may never be available, and as with the models of anticompetitive conduct criticized in Part II above, courts may end up forced to make market definition determinations based on incomplete evidence and unsupported theories that fail accurately to capture the complicated economics of consumer, advertiser, and supplier conduct. Efforts to gloss over these complications by relying on documentary proxies for economic relevance are another significant source of error in antitrust case law.<sup>121</sup>

### C. *The Importance of Quality Scores*

The heart of the dominant theory of Section 2 liability against Google relates to Google's use of quality scoring in influencing the outcome of its AdWords auctions. The quality score—introduced by Google and now used by all general search engines—is an important business innovation employing advanced algorithmic technology to maximize the relevance of search results and thus the value of the search engine to users, the likelihood of revenue-producing impressions to advertisers,

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120. INNOVATIONS IN SEARCH TECHNOLOGIES, <http://www.a9.com> (last visited Nov. 6, 2010).

121. See Geoffrey A. Manne & E. Marcellus Williamson, *Hot Docs vs. Cold Economics: The Use and Misuse of Business Documents in Antitrust Enforcement and Adjudication*, 47 ARIZ. L. REV. 609, 610 (2005).

and revenue to Google.<sup>122</sup> “Google’s introduction of click-through weighting [quality scores] in 2002 is regarded as an important competitive advantage and Yahoo!’s introduction of click-through weights into its ranking algorithm in early 2007 (“Panama”) was highly publicized as a critical improvement.”<sup>123</sup>

The basic idea behind the quality score is to predict in advance the likelihood that a particular advertisement will generate a clickthrough, and then ensure that the more relevant advertisements (those with higher clickthrough rates) receive higher placements in the paid search results (from which advertisers can expect more clickthrough and Google thus more revenue). Advertisers with lower quality scores are obligated to pay more per click to win higher search result positions than advertisers with better quality scores because top placement of less-relevant ads leads to lower revenue for the search engine and degrades the overall quality of the search engine’s relevance.

The basic intuition is this: a search engine wants to sell each ad impression—each placement in its paid search results—to the advertiser who is willing to pay the most for it, so it cares about cost per *impression*. The advertiser cares about cost per *click* (or cost per conversion, for which cost per click is a weak but more-readily-measurable proxy) which is what the advertiser must pay. The two are related by the following simple equation:

$$\text{cost per impression} = \text{cost per click} \times \text{clicks per impression}$$

“Clicks per impression” is the clickthrough rate (the rate at which users actually click on results they see on a search results page), which is the dominant component of the quality score.<sup>124</sup> Google’s quality score system—and that of all other general search engines, including Yahoo! and Microsoft’s Bing—thus allows it to sell impressions while advertisers buy clicks, permitting each simultaneously to maximize the relevant metric.

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122. JACOBSON, *supra* note 84.

123. Susan Athey & Glenn Ellison, *Position Auctions with Consumer Search 3* (Harvard Univ. & Mass. Inst. of Tech. Working Paper, No. D44,L86,M37, 2008) available at <http://kuznets.fas.harvard.edu/~athey/position.pdf>.

124. “In Google’s (and more recently in others’) ad auctions, the winning bidders are not the firms with the highest per-click bids: advertisers are ranked on the basis of the product of the their [sic] bid and a factor that is something like an estimated clickthrough rate. The rough motivation for this is straightforward: weighting bids by their click-through rates is akin to ranking them on their contributions to search-engine revenues (as opposed to per-click revenues which is a less natural objective).” *Id.* at 26.

At the same time, because advertisers pay for clicks instead of impressions, they have an incentive to increase their bids to obtain better placement, knowing that they will not have to pay for these “excessive” impressions. The quality score allows a search engine to limit impressions, enabling it to weed out these low-relevance ads—something that would otherwise be impossible through an unadjusted auction process. The same analyses apply to display ads placed on other web pages. Thus, quality scores are also used on the AdSense platform.

Allegations of anticompetitive conduct surrounding the quality score turn less on its existence—all major search engines use quality scores to improve the relevance of search results—than on its opacity. The specific determinants of quality scores are kept hidden by design and necessity. As one Google vice president has noted:

We are, to be honest, quite secretive about what we do. There are two reasons for it: competition and abuse. Competition is pretty straightforward. No company wants to share its secret recipes with its competitors. As for abuse, if we make our ranking formulas too accessible, we make it easier for people to game the system. Security by obscurity is never the strongest measure, and we do not rely on it exclusively, but it does prevent a lot of abuse.<sup>125</sup>

In addition to improving the quality of its search engine, Google’s use of quality scores and its control of the terms of its auctions likely generates higher revenues. As noted above, advertisers have an incentive, absent a device like the quality score, to over-bid for impressions, resulting in some less-relevant ads gaining better placements and thus yielding fewer revenue-generating clicks from the more-relevant ads, pushed further down the search results page. For example, both Intel and Advanced Micro Devices (AMD) would like to appear first in paid search results for the keyword “Intel.” On average, users would find Intel’s advertisement to be more relevant. In the absence of quality scores, however, AMD could outbid Intel and receive the first position. Although AMD hopes to capture some clickthroughs by users looking for Intel, it also knows that it can afford to bid a higher amount per click because it

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125. Udi Manber, *Introduction to Google Search Quality*, THE OFFICIAL GOOGLE BLOG (May 20, 2008, 6:20 PM), <http://googleblog.blogspot.com/2008/05/introduction-to-google-search-quality.html>.

will still receive fewer clicks than Intel would. Intel, on the other hand, will bid a relatively small amount for the first position, not because it does not value it, but because it knows that it will receive a large number of clickthroughs at what may be a very high aggregate price. But this dynamic, potentially leading to AMD in the first paid search result position, is sub-optimal not only for Intel but also for Google's users and for Google's shareholders. Users will find a nonrelevant search result in the top position and will thus devalue the search engine. And Google will receive smaller revenue because of the relative irrelevance of the top results and the correspondingly smaller number of clicks (even at a slightly higher price).

Without a mechanism qualitatively to match search terms with advertisers, end users and advertisers forego quality and Google foregoes profits. The next Part will discuss at length whether these or other actions constitute impermissible exclusionary conduct. At a minimum, there are clearly procompetitive justifications for the use (and secrecy) of quality scores including both ensuring product quality and maximizing revenue. Furthermore, the full effect of these sorts of business innovations is probably unknown, even to Google. Any challenge to the use of quality scores as an anticompetitive device should turn on a set of specific factual allegations and a demonstration of a cognizable anticompetitive effect. Importantly, and perhaps precluding such a finding, the quality score helps to convert quantity into quality. Having more searchers is not necessarily valuable to advertisers per se, but having more searchers find an advertiser specifically when the searcher is most likely to buy something is worth a considerable amount. To the extent that the quality score allows Google better to match qualitative aspects of advertisers and end users, it increases the value of the system to all participants in a way that mere increases in scale do not.

#### *D. Network Effects*

Many claim that Google's search engine and search advertising represent a multi-sided platform that benefits from the presence of network effects, but nearly all such claims take these effects for granted or assert them without empirical backing and derive legal conclusions from their existence without

analysis.<sup>126</sup> There may indeed be relevant network effects in Google's business, but, as with all novel and innovative businesses, the facile conclusions are often incorrect. Much more and better empirical analysis should be brought to bear before competitive assessments are made.<sup>127</sup>

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126. See, e.g., Oren Bracha & Frank Pasquale, *Federal Search Commission? Access, Fairness and Accountability in the Law of Search*, 93 CORNELL L. REV. 1149, 1181 (2008) ("Network Effects in Improving Search Responsiveness. The more searches an engine gets, the better able it is to sharpen and perfect its algorithm. The result is that each additional user decreases the cost of a better quality service for all users. Thus, incumbents with large numbers of users enjoy substantial advantages over smaller entrants.") (referencing DAVID A. VISE & MARK MALSEED, *THE GOOGLE STORY* 215 (2005)); Kristine Laudadio Devine, *Preserving Competition in Multi-Sided Innovative Markets: How Do You Solve a Problem Like Google?*, 10 N.C. J.L. & TECH. 59 (2008) (describing Google's network effects by analogy and conjecture, although going into far more detail than any of the other articles cited); James Grimmelmann, *How to Fix the Google Book Search Settlement*, J. INTERNET L., Apr. 2009, at 1, 14 ("Thus, Google's first-past-the-post status here could easily turn into a durable monopoly. That might be the inevitable result anyway; this is a market with substantial economies of scale and positive network effects."); Peter S. Menell, *Knowledge Accessibility and Preservation Policy for the Digital Age*, 44 HOUS. L. REV. 1013, 1052 (2007) (listing "concentration (due to network effects)" on a table describing competitive effects in Google Book Search); Viva R. Moffat, *Regulating Search*, 22 HARV. J.L. & TECH 475, 489 (2009) ("Additionally, while Google may not be a monopoly, it certainly has a great deal of market power and network effects also exist in the search world. These factors, together with the arguably substantial barriers to entry in the search engine market, permit the analogy to common carriers." (citing a *New York Times* article referring to "network advantages")); William D. Rahm, *Watching over the Web: A Substantive Equality Regime for Broadband Applications*, 24 YALE J. ON REG. 1, 16 (2007) ("Broadband technology exhibits two network effects. . . . Companies like Google, Vonage and Amazon will develop more services when they are confident that there are more users whom they can reach."); J. Gregory Sidak, *A Consumer-Welfare Approach to Network Neutrality Regulation of the Internet*, 2 J. COMPETITIVE L. & ECON. 349, 454 (2006) ("Network effects make the market for Internet portals highly concentrated. Entry is difficult because a critical mass of users has chosen a particular portal (Yahoo! or Google) to begin their Internet experience. A critical mass of advertisers has followed."); Kevin Werbach, *Only Connect*, 22 BERKELEY TECH. L.J. 1233, 1292 (2007) ("Nonetheless, it is possible for applications to become exclusive platforms with anti-competitive effects similar to those of exclusive physical broadband networks. Google's dominant search engine and MySpace's massive social networking site might be candidates for such scrutiny at some point in the future. Because these are network-centric applications, whatever ability they have to distort competition and innovation arises from their ability to capture network effects.");

127. "[Multisided platforms] have business models that are not yet well understood and engage in highly complex business strategies; unusual practices are suspect practices in our experience." David S. Evans & Michael D. Noel, *Defining Markets That Involve Multi-Sided Platform Businesses: An Empirical Framework With an Application Google's Purchase of DoubleClick* 4 (AEI-Brookings Joint Center for

Network effects occur when the value of a good or service increases as the number of people who use it grows.<sup>128</sup> In the context of a multisided operation such as Google's search engine and search advertising platform, indirect network effects might arise when an increased base of end users for one side of the platform increases the value of the platform to advertisers on the other side.

As noted above, network effects are generally beneficial, although there is some dispute over whether and under what conditions they might also raise exclusionary concerns.<sup>129</sup> As discussed above, transactions involving complementary products (indirect network effects) fully internalize the benefits of consuming complementary goods and do not present an exclusionary concern.<sup>130</sup> In Google's case, this means that, while additional end users may increase the value of Google's (or any other search engine's) platform to its advertisers, this increase in value is internalized by the platform, and advertisers are charged accordingly. Typical "feedback effects" seen in many multisided platforms are attenuated or absent in Google's business because the effects are generally unidirectional: advertisers want more end users, but end users care little or nothing about the number of advertisers.

