LEVERAGING MARKET POWER THROUGH TYING AND BUNDLING: DOES GOOGLE BEHAVE ANTI-COMPETITIVELY?

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I examine Google's pattern and practice of tying and bundling to leverage its dominance into new sectors under antitrust law principles. In particular, I show how Google used these tactics to enter numerous markets, to compel usage of its services, and often to dominate competing offerings. I explore the technical and commercial implementations of these practices, and I identify their effects on competition. I conclude that Google's tying and bundling tactics are suspect under antitrust law.

JEL Codes: K21; L86

I. INTRODUCTION

In September 2013, web sites buzzed[1] with the news that users would be required to create Google+ social networking accounts to comment on YouTube videos.[2] There was no obvious reason why a user must join Google's social network in order to post a brief comment on a video. Indeed, for years users had routinely posted via separate YouTube accounts. Google claimed that improvements were needed to increase the quality of YouTube comment discussions and to prevent spam, but there was no obvious reason why those features should require the use of Google+.[3] That said, critics quickly saw the strategic implication: Google+ was years late to the market; other social networking services were far better established and already enjoyed much more

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[1] Selena Larson, *Want To Comment on YouTube? You'll Need a Google+ Account First*. Readwrite, September 24, 2013, http://readwrite.com/2013/09/24/youtube-google-plus-comment . See also Josh Constine, *Google+ May Finally Matter Thanks to YouTube Comments*, TechCrunch, September 25, 2013, http://techcrunch.com/2013/09/25/google-plus-youtube/ .

[2] *We Hear You: Better Commenting Coming to YouTube*, YouTube Official Blog, September 24, 2013, http://youtube-global.blogspot.com/2013/09/youtube-new-comments.html .

[3] Id.

success. But Google could use its other powerful properties, YouTube among others, to increase the pressure for users to join Google+.

Nor was Google+ unusual in benefiting from Google's other products. In the context of mobile phones and tablets, Google had established a series of restrictions requiring that if a manufacturer sought to install any Google service—such as Maps, YouTube, or the Google Play store for installing other apps from Google and others—the manufacturer must accept a variety of obligations. For example, the manufacturer must install *all* the Google apps that Google specified—even if the manufacturer preferred another app. Furthermore, Google required that apps icons be placed in the locations that Google specified, including multiple entries on the device's prominent "home" screen. The device must use Google Location Services, not competitors' offerings, even if competitors' offerings were faster, more accurate, or more protective of privacy. And manufacturers must take all these actions for Google's benefit without any payment from Google.[4] As a result, competing apps had to struggle to reach users—resorting to soliciting user installations one-by-one, rather than faster and more predictable bulk installations by device manufacturers.

This paper presents a series of incidents in which Google used substantially similar methods—broadly, tying and bundling—to expand its dominance in a number of online markets and into additional markets, then assesses whether these incidents raise concerns under antitrust law. In the past decades, technology companies that engaged in tying and/or bundling have been subject to antitrust scrutiny, most notably Microsoft.[5] Based on that case-law, Google's tying and bundling practices could face strong criticism if they foreclose competition and create consumer harm. Such scrutiny is particularly important in light of Google's dominance in a number of online markets, as well as the central importance of the Internet to the world's economies.

I examine both current ties as well as ties Google used historically but subsequently ceased. My analysis is not exhaustive; there are other ties that I omit, in part because many of Google's practices are concealed and difficult to uncover or prove.

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[4] For details, see footnote 202 and accompanying discussion.

[5] Microsoft has been subject to antitrust legal challenges both in the United States and in the EU for tying applications (such as Internet Explorer and Windows Media Player) to PC operating system "Windows." For a summary of the US proceedings, see WILLIAM H. PAGE AND JOHN E. LOPTAKA, THE MICROSOFT CASE (2009). For a summary of the EU cases, see DAMIEN GERADIN ET AL., EU COMPETITION LAW AND ECONOMICS (2013), at pp. 617 et seq.

Because the relevant Google practices largely occur worldwide, and thus are not limited to a particular jurisdiction, I do not analyze these practices under a particular set of antitrust rules, such as US antitrust law or EU competition law. Rather, I review the current understanding of tying and bundling under US antitrust law and EU competition law, then propose my own test, a rule-of-reason approach that balances the anti-competitive effects of tying and bundling (if any) with offsetting efficiencies (if any). Even under this demanding standard for plaintiffs or competition authorities, Google's tying and bundling practices appear suspect.

I proceed in three parts. First, I briefly review the standard antitrust treatment of the relevant practices: tying and bundling. I then present specific contexts in which Google has tied and/or bundled its new services with its dominant services. For each context, I present key facts, explore the implications for consumers as well ascompetitors that are not vertically-integrated, and apply antitrust analysis. I conclude that Google's strategic use of tying and bundling has allowed it to expand its dominance to numerous sectors adjacent to its current strongholds. If left unchecked, these practices partend a future of reduced choice, slower innovation, lower quality and higher prices.

II. <u>THE LAW OF TYING AND BUNDLING</u>

While common usage often conflates "tying" and "bundling," the concepts are distinct and raise differing, although related, economic and legal concerns.[6] A full treatment of these concepts, their history, and their application is beyond the scope of this paper, particularly because some doctrines are in flux.[7] Instead, I

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[6] Franklin M. Fisher, Innovation and Monopoly Leveraging, in *Dynamic Competition And Public Policy: Technology, Innovation, And Antitrust Issues* 139 (Jerry Ellig ed., 2001) ("Tying occurs when a seller of product A requires all purchasers of A also to purchase product B from it. Sometimes this means that purchasers are required to purchase B from the same seller if they purchase A …; sometimes it means that purchasers of A, if they wish to buy B, must do so from the seller of A." In contrast, "[i]n bundling, the seller of A automatically includes B as part of the sold package, but does so at no separately stated charge.")

[7] There is a large body of legal and economic literature on tying and bundling. For a variety of views, see, e.g., Erik Hovenkamp & Herbert Hovenkamp, Tying Arrangements and Antitrust Harm, 52 ARIZ. L. REV. 925 (2010); Einer Elhauge, Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory, 123 HARV. L. REV. 397 (2009); Daniel A. Crane, Mixed Bundling, Profit Sacrifice and Consumer Welfare, 55 EMORY L.J. 423, 429 (2006); David S. Evans & A. Jorge Padilla, Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach, 72 U. CHI. L. REV. 73 (2005); Barry Nalebuff, Exclusionary Bundling, 50 ANTITRUST BULL. 321 (2005); David S. Evans & Michael Salinger, Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law, 22 YALE J. REG. 37 (2005); Christian Ahlborn, David S. Evans & A. Jorge Padilla, The Antitrust Economics of Tying: A Farewell to Per Se Illegality, 49 ANTITRUST BULL.287 (2004); Dennis W. Carlton & Michael Waldman, The Strategic Use of Tying to Preserve and Create Market Power in Evolving

limit ourselves to a brief discussion of tying and bundling and their effects on competition.

A. Tying

In this section, I describe the notion of tying, as well as its possible pro- and anti-competitive effects. I then review the legal tests applied to tying under US antitrust law and EU competition law. I then describe the six-part rule of reason analysis that I will apply to Google's tying practices.

1. Tying and its effects

Tying generally refers to a situation where a seller refuses to sell one product (the "tying" product) unless the buyer also takes another product (the "tied" product).[8] Sellers can implement tying on a contractual basis, with a tie enforced through contractual provisions to that effect. Sellers can also use a technical or technological tie where, for instance, the tying and the tied product are physically integrated or designed in such a way that they can only work together. For example, suppose one firm produces both toothpaste and toothbrushes (and is dominant in the primary market for toothpaste) while a second firm produces only toothbrushes. The first firm can require that every customer who wants toothpaste must also buy a toothbrush. This practice diverts sales away from the second firm, with no risk to the first firm's dominant position in the primary market.

Tying is commonly used by firms with or without market power to offer better, cheaper and more convenient products and services. Shoes have always been sold with laces and cars with tires. But product integration extends beyond these simple products and has become a key business strategy in many industries. For instance, manufacturers of consumer electronics combine many components into a single product that works better or is more cost-effective, smaller or energy-efficient. Smartphones comprise elements that used to be provided separately (phone, camera, and more), and the smartphone's screen and software provide a flexible platform that allows integration of ever more functions.

Industries, 33 RAND. J. ECON. 194 (2002); Keith N. Hylton & Michael Salinger, Tying Law and Policy: A Decision-Theoretic Approach, 69 ANTITRUST L. REV.469 (2001); Michael D. Whinston, Tying, Foreclosure, and Exclusion, 80 AM. ECON. REV. 837 (1990).

[8] In *Eastman Kodak*, the Court defined tying as "an agreement by a party to sell one product but only on the condition that the buyer also purchase a different (or tied) product, or at least agrees that he will not purchase that product from any other supplier." Eastman Kodak v. Image Technical Servs, 504 U.S. 451, 461 (1992). See also Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, OJ 2009, C45/7, at § 48.

While tying is usually pro-competitive, it may also be used as an exclusionary strategy. First, a firm that is dominant in the market for the tying product may seek to extend its market power into the market for the tied product. Since consumers must obtain the tying product from the dominant firm, the firm can expand its dominance by tying the purchase of the two goods together.[9] If the firm ties a complementary product to its monopoly product, customers can only buy the monopoly product if they also purchase the tied product. As a result, customers are less willing to purchase a separate (redundant) tied product from an independent supplier, foreclosing competition in the otherwise competitive market for the complementary product.

Second, there may be circumstances where tying protects dominance in the tying product market.[10] When the tying monopolist expects that successful tied product-makers are likely to evolve into tying product-makers in the future, it has incentives to foreclose rivals in the tied product markets to prevent or reduce competition in its tying market. For instance, in the US Microsoft case, the Department of Justice (DoJ) argued that Microsoft tied Windows to Internet Explorer not to reap profit in the browser market, but to protect its dominant position in the operating system market. It was alleged that Microsoft used this strategy in light of the threat that might emerge from a significant browser competitor, which could become an alternative operating system.[11]

I offer several additional observations as to the effects of tying in online markets. First, anti-competitive harm may occur even if users are not asked to pay directly for the tying product or the tied product. A provider of free online services may have an incentive to extend its dominance in the provision of some services (the tying services) to other services (the tied services) in order to improve its capacity to monetize the services it provides on the paying side of the platform (e.g., advertising).[12] Such a strategy is particularly prominent among multi-sided platforms: A platform operator may provide service to one set of users without a direct charge, choosing instead to profit from fees charged to others. For example, in the context I consider, Google may find that it can increase its advertising revenue by controlling a greater share of online services (search, maps, travel services, etc.). There is little competition law squarely on point (a

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[9] See Einer Elhauge and Damien Geradin, GLOBAL ANTITRUST LAW AND ECONOMICS (2nd Edition 2011), at p. 562 et seq.

[10] See, e.g., R. Cooper Feldman, Defensive Leveraging Strategy in Antitrust, 87 GEO. L. J., 2079 (1999).

[11] Timothy Bresnahan, Network Effects and Microsoft, SIEPR Discussion Paper No. 00-51, August 2001, available at http://www-siepr.stanford.edu/papers/pdf/00-51.pdf

[12] Jean-Charles Rochet and Jean Tirole, Platform Competition in Two-Sided Markets, 1(4), JOURNAL OF THE EUROPEAN ECONOMIC ASSOCIATION 990 (2003).

notable exception being the Microsoft cases as to Internet Explorer, which was offered to users without any separate charge), but I note that underlying statutes are broadly written. For example, the Sherman Act disallows "contracts … in restraint of trade"[13] without stating any limitation as to the payment amount or direction of exchange of value and funds. Article 102 TFEU is equally broad, prohibiting dominant firms which include "making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations"—a framework which can encompass both paid and unpaid relationships.

Second, even incomplete tying may nonetheless foreclose competition. For example, tying need not be permanent to foreclose competitors; to deter competitors' entry or to weaken competitors, it may suffice to impose a tie for a few months, then abandon the tie when the tied product achieves a position of strength on the relevant market. Similarly, a tie may offer exceptions for sophisticated users who know how to "untie" the restriction. However, if such methods are known only to a fraction of users, the tie may nonetheless create important anticompetitive effects.

Third, other tactics may magnify the effects of tying. For example, a tie may be implemented secretly, with non-disclosure agreements preventing the public from finding out what has occurred, or with the details of the tie shrouded in an algorithm not directly available for public scrutiny. Such secretiveness may lead consumers, regulators, and others to mistakenly attribute the tied product's popularity to market success, when it actually results from tying. Such mistakes may weaken the market pressures that would otherwise discourage tying. Furthermore, when tying makes the success of a dominant firm's tied product more likely, and the success of others' offerings less likely, tying can change adoption expectations. This is a particularly important factor in two-sided markets where users choose services in light of beliefs about what others will choose.[14]

Fourth, harm may occur even if the tied product does not succeed or gain significant market share. For example, the tied product may achieve only a modest market share, but without the tie, its market share might have been even lower or in some cases zero. In such cases, the effects are certainly smaller than when market power is effectively transferred to the tied product market, but they are not necessarily insignificant. Moreover, tying can foreclose the entry of what would have been a better service. For example, the distinct advantage that tying grants Google as it enters a new market may discourage rival online service

[13] 15 U.S.C. § 1 (2001)
[14] Rochet and Tirole, supra.

providers from entering or investing further, as they may conclude that their (potentially superior) service is bound to fail. I therefore see grounds for concern even in those areas where Google's use of tying did not lead to outsized success in the tied product market.