Moreover, as in all analysis of network effects, the standard assumption that quantity alone determines the strength of the effect is likely mistaken.<sup>131</sup> Rather, to the extent that advertisers care about end users, they care about many of their characteristics. An increase in the number of users who are looking only for information and never to purchase goods may be of little value to advertisers.

Thus, because online search advertisers target customers and sales they care about the size of the end user network only to the extent that this size correlates with increased sales. To a first approximation increased usage should lead to increased clickthroughs, and increased clickthroughs should lead to more sales. But because advertisers pay per click, if the

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Regulatory Studies, Working Paper 07-18, 2007), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1089073](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1089073).

128. Stan J. Liebowitz & Stephen E. Margolis, *Network Externality: An Uncommon Tragedy*, 8 J. ECON. PERSP. 133, 135 (1994).

129. See *infra* note 184.

130. See Liebowitz & Margolis, *supra* note 128; Spulber, *supra* note 8.

131. See, e.g., Spulber, *supra* note 8.

number of clicks without purchase increases with increased usage sufficiently faster than the number of clicks with purchase, the increase in search engine usage may be a cost rather than a benefit. Thus, the ability of the search engine to deliver not only scale but also quality—based on the characteristics of its users and its ability to match users with advertisers<sup>132</sup>—determines the amount advertisers are willing to pay. For this reason, the value of a search engine may not increase as the number of users grows, and, to the extent that it does, this is a direct function of the quality score. Assessing network or scale effects is extremely difficult in search engine advertising, and scale may not even correlate with increased value over some ranges of size.

The problem for those who would point to indirect network effects as a barrier to entry for Google's competitors is that advertisers pay only when a user clicks through its paid search result to the advertiser's landing page.<sup>133</sup> The consequence is that the full value of Google's advertising platform is internalized by the system, with advertisers paying a price that reflects the full value of their use of Google's platform—there are no externalities, and, as mentioned, network size may not be relevant to advertisers. If having more users makes a click more likely to lead to a conversion, advertisers will pay more per click, internalizing the effect. If having more users makes a click more likely in the first place, advertisers also pay more because they pay for each click. In either case, the effect is fully internalized.

Any claim that Google possesses market power protected by an indirect network-effect barrier to entry must grapple with the problem that these effects are internalized and of uncertain sign, and thus that they function, competitively speaking, no differently than any other measure of quality (and corresponding price). A competitor can compete by offering lower "quality" at a lower price if necessary, and because no benefits are left external in Google's business, it is not necessary to compensate ad-

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132. See *supra* notes 124–26 and accompanying text (discussing the role of quality scores in increasing relevance).

133. There is conceivably some benefit to an advertiser, particularly in terms of brand recognition, from simply appearing on the Google search results page, even if an ad is not clicked. We assume the value of this recognition is negligible, but a full assessment of the economics of Google's business would likely require some assessment of this dynamic.

vertisers (or end users) for lost external benefits from switching to a competitor. A competitor with smaller scale but better quality can also compete, even at higher prices; scale is not inherently a barrier to competition in search engine advertising.

A variant of the indirect network effect argument was propounded most notably in the TradeComet complaint.<sup>134</sup> TradeComet claimed that the value of any search advertising platform increases as the popularity of its search engine grows.<sup>135</sup> Inherent in this argument is the idea that users prefer search engines that offer the newest and most functional free features. Such features can only be developed with considerable surplus advertising revenue, making it difficult for nascent rivals to gain the search traffic necessary to become viable alternatives to Google.<sup>136</sup>

But this is not an argument that turns on network effects at all; rather, it is simply an argument about financing and the availability of capital to invest in product improvements. It is an argument that there may be supply-side economies of scope and scale, but this is neither a unique or uniquely-interesting conclusion, nor one with particularly interesting antitrust implications. And though Google perhaps generates the funds for its continued product development through its successful business, the same business model need not be adopted by competitors. In fact, Microsoft, one of Google's primary competitors, has a market capitalization substantially larger than Google's, and higher profits generated by its other businesses to invest in search engine functionality improvements. There is no reason why it matters if this

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134. Complaint ¶ 91, TradeComet.Com LLC v. Google, Inc., 693 F. Supp. 2d 370 (S.D.N.Y. 2009) (No. 09Civ.1400(SHS)).

135. *Id.* ¶ 81.

136. This argument is analogized to a claim that received traction in the Microsoft litigation. See *United States v. Microsoft Corp.*, 253 F.3d 34, 54–55 (D.C. Cir. 2001) (en banc) (per curiam) (finding monopoly power as a result of a “chicken-and-egg” situation [that] ensures that [software] applications will continue to be written for the already dominant Windows, which in turn ensures that consumers will continue to prefer it over other operating systems”). But the comparison is inapposite. In *Microsoft*, the incentives of platform users external to the platform itself were being driven by the feedback effect between sides of the network. Here the argument has the platform itself (Google) driving the incentives through investment. In the present case the network effect is endogenous and under Google's (or a competitor's) control. Conversely, in *Microsoft* the effect was exogenous and therefore difficult for competitors to disrupt.



investment comes from advertising revenue, the sale of operating systems, or outside capital sources.<sup>137</sup>

The casual invocation of network effects in search advertising is seemingly refuted by the more specific realities of the search advertising market. End users are insensitive to the number of other users in the network, and thus, there are no direct network effects on that side of the platform. Except to the limited extent that the quality of a search algorithm may be affected by the number of users over a relevant range of users, end users receive no incidental benefit from others' use of the same search engine. At the same time, an incumbent will find it difficult to trade on a comparative cost advantage to stave off competition given that the price charged to end users is already zero. Although this zero price also makes it difficult for entrants to attract end users with a lower price,<sup>138</sup> this tracks competition in a perfectly competitive, nonnetworked industry, where incumbents are charging a price equal to marginal cost and entrants are forced to suffer initial losses, compete on non-price dimensions, or improve production efficiency. Indeed, this compulsion towards increased quantity, reduced prices where possible, or increased quality as an irreducible byproduct of competition is the very purpose of antitrust law.

It also is unlikely that end users will find a larger number of advertisers to be a feature of the system. New entrants might actually be more attractive initially for having fewer advertisers and ads. The one exception would be where the quality of the search product—the search algorithm—is itself affected by

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137. See Devine, *supra* note 126, at 78–80. This Article makes the same argument. This is not a network effect at all but merely a description of a two-sided market, where revenue is obtained from only one side of the market. That these profits may be reinvested to attract more customers seems incidental to any network effect allegation and merely descriptive of a particular business model. It is akin to saying that a one-sided market exhibits network effects if selling more products leads to higher revenue which is then used to innovate in ways that sells more products. Plainly, this is neither a network effect nor a barrier to entry.

138. And of course “difficult” does not mean “impossible.” Entrants could pay for new users, and they do so in a variety of creative ways. Microsoft, for example, introduced its “cashback” program on its Live Search (now Bing) search engine, offering end users who searched for and purchased products using Microsoft’s search platform a discount on the purchased product. *Bing Shopping*, WIKIPEDIA, [http://en.wikipedia.org/wiki/Bing\\_Shopping#Cashback\\_program](http://en.wikipedia.org/wiki/Bing_Shopping#Cashback_program) (last visited Nov. 6, 2010); see Daniel F. Spulber, *Consumer Coordination in the Small and in the Large: Implications for Antitrust in Markets with Network Effects*, 4 J. COMPETITION L. & ECON. 207, 257–58 (2008).

the number of end users or the number of advertisers through a feedback effect. This is a difficult claim to assess from outside the industry. It seems superficially plausible, but it is not necessarily the case. Based on conversations we have had with industry insiders, it appears that algorithmic results are only weakly affected by the number of end users or searches. Search algorithms require a minimum scale to establish their effectiveness, but this minimum scale may be easily reached (and arguably has been reached by all of the major search engine competitors and even small upstart companies). Above minimum scale, there is limited advantage to having more end users and more searches. Efficient search engine management appears to require assessment and evaluation of only a small fraction of total searches, and there is rapidly diminishing marginal return to incorporating more searches into the search algorithm. As a result, viable competition is available at fairly small scales, and competing search engines should be able to produce organic search results as effectively as a large-scale incumbent, subject only to the limitations of the search algorithm's design and execution.<sup>139</sup> Moreover, Google established its industry-leading position on the basis of a tiny fraction of the volume that even the smallest search engines see today. Tellingly, the number of searches on Yahoo! today is about the same as the number on Google just two years ago.

The issue is a bit more complicated from the perspective of potential advertisers. Again, there is no direct network effect, and the presence of more advertisers is a strong cost to other

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139. This makes especially troubling the unfounded and undocumented claims found in Bracha and Pasquale's *Federal Search Commission* paper. In explaining why they think "robust and dynamic competition [is] unlikely," and why the search engine market is subject to "high barriers to entry," the authors report that "[s]earch algorithms may be analogous to the high-cost infrastructure required for entry into the utility or railroad markets." Bracha & Pasquale, *supra* note 126, at 1180–81. At the same time, the authors argue that "[t]he more searches an engine gets, the better able it is to sharpen and perfect its algorithm." *Id.* The last point is not true, or at least not true beyond a minimum scale. And consequently, the claim that an algorithm is, in essence, a "natural monopoly" or essential facility (thus requiring regulatory or antitrust intervention to pry open access to competitors) is equally fallacious. While Google's specific algorithm is not accessible by competitors, it is not the case that another viable algorithm is inaccessible, nor the data sufficient to manage it. And, of course, in addition to Google's major competitors there are dozens of other search engines competing with Google's specific algorithm. See *List of search engines*, WIKIPEDIA, [http://en.wikipedia.org/wiki/List\\_of\\_search\\_engines](http://en.wikipedia.org/wiki/List_of_search_engines) (last visited Nov. 6, 2010).

advertisers; rather than a *network* effect, there is a *congestion* effect.<sup>140</sup> This congestion cost is magnified by the imposition of Google's quality scoring into the auction-placement process, as every advertiser's placement is dependent on the quality of other advertisers bidding in each auction.<sup>141</sup> While advertisers may or may not benefit from indirect network effects on the advertiser's side of the search engine platform, the congestion effect resulting from the simple competitive dynamic of many buyers competing for a scarce resource is undeniable.

The uncertainty surrounding the economic consequences of Google's business and its business practices should compel extreme caution viewed within an error-cost framework. The risks arising from misapplication of economic theory and a woefully poor understanding of the consequences of Google's innovative products and business practices, coupled with the dramatic costs of such errors, should counsel against antitrust intervention without some significant direct economic data to contradict a plausible, procompetitive analysis.

#### IV. THE MONOPOLIZATION CASE AGAINST GOOGLE

This Part will discuss the most fully developed real case against Google embodied in the *TradeComet* complaint,<sup>142</sup> and other aspects of a hypothetical case against Google. This Part will address the legal and economic theories underlying the actual and hypothetical cases, highlighting the pitfalls of anti-trust enforcement against Google, but more generally, the analytical weaknesses of an enforcement approach that eschews error-cost principles in its decision-making processes. As a prefatory matter, this task requires knowledge of the applicable monopolization standards. We begin with some preliminary

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140. Evidence demonstrates that thicker auctions result in higher prices, irrespective of the characteristics of additional bidders—a presumably undesirable consequence (to the bidders) of a broader network. See, e.g., Joseph Farrell & Paul Klemperer, *Coordination and Lock-in: Competition with Switching Costs and Network Effects* in 3 THE HANDBOOK OF INDUSTRIAL ORGANIZATION 2018 (M. Armstrong and R. Porter eds., 2007) (“Second, there may be no intra-group network effects; there may even be intra-group congestion. Thus, given the number of photographers, a developer prefers fewer other developers for competitive reasons, just as with merchants accepting credit cards.”); Paul Klemperer, *What Really Matters in Auction Design*, 16 J. ECON. PERSP. 169, 172 (2002).

141. Athey & Ellison, *supra* note 123.

142. Complaint, *supra* note 134.

discussion of these standards before turning to our antitrust analysis of Google's specific business conduct.

A. *First Principles of Monopolization Enforcement*

Section 2 of the Sherman Act makes it unlawful for any person to "monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations."<sup>143</sup> The language of the statute is notoriously ill-equipped to help resolve actual cases.<sup>144</sup> Nonetheless, it is well established that the offense of monopolization requires demonstration of both "(1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."<sup>145</sup> Courts and antitrust scholars have struggled with assigning administrable content to the language of Section 2,<sup>146</sup> spurring a scholarly debate over whether constructing a unified monopolization test to apply to all varieties of business conduct falling within the scope of the statute is possible or desirable.<sup>147</sup>

Therefore, as discussed in Part II above, the key challenge facing any proposed analytical framework for evaluating monopolization claims, is distinguishing procompetitive from anticompetitive conduct. Antitrust errors are inevitable because much of what is potentially actionable conduct under the antitrust laws frequently actually benefits consumers, and generalist judges are called upon to identify anticompetitive conduct with imperfect information. As Judge Easterbrook has noted, the optimal antitrust rules minimize the costs of these er-

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143. 15 U.S.C. § 2 (2006).

144. BORK, *supra* note 31, at 57 ("The bare language of the Sherman Act conveys little . . ."); Frank H. Easterbrook, *Vertical Arrangements and the Rule of Reason*, 53 ANTITRUST L.J. 135, 136 (1984) ("The language of the Sherman Act governs no real cases."); Thomas E. Kauper, *Section Two of the Sherman Act: The Search for Standards*, 93 GEO. L.J. 1623, 1623 (2005) ("Section Two of the Sherman Act has been a source of puzzlement to lawyers, judges and scholars, a puzzlement derived in large part from the statute's extraordinary brevity.").

145. *United States v. Grinnell Corp.*, 384 U.S. 563, 570-571 (1965).

146. U.S. DEP'T OF JUSTICE, COMPETITION AND MONOPOLY: SINGLE FIRM CONDUCT UNDER SECTION 2 OF THE SHERMAN ACT (2008), available at <http://www.usdoj.gov/atr/public/reports/236681.htm>.

147. See, e.g., Kauper, *supra* note 144.

rors by establishing and allocating appropriate burdens of proof.<sup>148</sup> Given the tendency in antitrust to condemn business practices that are not well understood, or for which an efficiency explanation cannot be proffered that fits into the categories established by earlier cases, it is key that any burden-shifting approach to monopolization retains the requirement that plaintiffs demonstrate that actual consumer harm has occurred.<sup>149</sup>

Despite the vigorous debate over the appropriate legal standards to apply in specific Section 2 cases, a sensible and common starting place for discussion of modern monopolization analysis is the D.C. Circuit's analysis in *Microsoft*. In the monopolization context, the D.C. Circuit's *Microsoft* opinion sets forth the leading burden-shifting approach for distinguishing exclusionary from competitive acts.<sup>150</sup> The plaintiff's initial burden is described as follows:

[T]o be condemned as exclusionary, a monopolist's act must have an 'anticompetitive effect.' That is, it must harm the competitive *process* and thereby harm consumers . . . [And] the plaintiff, on whom the burden of proof of course rests, must demonstrate that the monopolist's conduct indeed has the requisite anticompetitive effect."<sup>151</sup>

Next, "[I]f a plaintiff successfully establishes a *prima facie* case under § 2 by demonstrating anticompetitive effect, then the monopolist may proffer a [nonpretextual] 'procompetitive justification' for its conduct."<sup>152</sup> Finally, "[I]f the monopolist's procompetitive justification stands un rebutted, then the plaintiff must demonstrate that the anticompetitive harm of the conduct outweighs the procompetitive benefit."<sup>153</sup>

The key economic function of the plaintiff's burden to demonstrate actual competitive harm at the onset of litigation is, consistent with the error-cost approach described above, to minimize the social costs of antitrust enforcement, and, in par-

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148. See Easterbrook, *supra* note 10, at 14–15.

149. See Benjamin Klein, *Exclusive Dealing as Competition "On the Merits"*, 12 GEO. MASON L. REV. 119 (2003).

150. *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (en banc) (per curiam).

151. *Id.* at 58–59 (citation omitted).

152. *Id.* at 59 (citation omitted).

153. *Id.*

ticular, the costs associated with false positives. The D.C. Circuit noted the difficulty of this task:

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>154</sup>

With this challenge in mind, courts have long struggled to develop administrable tests that, at a minimum, identify implausible claims. These screens, such as the “monopoly power” requirement, filter out nonmeritorious claims where the complained-of conduct is incapable of harming the competitive process and where a finding of liability would be especially likely to chill procompetitive business practices. Similarly, the requirement that plaintiffs satisfy their prima facie burden with evidence of anticompetitive effect serves the purposes of reducing the administrative costs of litigating nonmeritorious claims and minimizing the social costs of errors.

The merits of any specific application of the approach described above, of course, lie in the details of its execution. For example, to the extent that evidence of mere harm to individual competitors is sufficient to satisfy the plaintiff’s prima facie burden of harm to competition, the social value of the requirement will be diminished and consumers will suffer. Harm is further exacerbated by the tendency in antitrust cases to condemn business activities for which there is no immediate and intuitive efficiency explanation. For these cases, minimizing antitrust error depends critically on ensuring that the evidence plaintiffs are required to proffer is a relatively strong signal of harm to competition.

While *Microsoft* sets forth the modern burden-shifting framework for monopolization claims, there are other important sources of Section 2 jurisprudence. Despite heated rhetoric about the ideological nature of modern antitrust, perhaps best captured in the events surrounding the withdrawal of the Section 2 Report, the Supreme Court’s antitrust jurisprudence has

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154. *Id.* at 58.

exhibited an impressive degree of consensus.<sup>155</sup> Indeed, the Supreme Court's consensus within antitrust jurisprudence is strongest when one analyzes Section 2 specifically and in isolation. Consider that since *NYNEX Corp. v. Discon, Inc.*,<sup>156</sup> all four of the Supreme Court's decisions addressing claims under Section 2 and setting forth the relevant principles have been decided unanimously.<sup>157</sup> In these recent decisions, the Supreme Court has articulated a number of first principles that guide the Court's decisions, and inform our monopolization analysis:

- *Mere possession of monopoly power is not an antitrust offense.* The Supreme Court's decision in *Trinko* represents the most powerful articulation of this principle of modern antitrust. The unanimous Court noted that the prospects of monopoly profits are what "attracts 'business acumen' in the first place; it induces risk taking that produces innovation and economic growth."<sup>158</sup> Antitrust commentators have also increasingly recognized that a signature feature of U.S. monopolization policy is its understanding of the tradeoffs between innovation and dynamic efficiency gains and the static welfare losses associated with monopoly power.<sup>159</sup> Sherman Act monopolization jurisprudence, therefore, clearly endorses antitrust rules that protect the competitive process but do not punish success, require firms to pull their

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155. Leah Brannon & Douglas H. Ginsburg, *Antitrust Decisions of the U.S. Supreme Court, 1967 to 2007*, 3 COMPETITION POL'Y INT'L 3 (2007). Brannon and Ginsburg, for example, find that from 1997 to 2006, eighty-five percent of all antitrust decisions were decided by a supermajority margin (and each in favor of the defendant, although this is fairly predictable given the proplaintiff nature of 1960s antitrust jurisprudence). *Id.* at 20. When one considers the Supreme Court decisions during the Bush administration, for example, the aggregate vote count is 86-9 with seven of eleven opinions generating unanimous agreement.

156. 525 U.S. 128 (1998).

157. See *Pac. Bell Tel. Co. v. Linkline Cmmc'ns, Inc.*, 129 S. Ct. 1109 (2009); *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, 549 U.S. 312 (2007); *Verizon Commc'ns v. Law Offices of Curtis V. Trinko*, 540 U.S. 398 (2004); *NYNEX*, 525 U.S. 128. For an analysis of the Roberts Court antitrust decisions, see Joshua D. Wright, *The Roberts Court and the Chicago School of Antitrust: The 2006 Term and Beyond*, 3 COMPETITION POL'Y INT'L 25 (2007) (arguing that Chicago School economic principles characterize the Roberts Court antitrust jurisprudence).

158. *Trinko*, 540 U.S. at 407.

159. See David S. Evans & Keith N. Hylton, *The Lawful Acquisition and Exercise of Monopoly Power and its Implications for the Objectives of Antitrust*, 4 COMPETITION POL'Y INT'L 203, 203 (2008).

competitive punches, or demand that firms roll over once they have lawfully achieved monopoly power. Instead, the antitrust laws condemn only specific acts that result in the improper acquisition of or maintenance of monopoly power and that harm the competitive process.

- *The mere exercise of lawful monopoly power in the form of higher prices is not an antitrust violation.* A corollary of the previous principle, the Supreme Court has repeatedly recognized that a monopolist is entitled under the Sherman Act to reap the rewards of its innovation. The successful monopolist firm is entitled to charge whatever price the market will bear. A contrary finding, limiting the returns to successfully competing in the marketplace, is logically inconsistent with a competition policy regime designed to foster innovation and economic growth.<sup>160</sup>
- *Courts must be concerned with the social costs of anti-trust errors, and the error-cost framework is a desirable approach to developing standards which incorporate these concerns.* The fundamental and vexing realities of Section 2 enforcement are that first, it is both exceedingly difficult to reliably identify anticompetitive conduct, and second, that errors are likely to harm the intended beneficiaries of the antitrust laws. This task is easier said than done.<sup>161</sup> The Supreme Court has consistently and repeatedly expressed its concern with antitrust errors, especially false positives which are likely to be more frequent and more costly than false negatives.<sup>162</sup>

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160. See, e.g., *Linkline*, 129 S. Ct. at 1118; *Trinko*, 540 U.S. at 407–08; *NYNEX*, 525 U.S. at 136–37.