Fifth, the principle of tying can be developed through methods quite different from the toothpaste and toothbrushes I sketched above. For example, a dominant firm can use its power over *suppliers* to force them to provide material for uses they would not otherwise have accepted, in markets where the firm is not (yet) dominant. I provide examples of this approach in Section IV. Though this practice differs from classic tying, it is true to the basic principles of tying theory—a firm extends dominance in one market into dominance in another.

Finally, online markets let dominant firms implement tying without the same level of coercion seen in traditional markets. If a dominant seller of toothbrushes wished to expand into toothpaste, it might package every toothbrush with toothpaste—including both products in a single package with shrinkwrap, a single barcode, and a single price such that it becomes impossible to buy the toothbrush without also receiving (and paying for) the toothpaste. Online, a dominant firm can implement a tie with lesser compulsion. Specifically, I show multiple examples where a tie operates through prominent on-screen placement, defaults, or other tactics that influence standard and typical practice. Due to the time and effort required to find an alternative, the frequency with which such actions must be taken, and the overall context and implementation, these defaults may have the same effect as full coercion—predictably and systematically causing consumers to receive a dominant firm's offering in the tied product market, even where the consumer would otherwise have chosen a competitor.

2. The US and EU case-law on tying

The US and EU antitrust case-laws on tying have evolved in different directions.

a. The US case-law

Under US antitrust law, the Supreme Court has taken a strict approach with respect to tying. In *Eastman Kodak*, the Court considered that a tying arrangement violates Section 1 of the Sherman Act "if the seller has 'appreciable economic power' in the tying product market and if the arrangement affects a substantial volume of commerce in the tied market,"[15] hence applying a quasi-per se rule of

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[15] *Eastman Kodak Co. V. Image Technical Services*, Inc., 504 U.S. 451, at 461-62 (1992).

illegality to tying conduct.[16] A claim of quasi-per se illegal tying has the following four elements: (i) The tying and the tied products must be separate; (ii) The defendant must have sold the tying product on the condition that the purchaser take the seller's tied product; (iii) The defendant must have market power in the tying product; (iv) There must be a non-trivial dollar amount of sales in the tied product.

Of these four factors, scholarly debates largely focused on the first: whether the products are, in fact, separate. The Supreme Court *in Jefferson Parish* held that the question of distinct markets "turns not on the functional relation between them, but rather on the character of demand for the two items"—i.e. whether consumers seek the items separately.[17] On the basis of this approach, if there exists separate demand for two products, then the products are necessarily separate.[18] As I discuss in the next section below, the separate product test has also been subject to debate under EU competition law.

Questions also arose as to whether efficiency considerations were admissible under the quasi-per se rule. This is unclear, as the Supreme Court has so far rejected every efficiency justification that has been offered to justify tying conduct. In *Jefferson Parish*, the Court recognized that tying may, at least in certain circumstances, be welfare enhancing.[19] Yet, the Court continued to rely on a quasi-per se prohibition of tying arrangements, observing that it was too late in the history of Court's jurisprudence "to question the proposition that certain tying arrangements pose an unacceptable risk of stifling competition and therefore are unreasonable '*per se*'."[20]

However, in the *Microsoft* case, the Court of Appeal for the D.C. Circuit held that "the rule of reason, rather than per se analysis, should govern the legality of

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[16] This may appear to be a per se rule because the plaintiff need not prove anti-competitive effects. However, the plaintiff must prove market power in the tying market. See ELHAUGE AND GERADIN, supra note 9, at 571.

[17] See *Jefferson Parish Hosp. Dist. V. Hyde*, 466 U.S. 2, 15 (1984).

[18] For instance, applying the *Jefferson Parish* test, the district court in the *Microsoft* case found that "the commercial reality is that consumers today perceive operating systems and browsers as separate 'products,' for which there is separate demand." United States v. Microsoft Corp., 87 F Supp 2d 30, at 49 (D.D.C. 2000).

[19] "[N]ot every refusal to sell two products separately can be said to restrain competition. If each of the products may be purchased separately in a competitive market, one seller's decision to sell the two in a single package imposes no unreasonable restraint on either market, particularly if competing suppliers are free to sell either the entire package or its several parts… Buyers often find package sales attractive; a seller's decision to offer such packages can merely be an attempt to compete effectively—a conduct that is entirely consistent." *Jefferson Parish Hospital Dist. No. 2 et al. v. Hyde*, 466 U.S. 2, 19 (1984).

[20] Id. at 9.

tying arrangements involving platform software products."[21] The Court observed that the case was fundamentally different from the tying cases addressed by the Supreme Court in at least two respects: "[i]n none of the cases was the tied good physically and technologically integrated with the tying good;"[22] and the argument was raised that the "tie improved the value of the tying product to users and to makers of the complementary goods."[23] The Court noted that, in these circumstances, "[a]pplying per se analysis ... creates undue risks of error and of deterring welfare-enhancing innovation."[24] By contrast, the rule of reason approach would permit evaluating efficiency arguments that were not previously considered.

b. The EU case-law

The European Commission has issued only a few decisions concerning tying and bundling, most famously its 2004 finding that Microsoft abused its dominant position on the PC operating system market. In *Microsoft*, the Commission decided that Microsoft infringed Article 102 of the Treaty on the Functioning of the European Union (TFEU) by tying Windows with Windows Media Player (WMP).[25] The Commission considered that anti-competitive tying requires the presence of the following elements: (i) The tying and the tied goods are two separate products; (ii) The undertaking concerned is dominant in the tying product market; (iii) The undertaking concerned does not give customers a choice to obtain the tying product without the tied product; and (iv) The tying in question forecloses competition.[26]

The Commission found that WMP and Windows were two separate products.[27] The distinctness of products had to be assessed with an eye toward consumer demand. The Commission noted that the market provides media players separately, which the Commission considered evidence of separate consumer demand for media players versus client PC operating systems. It also found that Microsoft was dominant in the market for PC operating systems and established

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[21] *United States v Microsoft Corp*, 253 F3d 34, 44 (DC Cir 2001). For a good discussion, see David Heiner, Assessing Tying Claims in the Context of Software Integration: A Suggested Framework for Applying the Rule of Reason Analysis, 72 U. CHICAGO LAW REVIEW 123 (2005).
[22] Id. at 90.
[23] Id.
[24] Id. at 94.
[25] Commission Decision, 24 March 2004, Case *COMP/C-3/37.792 Microsoft*. See Damien Geradin, Limiting the Scope of Article 82 of the EC Treaty: What can the EU Learn from the US Supreme Court's Judgment in Trinko in the wake of Microsoft, IMS, and Deutsche Telekom, 41 COMMON MARKET LAW REVIEW 1519 (2004)
[26] Id. at § 794.
[27] Id., section 5.3.2.1.2

that customers were not given the choice of acquiring the tying product without the tied product. As to the element of foreclosure, the Commission first stated that tying has a harmful effect on competition,[28] but also acknowledged that there were circumstances "which warrant a closer examination of the effects that tying has on competition in this case."[29] The Commission thus decided to use an effects-based approach and found that Microsoft's conduct created anti-competitive effects, hence condemning Microsoft's tie of WMP.

Microsoft subsequently appealed the decision of the Commission to the General Court of the EU (GC).[30] In its judgment, the GC supported the position of the Commission that (i) operating systems for PCs and media players are distinct products; (ii) Microsoft is dominant on the market for operating systems; and (iii) the condition of coercion is met in that Microsoft did not give consumers the option of obtaining Windows without WMP. However, the GC departed from the Commission's effects-based approach to evaluating foreclosure. It noted the Commission's finding that the ubiquitous presence of WMP on PCs provided a significant "competitive advantage" to Microsoft, and the GC said that this finding was "sufficient to establish that the fourth constituent element of abusive bundling is present in this case."[31] For the GC to demonstrate that the tying in question creates a competitive advantage that rivals are unable to replicate, it was thus sufficient to show that WMP was ubiquitous. After demonstrating such a competitive advantage, it is no longer necessary to show that the tying produces foreclosure effects in the market in question.

3. Proposed test

Because tying practices can be a source of efficiencies, I believe that such practices should be analyzed under a rule of reason analysis along the lines of the test carried out by the Court of Appeals for the D.C. Circuit in the *Microsoft* case. In my view, this analysis should comprise six components: (i) Does the defendant have market power on the tying product; (ii) Are the tying and the tied product different?; (iii) Are the tying product and the tied product tied together?; (iv) Does the tie foreclose competitors?; (v) Does the tie create consumer harm?; and (vi) Are there countervailing efficiencies?

While the first and the third elements of this test are straightforward, the other elements yield the following observations. First, when determining whether two products are separate for the purpose of tying analysis, I propose to consider

[28] Id. at § 835.
[29] Id. at § 841.
[30] *Microsoft v. Commission*, T-201/04, [2007] ECR 2007 II-3601.
[31] Id. at § 1058.

multiple factors including the functionality of the products, their usage, whether there is separate demand for the tied and/or the tying product(s), and any other elements that can help determine whether the products are distinct under the circumstances. Second, to establish the presence of illegal tying under rule of reason analysis, foreclosure effects and consumer harm must be demonstrated (rather than presumed). Such effects must then be balanced against any efficiencies generated by the tie in order to determine whether the tie creates more good than harm.

B. Bundling

1. Tying and its effects

A seller engages in "bundling" by offering multiple products, in combination, at a single price without necessarily disclosing the charges for the individual products.[32] Unlike tying, bundling does not require consumers to buy the two products together. Rather, consumers are financially induced to do so. Bundling is ubiquitous, and bundled rebates are frequently used by both companies with and without market power to stimulate demand. For example, many restaurants offer set menus—bundles of dishes— which are typically cheaper than ordering *à la carte*. Similarly, dental care product companies often sell separate products—e.g. toothpaste and toothbrushes—at a cheaper price when bought together. Pharmaceutical companies often sell bundles of separate drugs at a discount to hospitals and pharmacies.

Bundle rebates may be a source of efficiencies in that they can lower a firm's costs by allowing economies of scope in manufacturing and/or transacting. They can also be used to encourage customers to try a new product. These relationships also often benefit customers by providing products at a cheaper price. However, in some cases mixed bundling may be anticompetitive because a dominant firm can use mixed bundling to foreclose competition by a single-product competitor that is "unable to match the multiproduct or multimarket discounts" of the dominant firm. Consequently, the competitor loses sales to the dominant firm.[33] For example, suppose one firm produces both apples and oranges (and is dominant in the primary market for apples) while a second firm produces only oranges. The first firm can create "bundles" of apples and oranges at a single

[32] Damien Geradin, A Proposed Test for Separating Pro–competitive Conditional Rebates from Anti–competitive Ones, 32 WORLD COMPETITION, 41 (2009); Daniel A. Crane, *Mixed Bundling, Profit Sacrifice, and Consumer Welfare*, 55 EMORY L. J. 423, 424 (2006).

[33] *Id*. at 425, *see also* LePage's, Inc. v. 3M Co., 324 F.3d 141, 145 (3d Cir. 2003) (en banc). See Benjamin Klein & Andres V. Lerner, The Law and Economics of Bundled Pricing: LePage's, PeaceHealth, and the Evolving Antitrust Standard, 53 ANTITRUST BULL. 555 (2008).

price for an opaque "discount," while maintaining a separate price for buyers only seeking apples. This practice diverts sales away from the second firm, with no risk to the first firm's dominant position in the primary market.