161. See Frank H. Easterbrook, *When Is It Worthwhile to Use Courts to Search for Exclusionary Conduct?*, 2003 COLUM. BUS. L. REV. 345, 345 (“Aggressive, competitive conduct by any firm, even one with market power, is beneficial to consumers. Courts should prize and encourage it. Aggressive, exclusionary conduct is deleterious to consumers, and courts should condemn it. The big problem lies in this: competitive and exclusionary conduct look alike.”).

162. See, e.g., *Linkline*, 129 S. Ct. at 1120; *Trinko*, 540 U.S. at 414 (“The cost of false positives counsels against an undue expansion of § 2 liability.”); *NYNEX*, 525 U.S. at 136–37; *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 456, 458 (1993) (“[T]his Court and other courts have been careful to avoid constructions of § 2 which might chill competition, rather than foster it.”); *Bus. Elecs. Corp. v. Sharp Elecs. Corp.*, 485 U.S. 717, 728 (1988); *Matsushita Elec. Indus. Co. v. Zenith Radio*



In reflection of these principles, the error-cost approach has become a mainstream and well-accepted approach to evaluate antitrust standards and policy decisions.<sup>163</sup> The Supreme Court has adopted an error-cost approach in at least the following decisions: *NYNEX Corp. v. Discon, Inc.*,<sup>164</sup> *State Oil v. Khan*,<sup>165</sup> *Brooke Group v. Brown & Williamson Tobacco Corp.*,<sup>166</sup> *Leegin*,<sup>167</sup> *Weyerhaeuser*,<sup>168</sup> *Trinko*,<sup>169</sup> *Credit Suisse*,<sup>170</sup> and *Linkline*.<sup>171</sup> Justice Scalia's articulation of the Court's concerns in *Trinko* is instructive:

Against the slight benefits of antitrust intervention here, we must weigh a realistic assessment of its costs . . . . Mistaken inferences and the resulting false condemnations “are especially costly, because they chill the very conduct the antitrust laws are designed to protect.” The cost of false positives counsels against an undue expansion of § 2 liability.<sup>172</sup>

With the general monopolization landscape and first principles in hand to provide the lens for any specific application of Sec-

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Corp., 475 U.S. 574, 594 (1986) (stating that mistaken inferences in predatory-pricing cases “are especially costly because they chill the very conduct the antitrust laws are designed to protect”); *Copperweld Corp. v. Independence Tube Corp.*, 467 U.S. 752, 767–68 (1984) (noting that scrutiny of single firms under the Sherman Act is appropriate only when they pose a danger of monopolization, an approach that “reduces the risk that the antitrust laws will dampen the competitive zeal of a single aggressive [competitor]”).

163. See, e.g., POSNER, *supra* note 10, at ix (“Almost everyone professionally involved in antitrust today” agrees that “the design of antitrust rules should take into account the costs and benefits of individualized assessment of challenged practices . . .”). For a general discussion of an error cost approach to antitrust, see Manne & Wright, *supra* note 10, at 6. For specific applications of the error-cost approach to various antitrust topics, see Beckner & Salop, *supra* note 10; Evans & Padilla, *supra* note 10; Froeb et al., *supra* note 10; Hylton & Salinger, *supra* note 10.

164. 525 U.S. at 133 (1998) (“[C]ertain kinds of agreements will so often prove so harmful to competition and so rarely prove justified that the antitrust laws do not require proof that an agreement of that kind is, in fact, anticompetitive in the particular circumstances.”).

165. 522 U.S. 3, 10 (1997) (Certain “types of restraints . . . have such predictable and pernicious anticompetitive effect, and such limited potential for procompetitive benefit, that they are deemed unlawful *per se*.”).

166. 509 U.S. 209, 223–24 (1993).

167. *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 886 (2007).

168. *Weyerhaeuser Co. v. Ross-Simmons Hardwood Lumber Co.*, 549 U.S. 312, 319–20 (2007).

169. 540 U.S. 398, 414 (2004).

170. *Credit Suisse Sec. (USA) LLC v. Billing*, 551 U.S. 264, 283 (2007).

171. 129 S. Ct. 1109, 1122 (2009).

172. *Trinko*, 540 at 414 (citation omitted) (quoting *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 594 (1986)).

tion 2 law, we turn to a more detailed discussion of the two elements of a potential monopolization case (monopoly power and exclusionary conduct) and their application to Google.

### *B. Monopoly Power*

Monopoly power is the first element of the monopolization offense and refers to the “power to control prices or exclude competition.”<sup>173</sup> As an antitrust concept, monopoly power must be distinguished from the type of economic market power that refers merely to the ability to have some discretion over one’s own price without losing all sales. Although market power in this sense is ubiquitous in the modern economy, monopoly power of the type required to establish a Section 2 violation implies the power to control either market prices or output. Further, this power must be durable rather than transitory.

Applied to a potential monopolization case against Google, a monopoly power inquiry raises several issues. The first is that the market definition inquiry plays a central role in disciplining any monopoly power analysis. Thus, in assessing a claim of a Section 2 violation, careful consideration of the potentially relevant markets in which anticompetitive conduct might have occurred is a must. The second is that, as with any modern market definition analysis involving web-based products and services, one must consider whether network effects are relevant to the monopoly power analysis, and, if so, to what extent.

### *C. Market Definition and Monopoly Power*

Serious market definition problems arise in Google’s case—not surprisingly, different market definitions translate to very different conceptions about the level of monopoly power existing in Google’s markets and have differing implications for Section 2’s monopolization analysis.

As discussed in Part III.B, Google’s market is far more complicated than is commonly assumed. Google sells advertising, first and foremost, and it gives away several other products, including search results. If the relevant advertising market includes all advertising across media, Google has a miniscule market share and essentially no market power. If the relevant advertising market includes only online advertising, Google

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

still has a relatively small share of the market. Only when different types of online advertising (such as search ads versus contextual display ads versus behavioral display ads) are separated into different markets does Google's market share grow substantially in paid-search advertising.

Some care is required in even limiting our attention to the paid search advertising market. Most casual discussions of Google's market share reference its share of the *search* market. Although the size of Google's search market is relevant to assessing its significance in the search advertising market, the two are not the same. Thus, claims that "Google has 70% of the US search market" may be true,<sup>174</sup> but are not clearly relevant to the question of whether Google has monopoly power in the search advertising market, where this figure is merely a measure of the number of searches performed on the major general search engines by end users in the United States. Other measures assess the share of impressions and clicks on search ads that are served by Google. This is also relevant but incomplete, as it does not address the share of advertisers or advertiser dollars represented. None of this is to say that Google does not have a large share of the search advertising market, if such a market exists at all, but that its specific share and its market power are far more difficult to calculate than typically presented.<sup>175</sup>

In its review of the Google and DoubleClick merger, the FTC found that search advertising and display advertising were in distinct markets, and that online advertising and advertising in other media were in distinct markets.<sup>176</sup> While we have not undertaken a substantial assessment of this parsing of the product markets, it is concerning is that the FTC, in making its decision itself, did not appear to undertake a particularly careful analysis of the market definition problem peculiar to two-sided markets.

This casual approach to analysis leads to a conflation of market presence and market power and frequently mars discussions of Google's position in any market. A sensible starting point, al-

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174. Stephen Shankland, *Google's U.S. Search Share Nears 70 Percent*, CNET NEWS, July 15, 2008, [http://news.cnet.com/8301-1023\\_3-9991866-93.html](http://news.cnet.com/8301-1023_3-9991866-93.html).

175. For a discussion of the substantial complexities in determining relevant markets and market share in two-sided markets, see David S. Evans & Michael D. Noel, *Defining Markets that Involve Multi-Sided Platform Businesses: An Empirical Framework with an Application to Google's Purchase of DoubleClick* (Nov. 6, 2007), <http://ssrn.com/abstract=1027933>.

176. Fed. Trade Comm'n, *supra* note 94, at 3-7.

though not complete, would be to assess market definition (and competitive effects) on the side of a platform's market where it charges prices above marginal cost (where it is customary in two-sided platforms for the platform to attract users to one side with below-cost or zero-cost pricing and to earn revenue on the other side of the market), particularly as in Google's case where it charges a zero price to end users of its search platform.<sup>177</sup> But an assessment of a platform's ability to raise prices on one side of its platform without consideration of what happens to the other side (and its feedback effect on the first side) is incomplete.<sup>178</sup> Again, this is not to say that a narrow "online search advertising" market definition is inappropriate to assess Google's market power, but that the determination is complex and error prone—and essential to all analysis that follows.

The more important question is how ultimately to determine the market within which Google's activities should be assessed. The risk is that a market determination made on the basis of common sense and corporate documents—particularly those that equate channels of distribution with markets,<sup>179</sup> may dramatically overstate Google's power to influence advertising prices. Advertising is aimed at lowering search costs<sup>180</sup>—of buyers for sellers, of sellers for buyers, and of buyers for prices. Whether this is done by bolstering brand recognition for purposes of facilitating or encouraging future purchases, or by providing a ready outlet for a consumer looking to make an immediate purchase, it is hard to see these as ultimately distinct functions. Yet the latter option has been made widely available and immensely effective through online search advertising, and it takes on a distinctive cast.

In reality, all forms of advertising—and related endeavors like store placement and design—are about bringing buyers and sellers together by minimizing some of the transaction costs that otherwise keep them apart. Given a consistent function for different channels of distribution, the burden is on those propounding a distinct economic relevance for each channel of distribution to

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177. See David S. Evans, *Two-Sided Market Definition*, in MARKET DEFINITION IN ANTITRUST: THEORY AND CASE STUDIES, ABA SECTION OF ANTITRUST LAW 7 (Forthcoming 2010).

178. *Id.* at 10.

179. See Manne & Williamson, *supra* note 121, at 612–13.

180. Stigler, *supra* note 69, at 224.

demonstrate the proposed distinction with economic evidence. In the absence of such direct evidence, the monopoly power determination often turns on inferences drawn from market shares. Such inferences are not uncommon in antitrust analysis, and Google's claimed market shares are certainly not out of line with the shares that have given rise to these presumptions.<sup>181</sup>

#### D. *The Question of Network Effects*

The role of network effects in the "New Economy" generally raises a host of questions for antitrust enforcement, especially in establishing the durable monopoly power required to prove a Section 2 violation. We now turn to considering the role of network effects in Google's product markets, as well as whether and how any network externalities implicate an antitrust intervention against Google.

Consider first the case of a network with so-called "direct" network effects. In such a case, a user's participation in the system confers a so-called network benefit on other users, uncaptured by the price the user pays to access the system. In contrast, indirect network effects are fully internalized by the system, as the price the user pays simply reflects the increased value of the platform from having more users on the other side of the two-sided platform.

The consequence of participation in a network with direct network effects rather than indirect is dramatic in terms of the ability of firms to compete with Google. In the indirect case, a competing ad platform with a somewhat smaller network of end users (searchers) would, if the value of the advertisement is dependent on the size of the network of end users, simply receive a lower price for its product. The difference in quality attributable to the end-user network size would be reflected in the price, and advertisers would have the same marginal incentive to advertise on ei-

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181. See, e.g., *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 481 (1992) (finding eighty to ninety-five percent predominant); *United States v. Grinnell Corp.*, 384 U.S. 563, 571 (1966) (finding eighty-seven percent predominant); *United States v. E.I. du Pont Numours & Co.*, 351 U.S. 377, 379 (1956) (finding seventy-five percent predominant); *American Tobacco Co. v. United States*, 328 U.S. 781 (1946) (finding over sixty-six percent predominant); *United States v. Dentsply Int'l Inc.*, 399 F.3d 181, 188 (3d Cir. 2005) (finding seventy-five to eighty percent predominant).

ther platform.<sup>182</sup> The possible complication is dependent on the fixed costs of advertising, where the initial costs of accessing multiple systems could be large enough to preclude current Google advertisers from switching to a competing platform.

But the arguments involving network effects in Google's case do not turn on these fixed startup costs; rather, the arguments are that competitors are unable to obtain necessary minimum scale to offer quality competitive with Google's. That is, the interventionists argue that network effects create an insurmountable barrier to entry for would-be competitors. That the relevant network effects are internalized should negate this concern, however, and at any rate all of Google's main competitors already have significant scale.

The Court's decision in *Microsoft* turned in part on network effects,<sup>183</sup> and the court's approach to network effects in that case is of primary importance. Regardless of whether the Department of Justice or the D.C. Circuit was ultimately correct in predicting that Microsoft's business practices would result in anticompetitive effects, *Microsoft* offers the opportunity to evaluate the approach of the Department of Justice in developing a theory based on a particular view of the economics of network effects, and the approach of the courts in assessing those theories with a nascent economic literature in a high-stakes case involving innovation.

Currently, our best understanding of network effects views them, appropriately, as beneficial, although there is dispute in the literature over the extent to which their presence also raises exclusionary concerns.<sup>184</sup> Although there is often a great deal of carelessness in defining terms, particularly in the tenuous translation from economic theory to judicial opinions, there is a

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182. Consider a comparison to car manufacturers. Mercedes-Benz offers a better, but correspondingly more expensive product than Honda. Yet because of differences in demand elasticity among purchasers, both Honda and Mercedes are able to compete vigorously in the broader car market. In the search case, the differences between the companies do not stem from the intended end product (although product differentiation does exist, of course, and has proved a source of the impetus for entry), but rather the size of the network. That these network externalities are internalized means that almost any network can enter and expect to grow because from the start it can offer prices commensurate with its network size.

183. *United States v. Microsoft Corp.*, 253 F.3d 34, 49–50 (D.C. Cir. 2001) (en banc) (per curiam).

184. Compare Liebowitz & Margolis, *supra* note 128, with Shapiro, *supra* note 9.

crucial distinction between indirect and direct network effects.<sup>185</sup> Professors Liebowitz and Margolis highlight the dramatically different implications of the two effects, and in particular demonstrate that transactions involving complementary products—indirect network effects—fully internalize the benefits of consuming complementary goods.<sup>186</sup> Thus, despite frequent claims to the contrary, indirect network effects are not a source of market failure leading to technology lock-in and potentially exclusionary effects.<sup>187</sup>

The case against Microsoft was built in important part on indirect network effects. The most important argument against the company—that the substantial number of developers writing applications to run on Windows systems was an “applications barrier to entry”—was an argument that indirect network effects insulated Microsoft from competition and conferred the monopoly power required for the court to find against it, despite the claimed persistent threat of entry.<sup>188</sup> Some economic theory does support the possibility of this anticompetitive effect. The court’s approach to addressing whether this possibility warranted antitrust liability, however, is problematic. The court treated the mere allegation of an applications barrier to entry as sufficient to find an anticompetitive effect: It is enough to conclude that such a barrier exists, and that “the applications barrier to entry discourages many from writing for these less popular platforms.”<sup>189</sup> In fact, this conclusion may be correct. What is troubling, however, is that the court’s approach is not sufficiently empirical, especially in light of the conflicting, underlying theoretical literature. The court does not require proof that the conclusion is correct. Nor does the court even effectively canvass the underlying economic theoretical literature to support its conclusion, never mentioning, for ex-

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185. See, e.g., Liebowitz & Margolis, *supra* note 128, at 135; Michael L. Katz & Carl Shapiro, *Systems Competition and Network Effects*, 8 J. ECON. PERSP. 93, 95–96 (1994).

186. See Liebowitz & Margolis, *supra* note 128, at 149.

187. Spulber, *supra* note 8.

188. *Microsoft*, 253 F.3d at 55–56.

189. *Id.* Note that the court does not even assess the extent that mere discouragement operates as an effective entry barrier. The district court, we note, however, was not quite so circumspect. See *United States v. Microsoft*, 87 F. Supp. 2d 30, 42 (D.D.C. 2000), *aff’d in part, rev’d in part*, 253 F.3d 34 (D.C. Cir. 2001).

ample, Professors Liebowitz and Margolis's definitive work on the (contrary) implications of indirect network effects.<sup>190</sup>

Direct evidence would seem to offer a corrective, and Microsoft argued that the issue should be decided on the basis of direct evidence. The court dismissed Microsoft's direct evidence on monopoly power, however, and relied on the structural argument derived from its casual economic analysis of the applications barrier. Unfortunately, as Professors Liebowitz and Margolis wrote during the heat of the *Microsoft* case, "With so little empirical support for these theories, it appears at best premature and at worst simply wrong to use this theory as the basis for antitrust decisions."<sup>191</sup> The court was asked to act as the ultimate peer reviewer of an internecine economic debate—a task for which it was singularly unsuited. The *Microsoft* case realizes the risk that agencies and courts applying novel economic theories in novel markets will take questionable approaches to antitrust enforcement.

Several commentators have suggested that Google's search product and its search advertising product exhibit traditional network effects and implicitly or explicitly leap to the implication that increased antitrust concern is warranted.<sup>192</sup> This is no surprise. Product innovations coupled with alleged network effects are likely to attract academic and regulatory attention, draw antitrust scrutiny, and increase the probability of liability. But several important weaknesses emerge in these arguments and demonstrate considerable limitations in our understanding of the dynamics of Google's business, suggesting that a more empirically-minded and cautious approach to intervention is desirable.

Remarkably, the network-effect argument as applied to Google is generally executed by naked assertion. None of the articles leveling the argument explains the source of the network effects using details of Google's actual market, products, and business practices—nor do they explain the nature of the antitrust concern.<sup>193</sup> This does not, of course, mean that the assertion is necessarily wrong. Erroneous enforcement is more likely, however, if action is taken on the basis of unsubstanti-

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190. See Liebowitz & Margolis, *supra* note 128.

191. Stan J. Liebowitz & Stephen E. Margolis, *Network Effects*, in THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW 673, 674 (Peter Newman ed., 1998).

192. See *supra* note 126.

193. See *id.* (listing recent articles identifying network effects in Google's business).



ated claims. Errors can be corrected by the courts, but to do so, courts must adopt approaches to antitrust enforcement that are conducive to error correction. In particular, courts must steadfastly protect the safeguards set forth by the Supreme Court, which require plaintiffs to present rigorous evidence of competitive harm as a precondition for liability. However, even when courts correct erroneous enforcement (or private litigation decisions), this merely reduces the probability of erroneous outcomes—an effect that is not insignificant, but that nevertheless leaves significant error-cost risk.<sup>194</sup>

For the purposes of antitrust analysis, it is absolutely critical to distinguish the existence of network effects from the implications of their existence on the merits of antitrust intervention. Moreover, to the extent that the existence of network effects does make a difference in terms of an antitrust case, it must be because the network effect operates as a barrier to entry, thereby diminishing the likelihood that users will transfer to competing platforms. Because users of search engines are insensitive to the number of other users, this effect should not strongly hold. Nor do indirect network effects seem to create a barrier to entry here.<sup>195</sup>

The upshot is that there is considerable difficulty in assessing the competitive implications of innovative products, and reflexive appeals to the existence of network effects as justifying intervention are likely to lead to erroneous decisions by enforcers and judges. Moreover, the approach adopted in *Microsoft* to analyze the competitive implications of network effects, if applied in Google's case, is disconcertingly likely to over-emphasize the theoretical arguments supporting a charge of problematic network effects, even in the absence of clear empirical evidence to support those charges. In Google's case, where network effects at least superficially appear to be prevalent and its business model appears to mimic those of other network industries, a clearer understanding of the particulars of Google's business suggests that those presumptions are premature and misdi-

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194. See Easterbrook, *supra* note 10, at 15.

195. The general economic consequences of indirect and direct network effects are substantially different, and indirect network effects are not a source of inefficient technology lock-in—and they thus do not pose a barrier to entry. See Stanley J. Liebowitz & Stephen E. Margolis, *Network Effects*, in 1 HANDBOOK OF TELECOMMUNICATIONS ECONOMICS: STRUCTURE, REGULATION AND COMPETITION 79, 85–86 (Martin E. Cave et al. eds., 2002). See generally Spulber, *supra* note 8 (explaining why technology lock-in rarely occurs).

rected. Further understanding might lead to conclusions different than the preliminary ones described here. The immediate point is that the likelihood of error in the face of Google's immensely complicated product and business innovations is unacceptably high, particularly coupled with the dynamic consequences of deterring innovations exactly like Google's, which have proven to be enormously welfare-enhancing.

*E. Has Google Engaged in Exclusionary Conduct?*

There are five primary categories of Section 2 claims raised against Google in the *TradeComet* complaint:

*First:* Google entered into exclusive syndication agreements with certain high-traffic online publishers, foreclosing access by competitors to these important sources of search revenue.<sup>196</sup>

*Second:* Google manipulated its "Landing Page Quality" score to exclude competitors from gaining traffic through Google advertising.<sup>197</sup>

*Third:* Google restricted advertisers access to important data created while using AdWords.<sup>198</sup> Advertisers often embark on complex campaigns that involve bidding on hundreds of thousands of keywords. By restricting access to AdWords data, Google has made it difficult for advertisers to evaluate the performance of their advertising campaigns and decide whether to switch to or add a competitor's search advertising service.

*Fourth:* Google deployed default mechanisms that make it difficult for users to select a search engine other than Google.<sup>199</sup> When individuals use Google's toolbar feature they automatically have Google set as the default search tool. If a user tries to set an alternative search engine the

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196. Complaint, *supra* note 134, ¶ 69.

197. *Id.* ¶ 91–97.

198. *Id.* ¶ 74.

199. *Id.* ¶ 75.

default, Google's toolbar software automatically and without the user's permission, reverts to Google.

*Fifth:* Google manipulated its organic search algorithm to benefit Google's own products and disfavor competitors.<sup>200</sup>

These five categories of allegations largely revolve around two business decisions. First, Google has entered into exclusive syndication agreements with high-traffic websites to impede competitors' ability to gain the critical search exposure necessary to operate a viable search advertising platform. Second, Google has implemented a quality metric as part of its keyword auction that effectively terminates its voluntary profitable dealings with competitors. We consider each business decision in turn, highlighting issues critical to analyzing the merits of a potential monopolization case against Google.