2. The US and EU case-law on mixed bundling

US and EU case-law are evolving in a similar direction on mixed bundling.

a. The US case-law

There have been few federal court decisions—and no Supreme Court decisions—analyzing bundled discounts under Section 2 of the Sherman Act. In *LePage's*, a manufacturer of private-label transparent tape alleged that 3M maintained a monopoly in the market for transparent tape through a bundled-rebate program for large retail chains. *LePage's* alleged that retaining its customers would require compensating customers not only for the loss of tape-specific rebates, but also for the loss of rebates across the product lines. The jury found 3M liable for monopoly maintenance in breach of Section 2. The Third Circuit affirmed the decision in an en banc decision.[34] Importantly, *LePage's* was not required to demonstrate that either it or an equally efficient competitor could only the discount by pricing below cost. Academic and practitioner commentators criticized the *LePage's* decision for failing to give guidance as to when bundled rebates are anti-competitive.[35]

In 2007, the Antitrust Modernization Commission proposed to evaluate a bundle by considering three factors:

> (1) after allocating all discounts and rebates attributable to the entire bundle of products to the competitive product, the defendant sold the competitive product below its incremental cost for the competitive product;
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> (2) the defendant is likely to recoup these short-term losses; and
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> (3) the bundled discount or rebate program has had or is likely to have an adverse effect on competition.[36]

Some courts have favored objective cost standards in evaluating bundled discounts. Consider *PeaceHealth*.[37] At issue were defendant *PeaceHealth*'s

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[34] LePage's, Inc. v. 3M Co., 324 F.3d 141 (3d Cir. 2003) (en banc).
[35] ANTITRUST MODERNIZATION COMMISSION REPORT AND RECOMMENDATIONS 12 (Apr. 2007), *available at* http://govinfo.library.unt.edu/amc/report_recommendation/amc_final_report.pdf, at 97.
[36] Id.

preferred provider agreements, which offered a lower reimbursement rate to insurance companies that agreed to make *PeaceHealth* its exclusive preferred provider of primary, secondary and tertiary hospital services. The plaintiff (formerly known as McKenzie-Willamette Hospital) offered primary and secondary services, but did not offer tertiary services. McKenzie sued *PeaceHealth* for attempted monopolization under Section 2, claiming that *PeaceHealth*'s bundled pricing agreements were exclusionary and threatened monopolization of the competitive markets for primary and secondary services. Relying on the recommendations of the AMC, the Ninth Circuit adopted the discount attribution test as a safe harbor for bundled pricing claims, holding that bundled pricing cannot constitute exclusionary conduct under Section 2 unless, after allocating the full amount of the discount on the bundle to the competitive products, the price of the competitive products falls below the defendant's incremental costs of production. As the court explained, "[t]his standard makes the defendant's bundled discounts legal unless the discounts have the potential to exclude a *hypothetical* equally efficient competitor."[38]

b. The EU case-law

EU law also offers sparse judicial guidance on the permissibility of bundled rebates under Article 102 TFEU. However, the European Commission's 2009 Guidance Paper proposed the following test:

> "If the incremental price that customers pay for each of the dominant undertaking's products in the bundle remains above the LRAIC of the dominant firm from including this product in the bundle, the Commission will normally not intervene since an equally efficient competitor with only one product should in principle be able to compete profitably against the bundle. Enforcement action may however be warranted if the incremental price is below the LRAIC, because in such a case even an equally efficient competitor may be prevented from expanding or entering."[39]

This test largely matches the test which was proposed by the Antitrust Modernization Commission and which was applied in *LePage's*, although this test has not yet been formally applied by the Commission in a case.

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[37] *Cascade Health Solutions v. PeaceHealth*, 479 F.3d 726 (9th Cir. 2007).
[38] Id. at 727.
[39] See Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings issued in December 2008, [2009] OJ C45/7, at § 60.

3. Proposed test

As in the case of tying, bundled rebates can be a source of efficiencies, so they should not be examined under a per se rule. Rather, I propose to adopt the "attributed price-cost test" proposed by the Antitrust Modernization Commission and the European Commission's 2009 Guidance Paper.

I now turn to various Google practices that significantly rely on tying and bundling and analyze these practices under my proposed tests.

III. REQUIRING USERS TO ACCEPT GOOGLE'S ADDITIONAL SERVICES IN ORDER TO RECEIVE ALGORITHMIC SEARCH

Google's popular web search service features other Google services—prominently and, indeed, unavoidably. This practice is vulnerable to critique as a form of tying.

A. Facts and Business Analysis

A user running a search at Google receives not just Google's core algorithmic search results, but also various other Google results directing users to the company's related services. As a result, a user wishing to enjoy Google Search is automatically presented with whatever additional service links Google provides, in whatever proportion and prominence Google elects to provide them. Through these links, Google sends substantial user traffic to its own additional services.

1. Google services benefit from tied promotion

Google has featured most of its additional services through prominent placement in search results. Beneficiaries include Google Blog Search,[40] Google Book Search,[41] Google Finance,[42] Google Flight Search,[43] Google Health,[44]

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[40] Alex Chitu, *Google Adds Blog Search OneBox*, Google Operating System, January 23, 2007, http://googlesystem.blogspot.com/2007/01/google-adds-blog-search-onebox.html .

[41] Brian Smith, *A Closer Look at Google OneBox Results*, Search Engine Watch, http://searchenginewatch.com/article/2067511/A-Closer-Look-at-Google-OneBox-Results .

[42] Marissa Mayer. Remarks on the launch of Google Finance. Seattle Conference on Scalability: Scaling Google. June 23, 2007. https://www.youtube.com/watch?v=LT1UFZSbcxE#t=44m50s (video at 44:50).

[43] Dennis Schaal, *Google Flight Search Results Now High In Google Organic Search Results*, Tnooz, December 2, 2011, http://www.tnooz.com/article/google-flight-search-results-now-high-in-google-organic-search-results .

[44] Barry Schwartz, *Google Answers Your Health Questions with Health OneBox*, Search Engine Land, August 27, 2009, http://searchengineland.com/google-answers-your-health-questions-with-health-onebox-24675 .

Google Hotel Finder,[45] Google Images,[46] Google Maps,[47] Google News,[48] Google Places,[49] Google+,[50] Google Scholar,[51] Google Shopping,[52] Google Video,[53] and more. In most respects, these many ties are analytically similar. In particular, in each instance Google featured its own offering, pushed competing services to less prominent positions, and provided no way for users to "untie" by declining Google's additional service. The following sections note additional facets of this tying.

In a widely discussed example in this vein, users questioned Google's oversized presentation of results drawn from Google+, a Google offering intended to provide social networking functions in some respects similar to Facebook. In search results in January 2012 and onwards, Google presented oversized Google+ results in boxes that filled much of the valuable top-of-page screen space.[54] Numerous independent users reported that Google+ results were less useful than the content they displaced. For example, in January 2012 searches for "@wwe" (the Twitter feed of World Wrestling Entertainment), Google prominently displayed less relevant Google+ content, while demoting the genuine Twitter page to a lower position in search results.[55] One user searching for a specific article noted that Google ranked *discussion* of the article (on Google+) above the article itself (hosted elsewhere).[56] Meanwhile, Google Instant autocomplete simultaneously began presenting links directly to Google+ pages.[57] (Personal sites

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[45] Dennis Schaal, *Google Repositions Hotel Finder Atop Organic Search Results*, Tnooz, April 30, 2012, http://www.tnooz.com/article/google-repositions-hotel-finder-atop-organic-search-results/ .
[46] Danny Sullivan, *Google Images in OneBox Display Further Supplant Main Results*, Search Engine Watch, February 7, 2005, http://searchenginewatch.com/article/2062809/ .
[47] Barry Schwartz, *Google Maps Added As OneBox Result*, Search Engine Watch, July 17, 2006, http://searchenginewatch.com/article/2058224/Google-Maps-Added-As-OneBox-Result .
[48] Smith, supra.
[49] Barry Schwartz, *Google Changes Maps OneBox Design*, Search Engine Roundtable, July 12, 2010, http://www.seroundtable.com/archives/022527.html .
[50] Lance Ulanoff, *Google Merges Search and Google+ Into Social Media Juggernaut*, Mashable, January 10, 2012, http://mashable.com/2012/01/10/google-launches-social-search/ .
[51] Smith, supra.
[52] Alex Chitu, *Product Images in Google Shopping*, Google Operating System, May 15, 2008, http://googlesystem.blogspot.sg/2008/05/product-images-in-google-shopping.html .
[53] Philipp Lenssen, *Google Video Onebox Spotted*, Google Blogoscoped, August 27, 2008, http://blogoscoped.com/archive/2008-08-27-n85.html .
[54] Elinor Mills, *EPIC Says FTC Should Probe Google Personal Search*, c|net News.com, January 11, 2012.
[55] Mills, id.
[56] John Mitchell, *Google+ Is Going To Mess Up The Internet*, Readwrite, January 3, 2012, http://readwrite.com/2012/01/03/google_is_going_to_mess_up_the_internet .
[57] Danny Sullivan, *Google's Results Get More Personal with 'Search Plus Your World'*, Search Engine Land, January 10, 2012, http://searchengineland.com/googles-results-get-more-personal-with-search-plus-your-world-107285 (at heading "Google Profiles Get Big Push" and "What About Promoting Facebook Profiles Or Even Web Sites?").

and pages on other services, such as Facebook, received no such benefit.) Furthermore, users who posted content to Google+ received photos and bylines in search results, while postings to other sites largely lacked these add-ons.[58]

Google sometimes implements a tied promotion of an additional service, then scales back that tie. For example, Google launched Google+ with exceptionally prominent and oversized Google+ listings, but Google later reduced the size and frequency of Google+ listings, by all indications due to widespread criticism of the oversized listings and favored treatment of Google's own service.[59] But even when Google subsequently scales back the favored treatment, even the initial period—and the knowledge and expectation of such favoritism—causes users and content providers to treat Google's success as virtually assured.[60] Moreover, even a temporary benefit to Google's own services signals competitors and investors that further investment may be futile.

Even after tied promotion of Google's additional services, significant non-Google content typically remains somewhere on the page. But Google content often claims the most desirable positions: Google usually puts its additional services at the top of the left column.[61] A user who scans the page from top to bottom, left to right,[62] thus sees Google material first. While expert users may recognize that Google's insertions are unwanted, novices are more likely to click on ads[63] and more likely to be influenced by the extra Google results. Moreover, for highly commercial searches such as flights and hotels, the first on-screen page of Google results is often entirely filled with Google services plus advertisements, without a single algorithmic link to another site.[64]

In general, Google does not tell the public when or why it decides to include special results directing users to other Google services. In a notable exception,

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[58] Mark Traphagen, *December 2013: Authorship In Search Results Gets Restricted*, Virante Orange Juice, December 19, 2013, http://www.virante.org/blog/2013/12/19/authorshippocalypse-google-authorship-penguin-finally-appeared/ .

[59] See e.g. Sullivan, supra.

[60] See note 99 and associated discussion.

[61] Of the Google services listed at note 40 and onwards, all were promoted at the top-left position.

[62] Susan Athey and Glenn Ellison, Position Auctions with Consumer Search, 126(3) QUARTERLY JOURNAL OF ECONOMICS, 1213 (2011) .

[63] Benjamin Edelman and Duncan Gilchrist, *Advertising Disclosures: Measuring Labeling Alternatives in Internet Search Engines*, 24 INFORMATION ECONOMICS AND POLICY 75 (2012).

[64] See e.g. Benjamin Edelman, *Google as Publisher … and What To Do About It*, http://www.benedelman.org/presentations/google-as-publisher-18mar2013.pdf (slide 15: highlighting in yellow the amount of content visible on a standard widescreen laptop, with no algorithmic results visible in that area). See also Benjamin Edelman and Zhenyu Lai, *Exclusive Preferential Placement as Search Diversion: Evidence from Flight Search*, HBS Working Paper 13-087 (figure 3, showing a large Google Flight Search box pushing algorithmic results lower down the page, where they would not be visible on a standard laptop display).

Marissa Mayer (one of Google's first twenty employees) offered a frank explanation: "[When] we roll[ed] out Google Finance, we did put the Google link first. It seems only fair right, we do all the work for the search page and all these other things, so we do put it first... That has actually been our policy, since then, because of Finance. So for Google Maps again, it's the first link."[65] Consistent with Mayer's statement, comparison of specific search results reveals patterns that appear to be consistent only with manual decisions by Google staff, inconsistent with operation of Google's ordinary search algorithm.[66] No other company can claim such benefits.

Notwithstanding Google's occasional admission of giving its own services favored placement, some users are likely to conclude or assume that Google's search results give no favored treatment to Google. For one, Google's results give no explicit indication or disclosure that Google favors its own services. Moreover, Google has specifically promised to provide "objective"[67] "unbiased"[68] results. Indeed, Google repeats these claims widely: Udi Manber, Google Vice President in charge of search quality, said Google "do[es] not manually change results."[69] Amit Singhal, Google Fellow in charge of the ranking team, commented that "Our third philosophy: no manual intervention…The final ordering of the results is decided by our algorithms…, not manually by us. We believe that the subjective judgment of any individual is…subjective, and information distilled by our algorithms…is better than individual subjectivity."[70] Google co-founder Sergey-Brin said Google's "approach to search" is "fully automated."[71][72] Having heard Google's promised to be objective, users naturally expect Google to follow that approach.

[65] Marissa Mayer, Remarks at Google Seattle Conference on Scalability, June 23, 2007, http://www.youtube.com/watch?v=LT1UFZSbcxE#t=44m50s (video at 44:50).
[66] Benjamin Edelman, *Hard-Coding Bias in Google 'Algorithmic' Search Results*, http://www.benedelman.org/hardcoding/ .
[67] Lucinda Barlow, *Hey! My Site Disappeared!*, Official Google Australia Blog, January 16, 2010, http://google-au.blogspot.com/2010/01/hey-my-site-disappeared.html .
[68] Google Code of Conduct, http://investor.google.com/corporate/code-of-conduct.html .
[69] Glenn Derene, *20 (Rare) Questions for Google Search Guru Udi Manber*, Popular Mechanics, April 16, 2008.
[70] Amit Singhal, *Introduction to Google Ranking*, Google Official Blog, July 9, 2008, http://googleblog.blogspot.com/2008/07/introduction-to-google-ranking.html .
[71] *Hungry Minds.com Chooses Google as Exclusive Provider of Site Search*, Press Release, *November 15, 1999.*
[72] For an index of similar statements from Google and senior managers, see Benjamin Edelman, *Hard-Coding Bias in Google "Algorithmic" Search Results,* November 15, 2010. http://www.benedelman.org/hardcoding/ .