*F. Exclusive Syndication Agreements and Other Foreclosure-Based Arguments*

The *TradeComet* complaint alleges that Google has entered into exclusive agreements "with many of the most highly trafficked websites on the Internet, guaranteeing that any search generated at those non-search websites . . . is directed to Google's search advertising platform rather than to rival platforms."<sup>201</sup> For example, Google entered into an agreement with America Online (AOL), which dedicated its search business to Google's technology.<sup>202</sup> Others have similarly argued that Google's exclusive arrangements with AOL, which involved payments in exchange for placement of a small box on every webpage that said "Search Powered by Google," were a critical moment in Google's history.<sup>203</sup>

The antitrust claims related to Google's exclusive syndication agreements are relatively straightforward.<sup>204</sup> The allegation is that Google's agreements contractually foreclose competing search

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200. *Id.* ¶ 76.

201. *Id.* ¶ 68.

202. *Id.* ¶ 28.

203. VISE & MALSEED, *supra* note 126, at 208–09.

204. For purposes of this Article, we use the term "exclusive agreements" to encompass both agreements that require full as well as partial exclusivity.

engines from the opportunity to compete for the distribution necessary to achieve minimum efficient scale. In the less technical language adopted in the *TradeComet* complaint, it is alleged that the agreements are responsible for “locking up” the business of significant Internet publishers such that the result is “foreclo[sure of a] substantial percentage of the search syndication market.”<sup>205</sup>

Thus, the anticompetitive theory of harm is that Google has locked up a sufficient share of the internet search business with exclusive arrangements such that rival search operators cannot achieve minimum efficient scale, and that Google does so by predatory “overbuying” such that the payments do not necessarily cover Google’s advertising revenues.<sup>206</sup> While antitrust has long recognized the competitive necessity of exclusive arrangements, it is also possible that such agreements can raise barriers to entry and violate Section 2 of the Sherman Act under certain conditions. Google’s exclusive syndication agreements here, however, are not likely cause for antitrust concern.

One reason exclusive dealing arrangements have long been understood by antitrust enforcers and courts to result in the type of competitive harm required for an antitrust violation is that exclusive dealing contracts so frequently arise from the competitive process for product distribution. Consider Google’s syndication arrangement with AOL. While the *TradeComet* complaint presents the temptation to view Google’s success in obtaining that contract as a symptom of the lack of competition, it is actually the opposite. As Msrs. Vise and Malseed note, Google’s success was an example of besting Yahoo! in a fierce competition for AOL’s business.<sup>207</sup> This “competition for the contract,” in antitrust parlance, exposes the fallacy that observing a winner on the top of hill by himself after a race implies the lack of competition. This form of upfront, ex ante competition has long been recognized as a dimension of competition that generates substantial benefits for consumers—AOL’s extra revenues are passed on in the form of lower prices, investments in the quality of its products, and other benefits—that antitrust

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205. Complaint, *supra* note 134, ¶ 70.

206. *Id.*

207. VICE & MALSEED, *supra* note 126, at 208.

must protect.<sup>208</sup> Indeed, antitrust courts have recognized this form of competition as “a vital form of rivalry . . . which the antitrust laws encourage rather than suppress.”<sup>209</sup>

The competitive process for product distribution, or access to promotion and distribution, is especially vigorous in high-tech and web-based markets where vying for consumer attention is an important element of the competitive process. Because of the high stakes nature of competition for the contract and the business that the contract brings with it, and because of the intuitive appeal of the fallacy that the winner of an exclusive contract must face little competition, antitrust analysis of competition for distribution is “an unsettled and sometimes incoherent area of the law.”<sup>210</sup> Google’s exclusive syndication agreements with firms that can shift their customer bases to (or from) Google’s search technology are properly viewed as a form of competition for distribution, similar to the slotting allowances that manufacturers pay to retailers for premium grocery store shelf space which increases product sales. In markets where the success of the firm depends on AOL and similarly situated firms facilitating access to consumers, one can expect vigorous competition for distribution to ensue.

Moreover, Google’s so-called exclusive syndication agreements are often for limited duration, typically apply to only one form of advertising, and often allow the syndication partner to sell ads directly. Thus, the agreements are typically partial exclusives that allow the syndication partner to have greater choice and to retain greater product variety than would obtain under a full exclusive. Each of these factors reduces the degree or extent of exclusivity. Such limitations are not surprising contractual compromises given vigorous competition among search engines.

Merely labeling Google’s syndication agreements as “competition for distribution” does not mean that the agreements are immune from antitrust scrutiny. When accompanied with

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208. See, e.g., *Paddock Publ’ns, Inc. v. Chi. Tribune Co.*, 103 F.3d 42, 45 (7th Cir. 1996) (“Competition-for-the-contract is a form of competition that antitrust laws protect rather than proscribe, and it is common.”).

209. *Menasha Corp. v. News Am. Mktg. In-Store, Inc.*, 354 F.3d 661, 663 (7th Cir. 2004).

210. Joshua D. Wright, *Antitrust Law and Competition for Distribution*, 23 YALE J. ON REG. 169, 170, 191 (2006); see also Klein, *supra* note 149 (explaining that, contrary to the “unfortunate tendency” of viewing exclusive distribution contracts as uncompetitive, such contracts often involve “competition on the merits”).

exclusivity provisions, conditions arise under which agreements can exclude equally efficient rivals, raise barriers to entry, and generate consumer harm. It does, however, imply that, like other forms of competition, one should hesitate before condemning as an antitrust violation an outcome that is generated by the competitive process. Before turning to whether the conditions necessary for Google's agreements to harm consumers are likely to be met here, it is worth noting three important and often overlooked benefits of competition for distribution involving exclusivity.

The first competitive benefit is that competition for distribution generates promotional payments to distributors, which are, in turn, passed on to consumers through quality improvements or price reductions in the distributors' markets. Although the competitive benefits are not as intuitively obvious as payments that take the form of a price reduction, competitive payments from firms like Google to AOL can improve consumer welfare as they are passed on to consumers.

Second, when exclusivity provisions are observed in contracts resulting from competition for distribution, they often have important efficiency effects. For example, exclusive dealing can facilitate investment and the supply of efficient promotion and distribution by minimizing free-riding both in the presence and absence of manufacturer-supplied investments.<sup>211</sup> This is one reason why we observe exclusive dealing contracts in industries where firms do not have market power.

Third, when firms like AOL offer partially or fully exclusive contracts up for bidding to Google and its rivals, the result can be to intensify competition for distribution.<sup>212</sup> Professors Klein and Murphy demonstrate that offering upstream firms access to the distributor's loyal customer base enables the distributor (in this case AOL) to commit a substantial fraction of its customers' purchases to the favored supplier and thereby dramatically increase each supplier's perceived elasticity of

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211. See Benjamin Klein & Andres V. Lerner, *The Expanded Economics of Free-Riding: How Exclusive Dealing Prevents Free-Riding and Creates Undivided Loyalty*, 74 ANTITRUST L.J. 473, 483–84, 498 (2007).

212. Benjamin Klein & Kevin M. Murphy, *Exclusive Dealing Intensifies Competition for Distribution*, 75 ANTITRUST L.J. 433, 437 (2008). This explanation is related to, and provides the economic basis for, the argument that exclusives "instigated" by customers should enjoy a presumption of legality. See Richard M. Steuer, *Customer-Instigated Exclusive Dealing*, 68 ANTITRUST L.J. 239, 240–42 (2000).

demand by making rival products highly substitutable.<sup>213</sup> This effect is important because it provides a procompetitive rationale for why both Google and firms like AOL might desire exclusive syndication agreements: They make both firms better off and consumers benefit as greater payments are passed on. The key policy implications for the antitrust treatment of competition for distribution is that it is a normal part of the competitive process and any antitrust scrutiny should be focused on ensuring that rivals have open access to offer competing bids.

Exclusive syndication agreements, like most exclusive dealing contracts resulting from the competitive process for distribution, are likely to provide at least some efficiency benefits and to harm some individual competitors. The question remains, however, whether those agreements might also produce harm to competition in the form of anticompetitive effects and thereby violate Section 2. We now turn to that question.

The modern “rule of reason” analysis evaluating exclusive dealing contracts focuses on a number of factors, including the defendant’s market power, the degree of market foreclosure, entry conditions within the market, the duration of the contracts at issue, whether exclusivity has the potential to raise rivals’ costs, the presence of actual or likely anticompetitive effects, and business justifications for the questioned action. Professors Areeda and Hovenkamp articulate the *prima facie* case for exclusive dealing claims as follows:

In order to succeed in its claim of unlawful exclusive dealing, a plaintiff must show the requisite agreement to deal exclusively and make a sufficient showing of power to warrant the inference that the challenged agreement threatens reduced output and higher prices in a properly defined market. Then it must also show a foreclosure coverage sufficient to warrant an inference of injury to competition, depending on the existence of other factors that give significance to a given foreclosure percentage, such as contract duration, presence or absence of high entry barriers, or the existence of alternative sources or resale.<sup>214</sup>

Modern antitrust analysis of exclusive agreements in cases involving competition for distribution therefore requires: first,

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213. Klein & Murphy, *supra* note 212, at 444–45.

214. 11 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 1821 (2nd ed. 2005) (citation omitted).

a demonstration of the defendant's market power, second, substantial foreclosure, third contracts of sufficient duration to prohibit meaningful competitive bidding by rivals, and fourth, an analysis of actual or likely competitive effects arising from the defendant's conduct. We will focus our discussion on the second and third elements here because we have already discussed monopoly power and the requirement faced by all plaintiffs bringing monopolization claims to demonstrate that the conduct at issue either has generated or will very likely generate higher prices, reduced output, or less innovation.

### G. Substantial Foreclosure

It is typically necessary to show that a monopolist has foreclosed at least forty percent of the relevant market before antitrust liability can be found.<sup>215</sup> One commentator summarizes current antitrust law as "routinely sustain[ing] the legality of exclusive dealing arrangements with foreclosure percentages of 40 percent or less."<sup>216</sup> Notwithstanding this traditional threshold, a smaller foreclosure percentage can suffice so long as it is shown that competitors have been kept from achieving the critical mass necessary to pose a threat to the monopolist.<sup>217</sup>

The economic logic of the foreclosure requirement is sound. The anticompetitive theories of exclusive dealing arrangements in the economics literature require substantial economies of scale.<sup>218</sup> This is because in order for a monopolist to succeed in increasing barriers to entry, he must cover enough distribution for a sufficient period of time that rivals do not have the opportunity to achieve minimum efficient scale. If rivals face constant returns to scale, a reduction in distribution opportunities does

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215. See, e.g., *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 7 (1984) (holding that a hospital with thirty percent of the relevant market did not possess significant market power).

216. Jonathan M. Jacobson, *Exclusive Dealing, "Foreclosure," and Consumer Harm*, 70 ANTITRUST L.J. 311, 324 n.85 (2002) (listing exemplary decisions illustrating use of the forty percent threshold).

217. See *United States v. Microsoft Corp.*, 253 F.3d 34, 70–71 (D.C. Cir. 2001) (en banc) (per curiam) (finding less than forty percent foreclosure sufficient for antitrust liability); see also Dennis W. Carlton, *A General Analysis of Exclusionary Conduct and Refusal to Deal—Why Aspen and Kodak Are Misguided*, 68 ANTITRUST L.J. 659, 676, 678 (2001).

218. Alden F. Abbott & Joshua D. Wright, *Antitrust analysis of tying arrangements and exclusive dealing*, in 4 ENCYCLOPEDIA OF LAW AND ECONOMICS, ANTITRUST LAW AND ECONOMICS 183, 196 (Keith N. Hylton ed., 2nd ed. 2010).



not deprive the rival of the opportunity to operate efficiently and competition cannot be harmed. The key policy implication of the requirement of substantial foreclosure is that so long as a sufficient number of distributor contracts become available for competitive bidding within a reasonable time period, exclusive contracts are unlikely to generate competitive harm.<sup>219</sup> Consistent with the economic requirement that an exclusive arrangement foreclose a substantial share of distribution, antitrust law has long required plaintiffs to demonstrate substantial foreclosure within a relevant market.<sup>220</sup>

The D.C. Circuit's analysis of Microsoft's exclusive dealing arrangements with Internet Access Providers (IAPs) and personal computer manufacturers provides a recent example of modern antitrust analysis of somewhat similar arrangements. The district court concluded that Microsoft's de facto exclusive distribution contracts did not violate Section 1 of the Sherman Act because they foreclosed less than forty percent of the market. Somewhat puzzlingly, the district court then found that the same arrangements violated Section 2 of the Sherman Act. The D.C. Circuit did not reverse the district court on its ruling with respect to Section 1, which the plaintiffs did not challenge, but it upheld the district court's determination that the contracts violated Section 2.<sup>221</sup> Although the agreements foreclosed less than forty percent of the market, the D.C. Circuit concluded that Microsoft had violated the antitrust laws because the agreements "help[ed] keep usage of Navigator below the critical level necessary for Navigator or any other rival to pose a real threat to Microsoft's monopoly."<sup>222</sup> As such, the D.C. Circuit endorsed a distribution-channel-specific form of foreclosure analysis. Assigning different weights to more efficient distribution channels, the court concluded that Microsoft foreclosed over forty percent of "efficient" or "effective" distribution.<sup>223</sup> Thus, any antitrust analysis of Google's exclusive syndication arrangements will almost certainly require, as a necessary but not sufficient condition for liability, the plaintiff to demonstrate that the contracts

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219. See Klein, *supra* note 149, at 122.

220. See, for example, the cases and discussion in AREEDA & HOVENKAMP, *supra* note 214, ¶ 1821; Jacobson, *supra* note 216, at 324 n.85.

221. *Microsoft*, 253 F.3d at 70–71.

222. *Id.* at 71.

223. See Klein, *supra* note 149, at 127–28.

foreclose at least forty percent of available inputs—in this case search business—from rivals. This approach is a minimal safeguard to ensure that antitrust liability is not erroneously thrust upon agreements between firms that pose no threat to competition and likely produce substantial benefits for consumers.

In the case against Google, it is unlikely that this burden can be met. Like in *Microsoft*, these search agreements allegedly preserve Google's monopoly position because they block search advertisers from obtaining the critical mass of search traffic that is necessary to carry out a viable search advertising platform that could provide some competitive discipline. The anticompetitive theory is that, in the same way that Microsoft blocked browsers such as Netscape from accessing an important distribution channel necessary to generate usage levels critical to compete with Microsoft in the operating system market, Google blocked or will block competing search advertisers from gaining the requisite level of search traffic necessary to maintain a viable and competitive search advertising platform.

Without having the benefit of the data necessary to conduct a full-scale foreclosure analysis, we note several critical points. The first is that the burden lies with the potential plaintiff to demonstrate that the foreclosure levels, whether above or below conventional levels sufficient to survive summary judgment in an exclusive dealing case, are sufficient to deprive rivals of the chance to compete and achieve minimum efficient scale.<sup>224</sup> It is unclear what percentage of the relevant market for distribution Google's exclusive or partial exclusive syndication agreements cover. The percentage might well be quite small in light of the total number of Internet publishers. However, it is at least theoretically plausible that the percentage exceeds the forty-percent threshold.

A Section 2 violation would have to rely on the tenuous presumption that competitors need access to high-traffic websites to build scale. In reality the minimum viable scale is likely quite small. Google's own history—growing from a tiny start-up competing with a Yahoo! behemoth—and that of Microsoft's Bing search engine demonstrate that an operation of competitive quality can be obtained with relatively small initial scale. At the same time, several start-up search engines—from Cuil to Wolf-

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224. See Jacobson, *supra* note 216, at 326.

ramAlpha to the perennial competitor, Ask.com—have entered the market, at least believing that they were able to obtain the necessary scale, even though none have been particularly successful. Some large competitors have failed to capitalize on their size to achieve marketplace success—Lycos and AltaVista, for example. Thus, it is unlikely that syndication agreements that hypothetically foreclose over half of the potential market for distribution (a figure we find implausible) would be sufficient to deprive rivals of the opportunity to compete for sufficient distribution to achieve the minimum efficient scale.

A court could, as the D.C. Circuit did in *Microsoft*, conduct a narrow, distribution-channel-specific foreclosure analysis and come up with much larger foreclosure percentages.<sup>225</sup> Again, however, such an approach would not necessitate a different result. Foreclosure is a necessary but not sufficient condition for liability. Although failure to demonstrate substantial foreclosure implies that antitrust liability is inappropriate, a successful showing only implies that further analysis of competitive effects is wise. The critical question is whether the agreements prevent open and vigorous competition for distribution. The belief that foreclosure of a single channel of distribution is sufficient to maintain monopoly power is at least partially belied by the ability of these search competitors to employ creative tactics to gain market share. Product differentiation is an obvious strategy, and several search engines have employed novel technologies in an effort to distinguish themselves. Similarly, vertical search engines can gain market share by offering searches relevant to specialized products—Amazon, for example, dominates searches for books. Finally, companies like Microsoft have attempted to gain access to end users by attempting their own exclusive arrangements—arrangements that, because of the internalization of indirect network effects, are economically viable for their counterparties. Moreover, Microsoft has a substantial channel of distribution through its own operating system and other products.<sup>226</sup> We therefore tentatively conclude, without having access to data sufficient to conduct our own complete foreclosure analysis, that

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225. *Microsoft*, 253 F.3d at 70–71.

226. Although, *Microsoft* itself probably makes some of the types of procompetitive arrangements that Microsoft would enter into illegal—a testament to the error costs inherent in that case in light of the then-unforeseen competition between Google and Microsoft.

Google's exclusive syndication agreements are not likely to generate foreclosure sufficient to deprive rivals of the opportunity to compete for distribution.

The final key competitive question and a related one is whether the agreements at issue collectively foreclose rivals from access to critical traffic for long enough to produce anticompetitive effects. Exclusive agreements of short duration typically do not raise competitive concerns, because rivals are contractually prohibited from access to the competitive process for distribution—deprived the opportunity to compete—only during the short period the agreement is in force. When exclusive contracts are of short duration, Google's rivals have the opportunity, like Yahoo! did, to compete for contracts with AOL and others. Indeed, conventional antitrust analysis of exclusive dealing arrangements dictates that agreements of less than one year and terminable at will are presumptively lawful,<sup>227</sup> and agreements longer than one year but still of short duration are less likely to result in competitive harm. It is unclear whether the syndication agreements are sufficiently short in duration to be viewed as presumptively lawful under current exclusive dealing law. These agreements do not seem too harmful, however, as the vast majority of syndication agreements expire in less than three years and are staggered (rather than all coming up for renewal at the same time). Rivals are therefore continuously afforded ample opportunity to offer competitive terms.

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227. A number of courts have held that exclusive contracts of one year or less are presumptively lawful. *See, e.g.*, *Concord Boat Corp. v. Brunswick Corp.*, 207 F.3d 1039, 1059 (8th Cir. 2000); *CDC Techs., Inc. v. IDEXX Labs, Inc.*, 186 F.3d 74, 81 (2d Cir. 1999); *Omega Envtl. Inc. v. Gilbarco, Inc.*, 127 F.3d 1157, 1163–64 (9th Cir. 1997); *Paddock Publ'ns, Inc. v. Chicago Tribune Co.*, 103 F.3d 42, 47 (7th Cir. 1996) (“[T]he FTC and the Supreme Court concluded that even exclusive dealing contracts are lawful if limited to one year’s duration.”); *Thompson Everett, Inc. v. Nat’l Cable Adver. L.P.*, 57 F.3d 1317, 1324–25 (4th Cir. 1995); *U.S. Healthcare, Inc. v. Healthsource, Inc.*, 986 F.2d 589, 596 (1st Cir. 1993); *Roland Mach. Co. v. Dresser Indus. Inc.*, 749 F.2d 380, 395 (7th Cir. 1984). Similarly, some commentators have argued in favor of per se legality for such short-term contracts. *See, e.g.*, Wright, *supra* note 210, at 203. A handful of courts have supported this proposition. *See, e.g.*, *United States v. Dentsply Int’l, Inc.*, No. CIV.A.99-005-SLR, 2001 WL 624807, at \*8 (D. Del. Mar. 31, 2001); *Minn. Mining & Mfg. Co. v. Appleton Papers Inc.*, 35 F. Supp. 2d 1138, 1144 (D. Minn. 1999) (“3M has produced evidence that Appleton’s sole-sourcing agreements often include incentives that have the practical effect of tying up the paper sheet inventory of a merchant over a period of several years.”); *United States v. Dairymen, Inc.*, No. 7634A, 1983 WL 1899, at \*1–2 (W.D. Ky. Oct. 26, 1983) (enjoining requirements contracts covering large percentage of the market though only thirty days to one year in duration), *aff’d per curiam*, 758 F.2d 654 (6th Cir. 1985).

### H. Quality Scores

The more interesting and novel antitrust questions relate to the relatively more innovative practice of using quality scoring to adjust AdWords search auctions. Google is alleged to employ its quality score—which rivals complain it has kept secret—to preclude access by competitors to its top search results, and to increase the payments required of competitors for top placement.<sup>228</sup> In an effort to match the facts of *Aspen Skiing*, moreover, the *TradeComet* complaint alleges that Google withdrew from a voluntary, profitable venture through manipulation of its quality scores.<sup>229</sup>

The appropriate antitrust question raised by these complaints is whether Section 2 imposes upon Google, assuming that it is a monopolist, a duty to deal with its rivals. The antitrust laws only rarely impose a duty to deal on business firms.<sup>230</sup> In *Trinko*, the Supreme Court reaffirmed that as a general matter, the antitrust laws do not impose a duty to deal with rivals.<sup>231</sup> However, the Supreme Court also identified narrow conditions “at the boundary” of Section 2 law under which antitrust law will impose such a duty.<sup>232</sup>

In *Aspen Skiing*, the Supreme Court held that a ski area operator violated the antitrust laws by refusing to continue a joint-ticket venture with a neighboring operator.<sup>233</sup> Under the agreement, the parties issued joint, multiday lift tickets that could be used at each of the areas ski facilities. In finding that there was sufficient evidence to support antitrust liability, the Court focused on the offending operator’s willingness to ter-

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228. See Daniel Lyons, *They Might Be a Little Evil*, NEWSWEEK, June 1, 2009, at 24; Joe Nocera, *Stuck in Google’s Doghouse*, N.Y. TIMES, Sept. 13, 2008, at C1.