2. Google accentuates the effects of tying through premium formatting

In the course of granting its additional services prominent placement within Google Search, Google uses special formats unavailable to other sites. For example, Google Maps appears in Google Search with an oversized full-color embedded image, whereas links to other map services receive only plain hyperlinks.[73] The same applies to links to Google Shopping, which often feature a tabular presentation of product pictures, vendors, and prices, whereas competing comparison shopping search engines receive only bare hyperlinks.[74] Links to YouTube videos receive thumbnails, a "play" icon, duration information, and other meta-data.[75] Even the little-known service Google Health received featured listings with a distinctive layout and color photo.[76] Google+ receives particularly striking placements: In addition to multiple oversized images, Google+ results include novel result details such as author photos, bylines, follower counts, and "more by" links.[77]

In contrast, competing information services and publishing platforms receive none of these additional features.

B. Antitrust Analysis

For the reasons discussed below, Google's tied presentation of its additional services is suspect under antitrust law.

1. Market power in the tying product

Google has significant market power in the tying product. Google is certainly dominant on the algorithmic search market (the tying product). Google's US search market share exceeds 67%,[78] and in many countries, including most of Europe, Google's search market share exceeds 95%.[79]

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[73] Inside Google, supra.
[74] *Google Product Search Optimization*, E-Commerce Development, January 23, 2010, http://www.lc7inc.com/internet-marketing/google-product-search-optimization/ .
[75] Benjamin Edelman, *Google as Publisher*, supra. (slide 11).
[76] Benjamin Edelman, *Hard Coding Bias in Google 'Algorithmic' Search Results*, November 15, 2010, http://www.benedelman.org/hardcoding/ .
[77] Lurie, supra.
[78] comScore, *comScore Releases December 2013 U.S. Search Engine Rankings*, January 15, 2014.
[79] Netmarketshare, *Desktop Search Engine Market Share*, http://www.netmarketshare.com/search-engine-market-share.aspx?qprid=4&qpcustomd=0 , last checked March 21, 2014.

Google would argue that even if its market share is large, it lacks market power because "competition is one click away,"[80] i.e. users have other means to access competitors' services. Moreover, Google points out that the services at issue were at all times free to users, making it difficult for users to allege that they suffered direct harm. In my view, Google's arguments do not fully address concern about its market power: Experience reveals that even if consumers *could* access other services, they typically do not do so.[81] Users' ability to access other services surely imposes some discipline on Google's ability to harm consumer welfare, but does not detract from the fact that it holds a dominant position. Indeed, Google's zero-price service to consumers can exacerbate impediments to competition. If users had to pay to use Google services, competitors could offer a cheaper price than Google's, inducing users to try a new service and that some might view as inferior (particularly at the outset, when it had not yet reached scale). In contrast, Google creates a significant barrier to entry by providing services to users without a direct charge.

2. A tie

Google imposes a tie. Users can only obtain Google search results together with whatever additional services Google elects to present. That is, there is no way for users, even experienced ones, to opt out of Google's additional services (e.g., Google Maps) while still receiving Google search. Google's additional services, will appear next to algorithmic search results whether or not users like them.

Google argues that nothing forces users to click on links to its additional services.[82] Indeed, it is possible to use Google Search while ignoring those links. But experience shows that the links matter: when presented with links to Google's additional services, users click the links and use the featured services.[83] The prominent presentation—and users' known and predictable responses to that prominent presentation—accomplishes a *de facto* tie.

Google's tie is strengthened as a result of users' decisions to click (or, in principle, to ignore) Google's ancillary services, a decision users must repeat on

[80] Google U.S. Public Policy, http://www.google.com/publicpolicy/issues/competition.html (at heading "Competition is one click away").
[81] *Traffic Report: How Google Is Squeezing Out Competitors and Muscling Into New Markets*, Inside Google, June 2, 2010, http://www.consumerwatchdog.org/resources/TrafficStudy-Google.pdf .
[82] Follow-up Questions for the Record of Eric Schmidt, Executive Chairman, Google Inc. before the Senate Committee on the Judiciary Subcommittee on Antitrust, Competition Policy, and Consumer Rights, September 21, 2011 (response to Kohl, question 1.b).
[83] See Section III.B.4.i.

an ongoing basis. A user cannot simply decide to forego a Google service once in favor of some competitor. Rather, every time users seek information of that type, they must affirmatively ignore the prominent links to additional services, and subsequently find less prominent links to some other site (or even type in the domain name of a known site and run additional searches to find the desired content there). I note the technical feasibility of allowing a user to make this choice once, with lasting effect, but Google offers no such mechanism.[84]

Google's tie is further strengthened by the type of thinking required to reject Google's prominent links to its own services. To reject a Google link and seek out an alternative, a user must switch from habitual, automatic activity to deliberate activity.[85] Psychology research reveals this switch to be difficult.[86] Because such a switch would be required repeatedly—whenever Google favors its own services—most users find it impractical to do so.

Google might also argue that concerned sites can undo any harm from the tie by buying advertising—either standard Google AdWords ads, or in the future the "Rival Link" mechanism that Google has proposed to provide in Europe.[87] But buying such advertising entails making payments to Google, which further exacerbates the asymmetry between Google and competing sites.

3. Tying and tied products are distinct

Google has argued that its additional service search results "are *not* separate 'products and services'."[88] However Google views these results, the products are distinct for antitrust purposes. For instance, Google Maps and Google News are distinct from Google Search because these products offer different functionalities and are not interchangeable. Moreover, a substantial number of users rely on services from other vendors even if, as discussed below, they may be less inclined to do so as a result of the tie.[89] For example, users often do—and historically always did—search maps and news on sites separate from those that provide general-purpose search.

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[84] For implementations, see note 119.
[85] Adam Candeub. "Behavioral Economics, Internet Search, and Antitrust." 9 I/S: A JOURNAL OF LAW AND POLICY FOR THE INFORMATION SOCIETY (2014).
[86] Id.
[87] *Commitments in Case COMP/C-3/39.740 – Foundem and Others*, January 31, 2014.
[88] Follow-up Questions for the Record of Eric Schmidt, response to Kohl, question 1.a (emphasis in the original).
[89] Inside Google, supra.

4. Foreclosing competition

There is strong evidence that the tie hinders competition in the markets for the tied products.

i. Google benefits from favoring its own additional services

Users heavily favor clicks on the top-most search result.[90] By tying Google's additional services to Google's algorithmic search results, putting these services at the top of the page, and favoring these services with special formats unavailable to other sites, Google increases the chances that users will see and use its services. Google thereby eliminates users' incentive to search for offerings from other companies.

By all indications, Google's additional services reap substantial benefits from their featured placement in Google Search. For example, prominent placement in Google Search seemed to help Google Maps overcome the disadvantage of its late entry and incumbents' strong position; indeed, Google Maps first became available in 2005, whereas Mapquest began operation as early as 1996.[91] Despite Google Maps' technical advances (most notably "draggable" maps, which eased navigation),[92] its usage remained sluggish until Google started to present inline Google Maps directly within search results, a practice that began in earnest in 2007.[93] These more prominent placements precipitated a sharp increase in Google Maps' market share: Traffic to Google Maps tripled while traffic to competing map sites fell by half.[94]

The same is true for Google Shopping: Analysis of ComScore data reveals that when Google began to promote Google Shopping within Google Search, Google Shopping visits more than doubled.[95]

The benefits of favored placement are particularly acute when users do not realize that Google favors its own services. Users naturally assumes that the

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[90] *The Value of Google Result Positioning*, Chitika, June 7, 2013, http://chitika.com/google-positioning-value .
[91] Alan Cohen, *A MapQuest Road Trip*, PC Magazine, June 17, 2003.
[92] See e.g. Maryanne Murray Buechner, *50 Coolest Websites 2005: In A Class By Themselves*, Time. June 20, 2005. See also Greg Hughes, *Google Maps Beta Released-Very Cool*, February 8, 2005, http://www.greghughes.net/rant/GoogleMapsBetaReleasedVeryCool.aspx .
[93] On timing of growth of Google Maps, see Heather Hopkins, *Google Maps Making Inroads Against Leader, Mapquest*, Hitwise Intelligence, January 9, 2008, http://weblogs.hitwise.com/us-heather-hopkins/2008/01/google_maps_making_inroads_aga.html . On maps beginning to appear in search results, see Barry Schwartz, *Google Maps Results Displayed on Google Search Results*, Search Engine Roundtable, July 17, 2006, http://www.seroundtable.com/archives/004132.html.
[94] Inside Google, supra.
[95] Inside Google, supra.

Google result comes first because it is most relevant, most popular, or otherwise best, even if it is not.

ii. By giving favored treatment to its additional services, Google accentuates the effects of the tie

Google increases the impact of its ties through its control over the format, placement, and certainty of search results. The following sections discuss these additional tactics and their effects.

a. Premium placement of Google's services assures favorable expectations for their adoption

By offering its additional services premium placement in search results, Google can often overcome the "chicken and egg" problem that hinders the launch of many online businesses. Consider the mobilization challenge of a site providing a new information service. Many retailers might be pleased to be listed (and be willing to pay to be listed) in a review site or product search site that has many readers. But new sites typically have few readers, hindering an entrant's efforts to attract advertisers. So too for books, local search, movies, travel, and myriad other sectors.

Ordinary sites struggle to overcome these challenges. For example, new sites often buy pay-per-click advertising to bring traffic to their sites. But these purchases are costly and expose sites to the risk of Google withholding such traffic or raising prices.[96] Other sites hope to receive algorithmic traffic—a notoriously unreliable traffic source, since Google can change search algorithms at any time, both for routine improvements and to divert traffic to a new Google service.[97] Alternatively, some sites begin with few users and hence few advertisers, hence particularly low early revenue along with greater difficulty in simultaneously mobilizing the multiple types of users needed for the site to succeed.

In contrast, by tying its additional services to search results and giving them prominent placement, Google grants these services ample free traffic, when needed and with certainty—thereby reducing Google's barriers to expansion into new sectors. Moreover, publishers and advertisers anticipate that Google can grant its services such traffic. As a result, publishers and advertisers reach favorable assessments of the prospects of a new Google service. Competitors'

[96] For example, UK comparison shopping site Foundem bought traffic from Google for exactly this reason, and ultimately suffered a large and unexpected price increase. *Foundem's Google Story*, *Searchneutrality.org*, August 18, 2009, http://www.searchneutrality.org/eu-launches-formal-investigation/foundem-google-story .

[97] Sarah Needleman, *Sites Retool for Google Effect*, Wall Street Journal, April 21, 2011.

services enjoy no such benefit. Indeed, expectations for their success are somewhat lowered in light of the advantage Google claims for itself.

Publisher response to Google+ confirms the powerful role of expectations in shaping usage of new Google services. As Google granted more favorable placement to content hosted on Google+, self-interested publishers realized that they can use Google+ to obtain additional traffic. One publisher noted that while Google+ may be "evil," "it's a huge opportunity." In particular, by placing content on Google+, this publisher found it could obtain significant traffic for important keywords where the publisher previously had little success.[98] Furthermore, sophisticated publishers correctly *anticipated* that Google would grant these benefits to Google+ participants. For instance, another publisher encouraged publishers to "use Google+ to bring traffic to your website by the boat load" weeks before Google began the most acute favored placement of Google+ results.[99] In short, these and other publishers choose to use Google+ not because it was genuinely superior to their other options, but because they wanted a portion of the search traffic benefits Google provided to those who use Google+—a benefit no other platform can match.

Tracking data confirms that placements in search results distinctively benefit Google services upon launch. For example, as of December 2006, Hitwise reported that a full 57% of traffic to Google Finance came from Google Search.[100] By 2009, just 29% of Google Finance traffic came from other Google properties.[101] By giving its additional services additional traffic, immediately and in quantities unavailable to others, Google gives its additional services a greater chance of achieving widespread usage and attracting users and advertisers.

b. By favoring its own sites, Google withholds traffic from competing sites

When Google modifies algorithmic search listings to feature its own services, Google sends fewer clicks to incumbents and other new entrants—disadvantaging those competitors.[102] In principle, modified search results could prompt additional user searches in a way that ultimately yields more traffic for all sites. In practice,

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[98] Ian Lurie, *Google Plus Will Build Your Search Traffic*, Portent, February 2, 2012, http://www.portent.com/blog/seo/google-plus-will-build-your-search-traffic.htm .

[99] Chris Keller, *Use Google Plus To Bring Traffic To Your Website By The Boat Load*, Profitworks, December 24, 2011, http://www.profitworks.ca/blog/918-search-engine-optimization/308-use-google-plus-to-bring-traffic-to-your-website .

[100] Bill Tancer, *Google Finance – After the Redesign*, Hitwise Intelligence, December 15, 2006, http://weblogs.hitwise.com/bill-tancer/2006/12/google_finance_after_the_redes.html .

[101] Randall Stross, *Where Yahoo Leaves Google in the Dust*, *The New York Times*, August 22, 2009.

[102] See e.g. Inside Google, supra, as to traffic diversion in the case of maps.

however, the dominant effect is that most traffic flows to the favored Google search result,[103] such that the insertion of a favored link to Google serves primarily to divert traffic to Google and reduce traffic to other sites.

By favoring its own additional services, Google risks causing the exit of current competitors and foreclosing the entry of potential competitors. For example, in Senate testimony of September 2011, Yelp CEO Jeremy Stoppelman indicated that "there's no way" he would have started Yelp, or a business using a similar strategy, if Google had been engaging in the favored placement of its own services in the way that has become Google's routine.[104] The CEO of Nextag offered a similar sentiment.[105]

It is, of course, difficult to identify the business plans that were rejected and the businesses that were not launched as a result of these concerns. But managers, investors, and entrepreneurs confirm their concern about the danger of Google favoring its own offerings.[106] Meanwhile, the humor web site "What If Google Does It?" presents the concern of myriad entrepreneurs whose investors and would-be investors flag Google's entry as a key risk that impedes investment.[107]

c. Assured placements accentuate the benefits of the tie to Google

Google also grants its additional services the benefit of *certain* placement, as it can tie any additional service that it wishes to promote. As a result, Google's own services can feel confident in the traffic they will receive—allowing them to plan budgets, advertising sales, hardware requirements, and overall strategy.

In contrast, ordinary sites have little assurance of receiving algorithmic search traffic from Google. They may rank highly for some terms and worse for others; rankings tend to vary over time and can change suddenly for no apparent reason. Indeed, companies have been forced to resort to layoffs after their algorithmic

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[103] Chitika, supra.

[104] "The Power of Google: Serving Consumers or Threatening Competition?" (transcript), Hearing before the Subcommittee on Antitrust, Competition Policy and Consumer Rights of the Committee of the Judiciary, United States Senate, September 21, 2011.

[105] Id.

[106] See e.g. Brian S. Hall, *Google Are Pussies*, August 3, 2011, http://web.archive.org/web/20120215091725/http://brianshall.com/content/google-are-pussies . See also Danny Sullivan, *The Growing Portrait Of Google As A Big, Scary, Expanding Everywhere Copy Monster*, Search Engine Land, August 7, 2011, http://searchengineland.com/portrait-of-google-as-a-big-scary-expanding-everywhere-copy-monster-88652 (noting that many critics believe that Google impedes other companies' efforts, although Sullivan disagrees) See also Yelp and Nextag CEOs' oral testimony, notes 104 and 105, that they would not have started their respective companies had Google used these practices at the time.

[107] "What If Google Does It?" www.whatifgoogledoesit.com .

search traffic dropped unexpectedly.[108] As a result, most sites hesitate to build business plans around algorithmic search traffic.

iii. Foreclosure effects in total

On the whole, Google uses tying to grant its services a cost advantage (in that Google can provide no-cost traffic to its own services), as well as superior non-price terms (including special format and guaranteed placement). As a result, other sites struggle to get traffic that Google can provide to itself with ease. Other sites obtain traffic by buying advertising, but they can only do so if Google elects to sell it, in whatever quantities Google elects to provide. Even then, the listings are labeled as advertisements and are thus less attractive to those users who view ads unfavorably (whereas Google's listings suffer from no unfavorable labeling). With less traffic, competitors' sites collect less advertising revenue which causes them to shrink, cease operation, or not begin operation in the first place.

Google's conduct also has dynamic effects on competitors forming new services. By creating the widespread perception that it will withhold traffic from new services, Google can deter such services from being formed, raising capital, and attracting advertisers. Conversely, by perpetuating the widespread view that Google's own offering will succeed, Google can coordinate users, advertisers, content providers, and others around its own offering.[109] As a result of these mechanisms, Google's offering need not be better than competitors nor beat competitors on the merits.

5. Harm to consumers

There is strong evidence suggesting that the tie is harmful to consumers. First, by tying its additional services to core search, Google increases usage of its additional services—causing users to use Google services in circumstances where competitors' offerings might otherwise be preferable. In general, it is difficult to determine which site better serves users' needs, but in some instances this may be possible, e.g. when Google shopping listings direct users to high-priced advertisers rather than low-priced alternatives that decline to advertise with

[108] Needleman, supra.

[109] These are, broadly, the two theoretical effects identified in David Evans, Economics Of Vertical Restraints For Multi-Sided Platforms, 626 UNIVERSITY OF CHICAGO INSTITUTE FOR LAW AND ECONOMICS WORKING PAPER SERIES (2013). Specifically: "vertical restraints might be used on the one hand, anti-competitively to prevent rivals from achieving critical mass and long-term growth and, on the other hand, pro-competitively, to ensure the platform and its customers that the platform will remain viable." In this context, the former effect appears much more important: There is typically little doubt that a new Google service will at least gain significant market attention, whereas there is significant risk of preventing rivals from achieving critical mass. A similar issue arises in most of the subsequent markets considered in this paper.

Google.[110] Further evidence of consumer preference comes from the patterns in tied presentation and consumer adoption. In the case of both Google Maps and Google Shopping, service usage grew only when Google began to prominently feature these services. If services were chosen for their intrinsic value, the prominent placement would have little effect; whether or not prominently linked, users would have found their desired destinations. But in fact the services only grew popular when tied by Google,[111] supporting an inference that it was tied presentation, not intrinsic merit, that drove usage.

In addition, Google's tying of additional services reduces choices for advertisers and tends to increase advertising prices. In the markets at issue, advertisers provide the sole source of revenue—paying to display advertisements in maps, on or around videos, in shopping results, and in other popular locations on the web. The foreclosure detailed in the preceding section leads advertisers to conclude that Google advertising is a "must-buy." Furthermore, advertisers see few to no viable competitors in multiple areas, which allows Google to charge advertising prices higher than that of its competitors[112] and higher than would be the case if competitors' offerings were as popular. By pulling traffic to Google-owned sites and directing users' browsing, Google reduces advertisers' choices—increasing advertisers' dependence on Google and reducing the competitive constraint posed by other advertising venues. In particular, these sites are partial substitutes, so when Google controls more of them, it has an incentive to raise all their prices.

Taking advertisers to be the affected consumers—for it is advertisers whose expenditures flow directly to Google—price increases imply a reduction in welfare. When Google's practices increase advertising prices, advertisers substantially pass those higher costs on to consumers (according to the usual result on the relative elasticity of supply and demand[113]). Though consumers pay these costs indirectly, the harm to consumers is monetary and, in aggregate, significant.

To the suggestion that advertisers have been harmed, Google has argued that advertising prices are set through an auction. Thus, Google has argued, its policy

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[110] Consumer Watchdog, *Consumers are Charged More as a Result of Google's Search Monopoly*, November 25, 2013, http://www.consumerwatchdog.org/resources/googlereport112513.pdf .

[111] Inside Google, supra.

[112] Itai Ashlagi, Benjamin Edelman, and Hoan Soo Lee, *Competing Ad Auctions*, HBS Working Paper 10-055, 2010.

[113] Michal Fabinger and Glen Weyl, Pass-Through as an Economic Tool: Principle of Incidence under Imperfect Competition, 121(3) JOURNAL OF POLITICAL ECONOMY, 528 (2013).

changes are incapable of affecting prices.[114] I believe Google's auction defense is unpersuasive. For one, it is not clear that, as a matter of law, Google truly runs an auction: Google's Terms & Conditions nowhere promise to use auctions[115]; in other litigation, Google has challenged advertisers' attempts to rely on Google's external statements (in web pages, videos, and otherwise separate from T&C's) as extrinsic to the contract[116]; and Google imposes advertiser-specific adjustments[117] and reserve prices[118] that mean an advertiser's price may be set as much by Google's unilateral action as by competitors' bids. Moreover, to the extent that an auction sets prices, Google's tactics affect advertisers' feasible strategies both within and outside the auction. In particular, by dominating other sectors, Google can reduced advertisers' alternatives—increasing the amount of advertising that advertisers seek to buy from Google, and increasing their willingness to pay to do so (for lack of reasonable alternatives). That such ads are sold via an auction, rather than via posted prices, in no way dulls the harm resulting from advertisers becoming ever more dependent on a single vendor.

6. Insufficient countervailing efficiencies

Counterveiling efficiencies are not sufficient to negate the harms detailed above. Google may be expected to argue that its integrated results offer important consumer benefits—for example, helping users reach desired destinations in fewer clicks, with a single user interface, or otherwise more quickly or easily. These benefits can only occur, Google would argue, when Google presents information through its own services, rather than directing users to external publishers. Google might also argue that advertisers enjoy efficiencies in buying most or all advertising from a single source—a benefit more likely to be realized if Google grants preferred placement to its own services, such that advertisers' needs can be fully satisfied with Google placements.

In my view, these efficiency arguments are unconvincing. Some of Google's additional services do advance short-run user preferences; for example, users searching for a hotel or restaurant often benefit from a map of the region. That said, users do not necessarily want or prefer a *Google* map. If the only two

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[114] Google U.S. Public Policy, supra. (at heading "Advertisers have many choices in a dynamic market")
[115] Google AdWords Terms and Conditions, https://adwords.google.com/select/tsandcsfinder .
[116] Motion to Dismiss First Amended Complaint, Rick Woods v. Google, Inc. 5:11-CV-01263-EJD. N.D.Cal. Docket number 73.
[117] *Check and Understand Quality Score*, Google, https://support.google.com/adwords/answer/2454010?hl=en .
[118] *Is there a bid requirement to enter the ad auction?*, Google AdWords Help, https://support.google.com/adwords/answer/105697?hl=en .

possible implementations were to include Google map or no map at all, the former might be preferable. But it seems that Google could easily present competitors' services in the same way that it presents its own offerings.[119] Similarly, Google's source diversity waiver may help users receive valuable content that happens to be concentrated on Google hosts—but there is no clear reason why this benefit should be limited to Google alone.

More broadly, there is no apparent efficiency justification for Google giving its own services preferred treatment, hence accentuating the effects of the tie. Google's fundamental technical strength is collecting, organizing, and presenting information from diverse sources. Given Google's capabilities in this area, Google strains credibility in declaring these tasks to be difficult in circumstances where foregoing such efforts advances its own strategic interests.

To my knowledge, Google has not argued that it enjoys important efficiencies when providing consumers with more services—that its cost of running (say) the YouTube service is lower when a user employs both YouTube and Google Search or when Google Search refers users to YouTube. Firms often defend ties by arguing that packaging, distribution, overhead, and administrative costs are reduced when selling multiple products in a tie.[120] But such arguments ring hollow because Google does not charge consumers for these services and because there are no apparent efficiencies in providing a user with multiple services.

IV. REQUIRING WEB SITES TO PARTICIPATE IN GOOGLE'S ADDITIONAL SERVICES IN ORDER TO PARTICIPATE IN ALGORITHMIC SEARCH

If a site seeks to be indexed by Google's crawlers and included in Google Search results, Google sometimes requires that the site participate in other Google services and allow Google to analyze, excerpt, and present the site's material in other ways. This tactic is vulnerable to critique as a form of tying in that sites

[119] For a discussion of this remedy generally, see Benjamin Edelman, *Remedies for Search Bias*, February 22, 2011, http://www.benedelman.org/news/022211-1.html (at heading "Experience from Browser Choice: Swapping 'Integrated Components'"). See also Benjamin Edelman, *Bias in Search Results?: Diagnosis and Response*, 7 THE INDIAN J. OF LAW AND TECHNOLOGY 16 (2011) (at Section V.C.). For a screenshot mock-up of others' services receiving placements as favorable as Google, see Benjamin Edelman, *Dominance in Search: Harms and Remedies*, http://www.benedelman.org/presentations/dominance-in-search-feb12.pdf (slide 35). For additional mock-ups and discussion, see Benjamin Edelman and Zhenyu Lai, *Comments on Commitments in AT.39740*, http://www.benedelman.org/publications/comment-edelman-lai-to-dgcomp-28may2013.pdf (at Section E.). For a prototype alternative presentation of search results giving equal treatment to competing services, via a browser plug-in modifying the presentation of Google results, see "Focus on the User", www.focusontheuser.org.

[120] Dennis Carlton and Michael Waldman, *Theories of Tying and Implications for Antitrust*, Johnson School Research Paper Series #24-06, July 2005.

wishing to be indexed by Google's crawlers and included in Google Search results have to agree to "supplementary obligations."