229. *Compare* Complaint, *supra* note 134 ¶ 8, with *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 601 (1985).

230. See, e.g., *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919) (noting that antitrust laws typically do not “restrict the long recognized right of [a] trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal”). The right to refuse to deal with rivals is not absolute, however, but it is close. see also *Aspen Skiing*, 472 U.S. at 601 (“[T]he high value . . . placed on the right to refuse to deal with other firms does not mean that the right is unqualified.”). See generally *Verizon Comm. Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 407 (2004).

231. *Trinko*, 540 U.S. at 408.

232. *Id.* at 409.

233. *Aspen Skiing*, 472 U.S. at 608.

minate a voluntary and profitable business relationship.<sup>234</sup> The Court observed that the offending operator persisted in terminating the joint-ticket venture even after the competitor offered to pay full retail price for the tickets in order to continue the arrangement. Relying on these facts, the Court concluded that such conduct suggested that the offending ski operator was willing to forgo short-term profits for future monopoly prices. As a result, the court determined that the refusal to deal was anticompetitive conduct aimed at preserving a monopoly.

The Supreme Court's latest word on the duty to deal limits the duty to an extremely narrow set of circumstances:

Firms may acquire monopoly power by establishing an infrastructure that renders them uniquely suited to serve their customers. Compelling such firms to share the source of their advantage is in some tension with the underlying purpose of antitrust law, since it may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities. Enforced sharing also requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing—a role for which they are ill suited. Moreover, compelling negotiation between competitors may facilitate the supreme evil of antitrust: collusion. Thus, as a general matter, the Sherman Act “does not restrict the long recognized right of [a] trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal.”<sup>235</sup>

The Court warned that the imposition of a duty to deal would threaten to “lessen the incentive for the monopolist, the rival, or both to invest in . . . economically beneficial facilities.”<sup>236</sup> “Refusal to deal” antitrust jurisprudence has been heavily criticized by commentators,<sup>237</sup> and offers business firms little in the way of advance knowledge regarding whether business decisions violate the antitrust laws. Because imposition of a duty to deal with rivals threatens to decrease the incentive to innovate by creating new ways of producing goods at lower costs, satisfying consumer de-

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234. *Id.* at 610–11.

235. *Trinko*, 540 U.S. at 407–08 (citing *Colgate*, 250 U.S. at 307).

236. *Id.*

237. See, e.g., Ronald A. Cass & Keith N. Hylton, *Preserving Competition: Economic Analysis, Legal Standards and Microsoft*, 8 GEO. MASON L. REV. 1, 27 (1999); Frank H. Easterbrook, *On Identifying Exclusionary Conduct*, 61 NOTRE DAME L. REV. 972, 973 (1986).

mand, or creating new markets altogether, courts and antitrust agencies have been reluctant to expand the duty.

Despite this reluctance, the *TradeComet* complaint contends that Google's decision to implement a quality metric to effectively terminate earlier dealings with competitors more closely resembles the circumstances presented in *Aspen Skiing* than those in *Trinko*, and thus presents the rare circumstance warranting imposition of a duty to deal under Section 2. The key allegation is that Google manipulates the quality score generated by its quality score methodology, allowing Google to adjust where among the sponsored links AdWords will place an advertisement and what amount must be bid to secure a top placement. According to *TradeComet*, this allows Google arbitrarily to charge advertisers higher prices for the same placement irrespective of the advertiser's keyword auction bids. The complaint contemplates that in extreme cases, Google could charge arbitrarily high prices sufficient to result in a de facto refusal to deal with rivals.<sup>238</sup> *TradeComet* alleges that Google employed this type of strategy once its vertical search engine rival, *SourceTool*, started to enjoy success in the search advertising market.<sup>239</sup>

Google's use of its own quality scores does not, however, create an antitrust duty to deal. *TradeComet* precariously justifies its claim by alleging that Google and *TradeComet* once entered into a voluntary and profitable deal. *TradeComet* alleges that changes to the terms of that deal, such as an increase in the price charged, imply the type of short-term sacrifice of profits at work in *Aspen Skiing*. We are not persuaded. The reasons for rejecting antitrust-based duties to deal cited by the Court in

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238. Complaint, *supra* note 134, ¶ 78.

239. We do not separately discuss this claim as an essential facility claim both because the Supreme Court has refused to endorse such a claim, see *Trinko*, 540 U.S. at 410, and because there is near universal agreement from commentators that it should be abandoned. See, e.g., 3A PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW, ¶ 771c, at 196 (3d ed. 2008) (noting that "the essential facility doctrine is both harmful and unnecessary and should be abandoned"); Michael Boudin, *Antitrust Doctrine and the Sway of Metaphor*, 75 GEO. L.J. 395, 402 (1986) (noting "embarrassing weakness" of essential facilities doctrine); Abbott B. Lipsky, Jr. & J. Gregory Sidak, *Essential Facilities*, 51 STAN. L. REV. 1187, 1195 (1999) ("[M]andatory access remedies, such as the essential facilities doctrine, do not fit comfortably within antitrust law."); Gregory J. Werden, *The Law and Economics of the Essential Facility Doctrine*, 32 ST. LOUIS U. L.J. 433, 480 (1987) ("Courts should reject the doctrine").

*Trinko* and advanced by and leading commentators all militate in favor of rejecting such an allegation.

First, even taking the alleged facts as true, there is no reason to believe that a course of conduct that was once profitable remains so indefinitely. Market conditions change, and such a rule would produce pernicious incentive effects. A rule that exposes innovative firms to Section 2 liability and treble damages for interrupting or terminating a course of dealing threatens to lessen the incentive to innovate and enter into agreements to commercialize innovation in the first instance—particularly because the innovator’s incentives to enter into agreements that spotlight its innovation change over time with increased consumer awareness of the innovation. It is for this reason that several commentators at the recent Section 2 Hearings concluded that termination of an earlier course of dealing should not be a significant factor in assessing whether the antitrust laws impose a duty to deal.<sup>240</sup>

Second (again assuming Google is a monopolist and has forsaken short-term profits to refuse to deal with rivals), imposing a duty to deal is not likely to improve matters because of the difficulties of crafting and enforcing a remedy. As the Court noted in *Trinko*, “enforced sharing . . . requires antitrust courts to act as central planners, identifying the proper price, quantity, and other terms of dealing—a role for which they are ill suited.”<sup>241</sup> The Antitrust Modernization Commission recently reached a similar conclusion,<sup>242</sup> joining the growing consensus of commentators, such as Judge Posner, who have concluded that “it cannot be sound antitrust law that, when Congress refuses or omits to regulate some aspect of a natural monopolist’s behavior, the antitrust court will step in and, by decree, supply the missing regulatory regime.”<sup>243</sup>

Third, and most importantly, even the most aggressive interpretations of *Aspen Skiing*, and the most enthusiastic supporters of a limited antitrust duty to deal, concede that refusal

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240. U.S. DEP’T OF JUSTICE, *supra* note 16, at 42 n.64.

241. *Trinko*, 540 U.S. at 408.

242. ANTITRUST MODERNIZATION COMM’N, *supra* note 37, at 102 (“[F]orced sharing requires courts to determine the price at which such sharing must take place, thereby transforming antitrust courts into price regulators, a role for which they are ill suited.”).

243. POSNER, *supra* note 10, at 243–44.



to deal is entirely appropriate if there is a competitive justification for the conduct at issue. In this case, the argument that Google's quality scores are without competitive merit is misleading and leads to perverse antitrust results. Google's quality score metric is an innovative and effective algorithm for predicting clickthrough rates and facilitating efficient pricing.<sup>244</sup> That the device is used by every general purpose search engine for the same purpose further suggests that its function is procompetitive. Complaints about the secrecy of the algorithm are a red herring from an antitrust perspective. No business firm, even a monopolist, has an antitrust duty to reveal to competitors formulas that it uses to set prices. Further, there is an obvious procompetitive justification for keeping the quality score metric secret: Google's success in matching keywords to ads will be compromised by disclosure of the algorithm because it would open opportunities to game the auction process.<sup>245</sup>

But there is a more fundamental point: United States antitrust law not only does not condemn Google's ability to charge efficient prices for its services through the auction, it encourages it. Even if a potential antitrust plaintiff could demonstrate that the quality scoring metric (or some other auction rule, like reducing the number of slots available) results in higher prices

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244. See Part III; Athey & Ellison, *supra* note 123, at 37.

245. The complaint over Google's refusal to completely disclose its pricing algorithm is related to recent attempts to incorporate privacy issues into antitrust analysis. On the one hand, it is uncontroversial that privacy can be a form of non-price competition and thus falls within the domain of the antitrust laws in the same way that a cartel between rivals to refuse to compete over store hours or free parking would be illegal. Conventional antitrust analysis is sufficiently flexible to adapt to such concerns where appropriate. These arguments, however, seem to have no application here. Modern merger analysis requires one to demonstrate how the merger changes the incentives of parties to compete on privacy. We have not seen any proponents of increased scrutiny of privacy concerns in merger analysis provide an explanation for why a merger would change incentives of firms to compete on privacy. Whatever the evidence supporting the relationship between market concentration and price underlying some of modern merger analysis, we are aware of no evidence that such a relationship exists between concentration of data and privacy competition. The analogous monopolization complaint would be that a dominant firm would engage in practices that harmed competition by reducing the privacy protections afforded consumers. The privacy complaints are not arguments that Google would engage in conduct that would reduce competition, but rather "status" arguments that a single firm in control of data is presumptively bad from an antitrust perspective. There is nothing in modern monopolization law to support such a claim.

because those prices more accurately reflect demand,<sup>246</sup> improving one's ability to extract monopoly rents simply does not violate Section 2 of the Sherman Act. This fundamental trade-off reflects precisely and deeply the concern with error-cost avoidance that we have been discussing.

## V. CONCLUSION

Although our analysis has focused on the types of arguments we believe are most likely to be raised in Section 2 claims against Google, it is possible that there are others we do not consider here. For the reasons discussed above, however, our tentative conclusion is that plaintiffs cannot or should not prevail against Google in a monopolization claim based on the two types of conduct considered here: exclusive syndication agreements and use of the quality score metric to extract greater rents. At a minimum, as a safeguard against the types of antitrust error this Article discusses any such enforcement action should not proceed without rigorous and concrete evidence of harm to consumers.

Indeed, in light of the antitrust claims arising out of innovative contractual and pricing conduct, and the apparent lack of any concrete evidence of anticompetitive effects or harm to competition, an enforcement action against Google on these grounds creates substantial risk for a false positive which would chill the innovation and competition currently providing immense benefits to consumers.

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246. And as we discuss in Part III, *supra*, a quality score adjustment does permit the search engine to capture more revenue by increasing the likelihood of revenue-generating clickthroughs by increasing search result relevance.