A. Facts and Business Analysis

Google has required multiple types of web sites to participate in Google's new additional services in order to continue to appear in Google Search. I present two such examples in the following two sections.

1. Google offered mixed and muddled publisher opt-out procedures at Google News, effectively compelling publishers to participate

Publishers first confronted the question of partial opt-outs from Google in the context of Google News. Launched in 2002, Google News links directly to selected articles from various news sites—causing concern among publishers who worry that in a world mediated by Google News, users would choose articles via Google's service rather than via publishers' home pages. As a result, users would read fewer articles from the publications to which they were previously loyal and see fewer of publishers' advertisements. Some publishers therefore sought to remove their articles from Google News—in that way, they hoped, discouraging their loyal readers from relying on Google News, and in any event avoiding contributing to the rise of Google News.

Initially, some publishers were concerned that if they opted out of Google News, they would also be removed from Google's primary index of web pages and thus from Google Search.[121] Even the search industry's leading experts were confused about whether partial opt-outs were possible.[122] It seems that Google's policies for Google News opt-outs changed over time, and Google's public statements and web page statements were at best inconsistent. For example, in at least two 2009 blog entries about Google News and publishers' concerns, Google repeatedly emphasized that publishers could withhold their content from Google if they so chose, but in neither posting did Google indicate that publishers *could remain in Google Search* while declining to be listed in Google News.[123] Google

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[121] Eric Pfaner, *Italian Regulators Investigating Google*, New York Times, August 27, 2009.

[122] Danny Sullivan, *Debunking The Italian Newspapers' Antitrust Allegations Against Google*, Search Engine Land, August 27, 2009, http://searchengineland.com/deunking-the-italian-newspapers-antitrust-allegations-against-google-24698 (presenting three separate and contradictory postscripts as to whether or not partial opt-outs are possible).

[123] Josh Cohen, *Working with News Publishers*, Google Public Policy Blog, July 15, 2009, http://googlepublicpolicy.blogspot.com/2009/07/working-with-news-publishers.html . See also Cohen, Josh, *FTC Looks at the Future of News*, Google Public Policy Blog, December 1, 2009, http://googlepublicpolicy.blogspot.com/2009/12/ftc-looks-at-future-of-news.html .

ultimately clarified its written statements to confirm that publishers may elect to participate in Google Search and Google News independently.[124]

It seems that Google always offered some mechanism whereby a publisher could decline listings in Google News while remaining in Google Search, hence avoiding the mandatory link (i.e., the tie) between participation in Google Search and the sharing of its valuable content. On this view, it could be argued that Google never actually tied these two products together. Yet, Google has created extended confusion and ambiguity as to its policies and practices regarding the relationship between these services. For a time, the Internet-standard publisher opt-out mechanism, robots.txt, would have removed a publisher from Search and News simultaneously.[125] During this same period, publishers would have needed to find a little-known form on the Google site in order to withdraw their content from Google News[126]—an unusual procedure that publishers struggled to uncover. Thus, from the perspective of publishers, the services were *effectively* tied: during the key period in which Google News was attempting to gain traction, publishers could not easily determine how to leave Google News while remaining in Google Search. Moreover, to the extent that publishers found ways to opt out of Google News, it seems they feared retaliation by Google; for example, Google could remove their listings from Google Search or reduce the prominence of such listings. Indeed, Belgian newspapers owned by Copiepresse argued in 2011 that Google removed their listings from Google Search in retaliation after Copiepresse had complained about Google News.[127] By all indications, the absence of a well-documented and safe partial opt-out from Google News contributed to publishers' sense that the rise of Google News was inevitable—reinforcing publishers' conclusion that, much as they might dislike Google News, their best course of action was to accept and participate in it.

2. Google tied publishers' Google Search inclusion to their participation in Google Places

Although it seems that Google has always allowed sites to separately choose whether to participate in Google News and in Google Search, Google was, for a time, much less flexible in its requirement that sites participate in some of its other additional services. Consider Google Places, a 2010 addition that "aggregates all of the information that Google finds on the web about a place,

[124] *Removing Content: Opt Out of Google News*, Google News: News (Publishers) Help, http://www.google.com/support/news_pub/bin/answer.py?answer=94003 .
[125] See Sullivan (August 27, 2009), supra.
[126] See Sullivan (August 27, 2009), supra.
[127] Chloe Albanesius, *Google to Reindex Belgian Newspapers Amidst 'Boycott' Complaints*, PC Magazine, July 18, 2011.

including … reviews on common review sites [and] newspaper reviews."[128] Google Places' aggregation raises concerns for the sites whose content is excerpted: sites incur costs in collecting and processing information, but when Google presents excerpts, the sites receive little or no value in return. Meanwhile, Google imposed a heavy cost by requiring sites to "allow" Google to index, tabulate, and excerpt their content. In particular, if a review site declined to be included in Google Places, Google historically removed the review site from its core algorithmic search index, withholding valuable algorithmic search traffic.[129] In other words, Google effectively tied appearance in algorithmic search results to participation in Google Places.

Review sites raised multiple concerns about Google's use of their reviews in Places. For one, they reported that few users click through to the underlying review pages at the originating review sites. It seems the low click-through rate results in large part from factors within Google's control. For example, as of fall 2011, Google labeled review content with citations users were unlikely to recognize as hyperlinks. In particular, Google showed the citations with color "#999" (a mid-range grey approximately halfway between black and white). See Figure 1. In contrast, standard practice at Google and elsewhere is that hyperlinks appear in distinctive green or blue, with grey reserved for items users cannot click. (On the same Google Places pages, Google used similar grey colors to present numerous non-clickable elements: the missing stars for a property receiving a rating below five stars, the distance from a transit stop to a local business, and the date on which a review occurred.) Furthermore, while most hyperlinks on the page included distinctive underlining, the citations lacked underlines.

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[128] Jason Kincaid, *TechCrunch Interview: Marissa Mayer Reveals the Two Pillars of Google's Local Strategy*, TechCrunch, May 5, 2011, http://techcrunch.com/2011/05/05/techcrunch-interview-marissa-mayer-reveals-the-two-pillars-of-googles-local-strategy/ (at 4:40).

[129] Statement of Thomas O. Barnett, Senate Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights, Hearing on Competition in Online Markets / Internet Search Issues. September 21, 2011 ("Google told TripAdvisor that the only way in which it could prevent Google from using TripAdvisor content on Places pages was to block Google from crawling TripAdvisor pages for any purpose, which would prevent any TripAdvisor page from ever appearing as a result on Google's dominant search engine"). See also Testimony of Jeremy Stoppelman, Senate Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights, Hearing on Competition in Online Markets / Internet Search Issues, September 21, 2011 ("Google informed us that it would cease the practice [of copying Yelp reviews into Google Local] only if we agreed to be removed from Google's web search index").

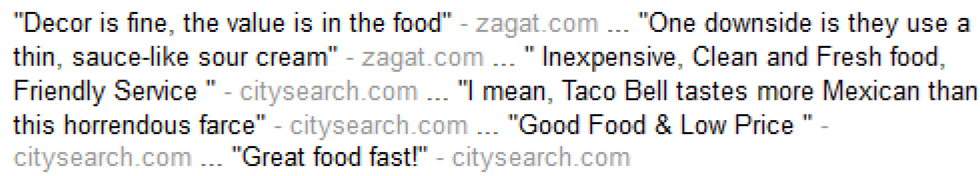
"Decor is fine, the value is in the food" - zagat.com ... "One downside is they use a thin, sauce-like sour cream" - zagat.com ... " Inexpensive, Clean and Fresh food, Friendly Service " - citysearch.com ... "I mean, Taco Bell tastes more Mexican than this horrendous farce" - citysearch.com ... "Good Food & Low Price " - citysearch.com ... "Great food fast!" - citysearch.com

Figure 1: Google's historic excerpting of reviews from others' sites

By January 2012, Google had changed these practices and began to reference other review services with blue links matching other links on Google Places pages. Moreover, Google's December 27, 2012 commitments to the FTC included a promise to provide publishers with a mechanism to remove their content from Google Shopping, Local, Flights, Hotels, and Advisors without any penalty in ordinary Google search results.[130] But by this point, the tie had already taken hold: Thanks to Google's prominent links, users had provided reviews directly to Google Places, reducing the need for excerpting reviews from other services.

In other instances, Google Places completely failed to link to the sites that provided review content. For a portion of 2011, the Google Places mobile app presented user reviews collected from outside review sites without any designation or attribution of what sites provided the reviews. Google characterized this omission as a "technical issue"[131] but offered no explanation of the reason for this occurrence. From the perspective of affected sites, it seems the only way to remedy this problem—short of hoping Google would fix it on its own—was to opt out of participation in Google services entirely, raising the same concerns flagged in note 129.

Review sites have argued that Google undermines their business model by quoting and excerpting their reviews. In particular, if Google excerpts reviews and designs its page layout to discourage users from visiting the underlying review site, then the review site receives zero opportunity to collect revenue by showing advertisements—not to mention soliciting new reviews, providing related services, or otherwise serving users or obtaining a benefit from users.[132] Meanwhile, by quoting and excerpting reviews from other services, Google overcame the disadvantage of its late entry—undermining investment incentives for others to assemble this material in the first place. Of course, a review site

[130] David Drummond, "RE: Google Inc., File No. 111-0163" (Letter to FTC Chairman Jon Leibowitz), December 27, 2012, http://www.google.com/pdf/google_ftc_dec2012.pdf .
[131] Erick Schonfeld, *Google Places Now Borrowing Yelp Reviews Without Attribution In iPhone App*, TechCrunch, June 1, 2011, http://techcrunch.com/2011/06/01/google-places-borrowing-yelp-iphone-app/ .
[132] Emma Barnett, *Google Issues Ultimatum to Yelp: Free Content or No Search Indexing*, The Telegraph, March 1, 2011.

could remove its material from Google Places, thereby reducing the value of the reviews presented at Google Places and increasing the likelihood of users directly consulting TripAdvisor, Yelp, or other such review services. But by tying Google Search to Google Places, Google added a major impediment to that approach: As detailed above, a review service that left Google Places would also be removed from Google Search, thereby losing all algorithmic search traffic.

B. Antitrust Analysis

Google's tying of participation in additional services to participation in web search is suspect under antitrust law.

1. Market power in the tying product

Google has market power in the tying product market, algorithmic search. See Section III.B.1.

2. A tie

Google imposes a tie between publishers' participation in Google Search and their participation in other Google services (including News, Places, and Local). As to news publishers, Google's tie was *de facto*, grounded in the lack of any well-documented way for publishers to obtain the desired Search placement without the unwanted News placements. As to Places and Local, the sworn statements of review site executives and counsel indicate that Google's rules were explicit: Google told TripAdvisor and Yelp that they must provide material to Google Local if it wanted to appear in Google's algorithmic search results.

The practices at issue vary somewhat from the classic form of tying that most often occurs in the "physical" world. Usually, a tie targets a customer seeking to buy or receive a product, and the target is required to accept some other offering too. Here, the tie targets news publishers and review sites who seek to provide just one product (e.g. content to Google Search), but not provide others (content for use in additional services such as Google News and Google Local). In both cases, however, the dominant firm is able to condition the desired product on the unwanted product, and leverage its market power in one market (search) to improve the prospects of its additional services. The tie's incentives remain intact although the conduct is upstream (as to a supplier) rather than downstream (as to a customer). In other contexts, competition law properly considers both the downstream relationships of a dominant firm (e.g. monopoly, where the firm is the sole seller) and upstream relationships (monopsony, where the firm is the sole buyer).

3. Tying and tied products are distinct

Google Search is a distinct product from Google News, Google Places, and Google Local. For one, Google's own contracts treat the products as distinct. For example, when Google initially sought a license to Yelp's review data, the license request came not from Google but from "Google Local"[133]—confirming that both Google and Yelp then saw Google Local as a distinct product from Google's ordinary search service.

The tying and tied products are also distinct products from the perspectives of consumers and publishers. From the perspective of consumer demand, Google News and Google Places are distinct from Google's algorithmic search engine and not merely extensions of search. For example, consumers can use these services (and their competitors) in any combination. Publishers also treat these services as separate: Publishers often show interest in participating in select services but not others.

Google would likely argue that it uses a single system or closely related systems to collect data from all manner of web sites—for example, that the crawlers that collect publishers' material for ordinary Google search results are the same as the crawlers that collect articles for Google News. In my view, this argument is unconvincing. For one, Google labels its crawlers with diverse user-agents indicating their specific functions[134]; Google's user-agent labels give no sign of a single all-purpose header. Crawlers arrive with differing frequencies and different crawling behavior; for example, examining different numbers of pages at different speeds. Google's uses of the resulting data are equally diverse, calling for different presentation formats and different sort orders. Both in collecting data and using the data, Google's various systems seem to be operating separately, with separate codes and separate business logic.

4. Foreclosing competition

When Google ties publishers' participation in Google's additional services to their participation in algorithmic search, Google tends to foreclose competition in affected markets. Competing publishers made significant investments to develop content that consumers value; for example, Yelp recruited reviewers with parties, coaching, and a community in exchange for their submissions. To sustain that investment, publishers need traffic and advertising revenue. Google impedes

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[133] Testimony of Jeremy Stoppelman, supra.

[134] *Google Crawlers,* Webmaster Help https://support.google.com/webmasters/answer/1061943 (listing nine different crawler user-agent labels used by Google's various crawlers).

competition when it exploits the fruits of others' investments by using their content for its competing services rather than making its own investment in developing content.

Furthermore, Google's actions are likely to deter entry. Whatever new content entrants assemble or other improvements entrants devise, Google threatens to copy their content to immediately improve the corresponding Google services—denying entrants and would-be entrants a meaningful opportunity to recoup their investments, regardless of the quality of their efforts. Notably, prior to the practices at issue, Google had reportedly sought to buy Yelp.[135] Ordinarily, a publisher would think itself free to decline such an offer in favor of independent operation. But if Google can copy a publisher's content to create a Google service, the publisher will face significant pressure to accept Google's offer—reducing the publisher's valuation. Considering the reduced future valuations of even the most successful services, prospective entrants will have lesser incentive to create such sites in the first place.

Google's actions also harm news publishers and deter entry into online journalism. Any news publisher has to anticipate that its work will be cherry-picked by Google News, which sends readers to selected stories but hinders the publisher's effort to become users' go-to source for news. Of course not all users rely so heavily on Google News, and some publishers may find business models and substantive focuses less vulnerable to Google News. But by all indications Google News is a hurt, not a help, to city and regional news publishers that aspire to the classic model of comprehensive coverage of most subjects.

5. Harm to consumers

As in Section III, the markets at issue are funded solely by advertisers, and advertisers are importantly harmed by Google's conduct. Advertisers reasonably compare the performance and cost of Google's ad placements with ad placements offered by third parties such as Yelp and TripAdvisor. For example, a restaurant might evaluate Google AdWords for restaurant-related terms in comparison to various advertising placements from Yelp. Hotels, attractions, and other travel-related vendors similarly compare AdWords with TripAdvisor. If Google directs users to Google Places rather than to independent review sites, the latter may also offer much reduced traffic—reducing advertisers' ability to fulfill their advertising needs from vendors other than Google, and increasing Google's pricing power over advertisers. Google can use a broadly similar strategy vis-à-vis

[135] Michael Arrington, *Google In Discussions to Buy Yelp for Half a Billion Dollars Or More*, TechCrunch, December 17, 2009, http://techcrunch.com/2009/12/17/google-acquire-buy-yelp/ .

newspapers: In many regions, a single large news publisher historically dominated local news and advertising, but Google can divert traffic away from that publisher and prevent it from constraining Google's prices and terms.[136]

Google has argued that advertising markets are broad and competitive[137] and would argue that directing users from Yelp (and similar sites) to Google Places has a trivial effect on the online advertising market as a whole. But for specific classes of advertisers, Google's actions towards news and review sites have significant effects. For example, for a typical restaurant, a vibrant restaurant review site is a natural and promising place to advertise, and probably the most obvious competitor to Google's dominant search ad platform. If Google can claim significant traffic for restaurant reviews, it reduces the advertiser's ability to shift spending to an alternative with, potentially, lower costs or other more favorable terms.

6. Lack of countervailing efficiencies

In a Congressional hearing in which two witnesses criticized Google for copying publishers' material into Google's own services, Google Chairman Eric Schmidt largely declined to offer a specific defense of Google's insistence that sites offer material to all Google services if they participate in any. But his written testimony noted Google's intent to "provide the most relevant answers as quickly as possible."[138] I credit that Google's service to consumers typically improves as Google continues to add content. But Google proves too much in arguing that short-term user benefits, and nothing more, should be sufficient grounds for a service to proceed: On that view, Google gives itself *carte blanche* to exploit content only offered pursuant to a paid license.

I credit that Google News is typically more useful to consumers when more publishers participate, and that Google Local and Google Places are more useful to consumers when those services include more reviews. But if the authorized rights-holders of this content decline to participate, I think that is their right—just as it is a video producer's right to withhold its content from YouTube (even if including those videos on YouTube would benefit those consumers who sought to watch it).

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[136] We note that Google News does not currently show advertising. But if Google News reduces or displaces local or regional publishers' status as the standard source for news, those publishers will face a reduced ability to sell advertising and to command premium prices for advertising.
[137] Google U.S. Public Policy, supra. (at heading "Advertisers have many choices …")
[138] Written Testimony of Eric Schmidt, Executive Chairman, Google Inc. before the Senate Committee on the Judiciary Subcommittee on Antitrust, Competition Policy, and Consumer Rights. September 21, 2011.

Notably, Schmidt offered no technical justification for tying the services. For example, there has been no suggestion that Google's engineers found it unduly difficult to use a publisher's material for some purposes but not others. Nor has there been any suggestion that Google would face unreasonable administrative or other costs in using a publisher's material only for specific services, but not others, as some publishers seem to prefer.

V. Requiring AdWords Advertisers to Accept Additional Google Advertising Services through Requirements or Defaults

Since 2000, Google has sold text advertisements that appear adjacent to algorithmic results in Google Search, a service now known as AdWords.[139] Advertisers value this service for its ability to send interested users, and Google has attracted an unmatched arsenal of more than one million advertisers.[140] AdWords is Google's primary source of revenue.

Google often launches new advertising services, and Google's standard practice is to include AdWords advertisers in these new services, either as a requirement (if advertisers want to continue to receive the highly-sought AdWords placements) or by default (with an optional opt-out; but with the change disclosed, if at all, in a place or manner where few advertisers would look or take action). This tactic is vulnerable to critique as a form of tying.

A. Facts and Business Analysis

Google has repeatedly required advertisers to accept new advertising services in order to receive its standard AdWords service, hence tying these new services to AdWords. The following sections provide six separate examples.

1. AdSense automatic opt-in

In June 2003, Google launched AdSense, whereby Google puts advertisements onto third-party publisher sites. These placements offer advertisers additional exposure which some advertisers may value. However, publishers have a clear incentive to click their own ads—thereby increasing the amount that

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[139] *Google Launches Self-Service Advertising Program*, October 23, 2000, http://www.google.com/press/pressrel/pressrelease39.html .
Google, "Google's Targeted Keyword Ad Program Shows Strong Momentum with Advertisers," August 16, 2000, http://www.google.com/intl/en/press/pressrel/pressrelease31.html.
[140] Miguel Helft., *Google: 1 Million Advertisers in 2007, More Now*, New York Times, January 8, 2009.

Google pays to advertisers, but at the same time inflating advertisers' costs.[141] Furthermore, some publishers present material that advertisers may not want to be associated with (such as adult material and copyright infringement). Many advertisers would have declined to participate in AdSense had they been asked to make a decision one way or the other.

Instead, Google enrolled all AdWords advertisers into AdSense, requiring advertisers to manually decline AdSense via a new account configuration option.[142] In this way, Google was able to assure early high usage of AdWords—giving the service the immediate scale required for success. Thanks to existing relationships with AdWords advertisers, Google was virtually certain to have relevant advertisements to place on any page, on any subject.

In contrast, competing services struggled to attract advertisers. Without sufficient advertisers, they often lacked optimal advertisements to place on publishers' sites, yielding lower payment to publishers and ongoing difficulty in attracting publishers. Indeed, in 2010 Yahoo closed its AdSense competitor, Yahoo Publisher Network.[143] Microsoft's similar offering, pubCenter, remains small, and for a time ceased accepting new publishers.[144]

2. Domain parking required purchases and automatic opt-in

By 2005, Google also placed advertisements onto "parked domains"—undeveloped web pages that typically only show advertisements.[145] Some advertisers may appreciate the added exposure. However, many advertisers disfavor parked domains. Among their concerns: 1) users stumble into such domains by accident, 2) many such domains infringe advertisers' trademarks, and 3) parked domains can suffer from traffic laundering, click fraud, and other schemes.

Through at least 2007, Google placed advertisers' campaigns onto parked domains automatically. To be removed from parked domains, an advertiser had to contact its AdWords account representative and submit a special request for manual processing. This procedure was nowhere mentioned in any then-existing

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141 Ken Wilbur and Yi Zhu, *Click Fraud*, *28* MARKETING SCIENCE 293 (2009).
142 Brian Morrissey, *Google Starts Self-Service for Content Ads*, ClickZ, June 18, 2003.
143 Robin Wauters, *Yahoo Publisher Network To Be Axed, Customers Referred To Chitika Instead*, TechCrunch, March 31, 2010, http://techcrunch.com/2010/03/31/yahoo-publisher-network-to-be-axed-customers-referred-to-chitika-instead/ .
144 Microsoft Advertising pubCenter, https://pubcenter.microsoft.com .
145 Internet Archive Wayback Machine, "http://www.google.com/domainpark/," content from February 15, 2004 preserved at http://wayback.archive.org/web/20040215000000*/http://www.google.com/domainpark/ .

Google help page or FAQ, and by all indications Google had (or purported to have) the right to decline such requests. Furthermore, even if an advertiser learned of the possibility, the need for a manual request further deterred advertisers from choosing this approach: most Google advertising instructions use automated self-serve systems, so this unusual manual request reinforced advertisers' instinct that Google did not want them to decline domain parking. Indeed, some advertisers reported receiving "the run around" rather than a prompt removal from parked domains.[146]

By 2009, Google offered a checkbox whereby advertisers could decline placements on parked domains.[147] But by that point, Google's domain parking service was well-established—having grown from zero market share in 2005 to 79% in 2010,[148] making it the largest source of earnings for domain parkers. Furthermore, the sheer number of Google placements on parking sites reinforced Google's lead in text advertising services by causing advertisers to conclude that Google's market share advantage over competitors was that much more pronounced.

3. Other undesirable Google Search Network placements

If an advertiser wants placements in any portion of Google Search Network, Google requires the advertiser to accept placements throughout the entire Search Network.[149] Search Network includes numerous undesirable partners including sites engaged in click fraud,[150] deceptive toolbars that trick users into running searches they did not intend and that present advertising results where users expect organic results,[151] and all manner of malware and adware.[152] But Search Network also includes desirable advertising locations. For example, AOL Search is known to have a high conversion rate, with users especially likely to make

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[146] Gary Przyklenk, *Exclude Those Content Network Parked Domain Ads*, PPC Advice, October 23, 2007, http://www.ppc-advice.com/2007/10/23/exclude-those-content-network-parked-domain-ads/ .

[147] John Lee, *Yes Friends, Google AdWords' Search Partners Includes Parked Domains*, PPC Hero, April 23, 2009, http://www.ppchero.com/friends-google-adwords-search-partner-includes-parked-domains/ .

[148] Benjamin Edelman and Tyler Moore, *Measuring the Perpetrators and Funders of Typosquatting*, Proceedings of the Fourteenth International Conference on Financial Cryptography and Data Security, Springer-Verlag Lecture Notes in Computer Science, Vol. 6052, 2009, Table 2.

[149] *About the Google Search Network*, https://support.google.com/adwords/answer/1722047 .

[150] See e.g. Benjamin Edelman, *Google Click Fraud Inflates Conversion Rates and Tricks Advertisers into Overpaying*, January 12, 2010, http://www.benedelman.org/news/011210-1.html .

[151] Benjamin Edelman, *IAC Toolbars and Traffic Arbitrage in 2013*, January 22, 2013, http://www.benedelman.org/news/012213-1.html .

[152] See e.g. Benjamin Edelman, *Google Still Charging Advertisers for Conversion-Inflation Traffic from WhenU Spyware*, January 5, 2010, http://www.benedelman.org/news/010510-1.html .

purchases,[153] and advertisers must buy Google Search Network placements in order to advertise on AOL Search.[154]

4. Mobile placements automatic opt-in

In December 2008, Google began to place AdWords' advertisers onto mobile devices. Google described these placements as "a new … option," but in fact Google set advertisers' accounts to automatically accept this "option" unless each advertiser specifically requested otherwise.[155] Most advertisers had designed their landing pages and set their AdWords bids based on their advertisement performance on desktop computers and laptops, devices which provide users with large screens for examining items and full-size keyboards for entering purchase details. In contrast, advertisements on mobile devices typically yield weaker performance, as users cannot easily complete an ordering process. Simon Buckingham, CEO of mobile app store Appitalism, estimated that unwanted mobile placements had already cost advertisers hundreds of millions of dollars.[156] As with other AdWords account changes, advertisers could reverse the automatic opt-in, but Google did not affirmatively alert advertisers to the need or opportunity to do so. Indeed, it seems that most advertisers failed to notice the change even after Buckingham's posting and associated online discussion.

Unexpected mobile placements were particularly costly to advertisers because mobile browsers may not even appear in advertisers' traffic reports. Early mobile devices often lacked support for JavaScript, yielding large and systematic errors in Google Analytics reports of behavior of mobile users.[157] An advertiser familiar with this problem could take steps to adjust its measurements, e.g. by using an alternative measurement tool not dependent on JavaScript. But an advertiser who did not expect to receive mobile traffic in the first place would have no reason to seek such a tool.

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[153] Bill Dean, *Study: AOL Gets Highest Conversion Rate for January*, Direct Marketing News, February 16, 2006.

[154] Nicholas Carlson, *AOL and Google Renew Search Deal through 2015*, Business Insider, http://www.businessinsider.com/aol-and-google-renew-search-deal-through-2015-2010-9 .

[155] Alexandra Kenin, *New AdWords Options for iPhone and G1*, *Google Mobile Blog*, December 8, 2008, http://googlemobile.blogspot.com/2008/12/new-adwords-options-for-iphone-and-g1.html .

[156] Simon Buckingham, *When Google Decided for its Advertisers to Retrospectively Widen the Campaign Settings for All Existing Ads*, Appitalism Blog, March 14, 2010, http://www.appitalism.com/blog/?p=46 .

[157] Bryson Meunier, *Mobile Analytics with Google Analytics*, Natural Search and Mobile SEO Blog, February 21, 2009, http://www.brysonmeunier.com/mobile-analytics-with-google-analytics/ .

5. Enhanced Campaigns add compulsory tablet placements and convoluted smartphone opt-out

In summer 2013, Google reinforced the tie of mobile and tablet advertising placements through a compulsory new bidding structure it called Enhanced Campaigns. Google touted various targeting and management benefits,[158] but advertisers flagged significant problems. In particular, Google insisted that advertisers submit a single bid for computers, tablets, and smartphones[159] even though research reveals that the devices vary in their desirability to advertisers (e.g. due to differing screen size and input devices).[160] If an advertiser sought to exclude smartphones, it could set those devices to a -100% multiplier in a configuration screen—a counterintuitive adjustment compared to the prior approach where a simple checkbox let the advertiser choose one way or the other. Furthermore, Google advertisers' choice of multipliers was limited to the number -100% along with the range from -90% to +300%. If an advertiser preferred some other ratio of bids on computers, tablets, and phones, the advertiser could not implement that bidding approach. For example, an advertiser might want to bid one twentieth as much for a display on a phone as a display on a desktop PC (a -95% multiplier), but Google did not allow such a bid. Meanwhile, if an advertiser wanted *only* phone placements, the +300% multiplier would stand in the way, requiring the advertiser to bid at least (say) $1 on desktops in order to bid $4 on mobile devices.[161]

For advertisers who disliked tablet placements or sought to submit different bids for computers versus tablets, Enhanced Campaigns were even more severe: Google required a single bid for computers and tablets, with no adjustment to reflect the relative value of those advertising venues.[162] Google's change left Google free to send computer versus tablet traffic in whatever ratio Google elected to provide, even as advertisers reported sharply varying values for each.

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[158] Andy Miller, *Get a Head Start with Enhanced Campaigns: Why to Upgrade Now*, Inside AdWords, June 10, 2013, http://adwords.blogspot.com/2013/06/get-head-start-with-enhanced-campaigns.html .

[159] Pamela Parker, *Google's Enhanced Campaigns Inspire Love, Hate And Hope For The Next Version*, Search Engine Land, February 7, 2013, http://searchengineland.com/googles-enhanced-campaigns-inspire-love-hate-and-hope-for-the-next-version-147896 .

[160] Sid Shah, "*Q2 2012 Global Digital Advertising Update*, Adobe Digital Marketing Blog, July 24, 2012, http://blogs.adobe.com/digitalmarketing/digital-marketing/q2-2012-global-digital-advertising-update-and-emerging-trends/ .

[161] Alistair Dent, *Google AdWords Enhanced Campaigns: The Good, Bad & Uncool*, Search Engine Watch, February 6, 2013. http://searchenginewatch.com/article/2242069/Google-AdWords-Enhanced-Campaigns-The-Good-Bad-Uncool .

[162] Parker, supra.

6. YouTube Promoted Videos automatic opt-in

Google's "Promoted Videos" feature lets video creators pay to present their videos to users. Through November 2009, users saw Promoted Video links as they browsed YouTube. But in November 2009, Google began to place Promoted Videos on third-party sites[163]—a change Google made without advertisers' specific approval. Some advertisers saw a message upon logging in to manage their Promoted Videos campaigns: "Beginning on November 4th, 2009, all new and existing Promoted Videos may begin running on search partner sites. Your existing bid for Search placements will be automatically applied…."[164] By all indications, this message was easily overlooked by advertisers who did not log in, did not recognize the importance of the message, or delegated day-to-day management to junior staff not qualified to approve this change.

Placements on third-party sites are of concern to advertisers for the same reasons detailed in *AdSense Automatic Opt-In* (above): external publishers have a direct incentive to commit click fraud and other infractions, rendering their supposed clicks and views less valuable. An advertiser not expecting such tainted traffic would have no reason to devise mechanisms to measure such traffic or attempt to defend itself—making automatic opt-ins particularly costly.

B. Antitrust Analysis

Google's tying of participation in new advertising services to participation in sponsored search is suspect under antitrust law.

1. Market power in the tying product

Google has market power in the tying product market, search advertising. Google enjoys a dominant position in search as explored in Section III.B.1. As early as 2008, the US Department of Justice confirmed that search advertising is a relevant antitrust market, and that Google's market share in that market exceeds 70%.[165] In Europe, Google's share of search advertising spending exceeds 90%.[166]

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[163] Arlene Lee, *YouTube Promoted Videos to Appear on AdSense sites*, Inside AdSense, October 2, 2009, http://adsense.blogspot.com/2009/10/youtube-promoted-videos-to-appear-on.html .

[164] Message presented to advertisers in Google Promoted Videos Dashboard, Preserved in Simon Buckingham, *Google's System to Control Advertising Inventory on Multiple Platforms – Part 2: Desktop Internet*, slide 11, http://www.slideshare.net/appitalism/google-control-system-part-2-internet .

[165] *Yahoo! Inc. and Google Inc. Abandon Their Advertising Agreement*, US Department of Justice Press Release, November 5, 2008 ("The Department's investigation revealed that Internet search advertising and Internet search syndication are each relevant antitrust markets and … Google is by

Google would argue that it is a small participant in the global advertising market in light of competitive advertising venues such as television, radio, and print.[167] But multiple authorities have found that search advertising is a relevant market and Google is dominant in that market.[168]

2. A tie

Google imposes a tie. For many of the tied products, including early AdSense placements and early domain parking placements as well as recent tablet placements, advertisers were literally unable to obtain standard AdWords placements without accepting (and paying for) the other placements also, hence facing "supplementary obligations." As to other examples and subsequent changes, Google's tie was *de facto*, grounded in defaults, changes and settings not brought to advertisers' attention, and the lack of a well-documented well-known way for publishers to obtain the desired Search placement without also receiving the others.

Google would argue that it did not truly tie its dominant AdWords offering to new placements because the purported tied products were actually optional due to an opt-out mechanism. As a threshold matter, it is unclear that opt-outs were actually available, particularly for early advertising services and, more recently, for tablet placements. If products were tied for a period of time, but later became untied, the resulting harm can probably be traced back, in part, to the tied period. Google's argument is a notch stronger for tied products that advertisers were at all times able to decline. But significant concerns remain where Google failed to tell advertisers about the new service (or the required opt-out process) via the notification mechanism provided by contract, or where Google's notifications were inconsistent, through mechanisms other than the notice process provided by contract, or otherwise easily overlooked. Furthermore, the changes reflect Google's market power over advertisers rather than any genuine advertiser request for the specified services.

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far the largest provider"). *Statement of Federal Trade Commission Concerning Google/DoubleClick*, FTC File No. 071-0170, December 20, 2007 ("Google, through its AdWords business, is the dominant provider of sponsored search advertising") .

166 Alex Funk, *Fourth Quarter Global Search Advertising Finished Strong*, Covario Quarterly Global Paid Search Spend Analysis, Q4 2013, http://www.covario.com/wp-content/uploads/2014/01/rpt_gpssa_q413_fnl.pdf .

167 Google U.S. Public Policy, supra. (at heading "Advertisers have many choices in a dynamic market").

168 See note 165.

3. Tying and tied products are distinct

Google's best defense is that the services at issue are not actually separate—that AdWords encompasses whatever placements Google says it includes. But the "separate demand" test would reject this argument. Other companies previously provided (and to varying extents still provide) advertising placements on independent publishers' sites, in parked domains, and on mobile devices. Advertisers regularly bought those services separately from their purchase of search advertising, in all combinations. Moreover, some advertisers intentionally sought to decline certain advertising placements, e.g. because their sites do not display well on small screens or because they objected to certain advertising placements that they found unethical or overly risky. These factors indicate that, from the perspective of consumer (advertiser) demand, the services are distinct.

4. Foreclosing competition

By causing advertisers to participate in its new advertising services, either through tying or through automatic opt-ins, Google assures immediate advertiser participation in its new advertising services and hence immediate scale for those services. For services that make payments to publishers (including the AdSense and domain parking placements described above), the immediate participation of advertisers lets Google assure high payment to publishers from the outset. Furthermore, immediate participation of many advertisers tends to encourage other advertisers to participate and to continue to participate. For example, if a competitor's ads appear on parked domains or mobile devices, an advertiser will likely hesitate to remove its ads from those placements, even if it would otherwise have preferred to decline them.

Google's automatic opt-ins are particularly valuable because they let Google encourage advertisers to accept services that advertisers would ordinarily decline or would accept only with large discounts. Advertisers are rightly skeptical of new online advertising services that present new risks, e.g. click fraud and other low-performing ad placements. Any other vendor would face considerable difficulty in overcoming these concerns. In contrast, Google uses its highly-desired and established services to encourage advertisers to accept its unproven or controversial new services, thereby dramatically increasing the likelihood that new services will gain traction.

Relatedly, the structure of Google's dealings with advertisers creates important elements of coercion. For one, with so many changes to their accounts, on an ongoing basis without their specific approval, advertisers struggle to keep up—all the more so when changes are announced in diverse channels (account mechanism, email, and Google blogs) without a consolidated notification mechanism or a single option for advertisers to decline all future changes. Furthermore, Google shifts competitive dynamics among advertisers by initially compelling participation in new services and by making participation automatic by default. If Google needed to ask each advertiser to accept each new service, as any ordinary entrant must, Google would face the difficulty of convincing advertisers to accept unproven advertising methods with unknown risk. In contrast, by compelling or effectively compelling all advertisers to accept the new service at the outset, Google changes the baseline of analysis. By the time advertisers realize they are receiving a new advertising service and by the time they obtain (or realize they have obtained) the opportunity to decline, advertisers see their competitors buying the service. At that point, declining the service would mean failing to advertise in a place where competitors' offers appear—an approach that advertisers hesitate to embrace.

5. Harm to Consumers

These practices cause three primary harms to advertisers. First, advertisers are required or effectively required to buy additional forms of advertising that they did not truly request and did not fairly agree to pay for. Second, the price of the additional advertising is higher than would be the case if Google had to offer discounts to induce advertisers to try it. Third, Google forecloses competition from rivals who provide only the additional forms of advertising. For example, with Google now bundling mobile ad placements into its AdWords offering, a competing vendor would struggle to sell mobile placements only. This reduces competition and further raises prices.

Google would argue that its Smart Pricing algorithm prevents any harm occurring as a result of advertisers' ads placed in unwanted locations.[169] Smart Pricing is a Google function that may reduce an advertiser's advertising expense for certain placements on the Google Network. Google explains: "If our data shows that a click from a Google Network page is less likely to turn into an actionable business result—such as an online sale, registration, phone call or newsletter sign-up—we may reduce the bid for that page."[170] Despite the potential savings from Smart Pricing, its benefits are uncertain. In litigation, Google disavowed any promise to use smart-pricing.[171] Indeed, publicly-available

[169] Google, *About Smart Pricing*, https://support.google.com/adwords/answer/2604607?hl=en .
[170] Id.
[171] *Rick Woods v. Google Inc.* N.Dis.Cal. Case No. 5:11-CV-01263-EJD. Motion to Dismiss First Amended Complaint (docket number 73). ("The agreement contains no smart pricing obligation.")

documents indicate that several large Search Network partners (with traffic of disputed quality) are exempt from Smart Pricing.[172]

6. Lack of countervailing efficiencies

The harm to competition created by Google's conduct is not outweighed by efficiencies. There is no apparent efficiency to compelling advertisers to accept services they did not request or to imposing procedures whereby these placements are automatically "accepted." Google routinely offers advertisers dozens of configuration options for their online ad campaigns; it would be entirely natural to let advertisers choose which types of advertising they in fact wish to purchase. Meanwhile, there is a genuine risk of compulsory or automatic acceptance yielding unwanted ad placements.

VI. Tied and Bundled Benefits to Promote Google's New Advertising Services

The preceding section details Google's methods of compelling advertisers to use extensions to AdWords (most often, new places where ads may be shown). For services a notch further removed from AdWords, Google uses both tying and bundling to encourage advertisers to participate.

A. Facts and Business Analysis

The following subsections present two examples of Google using tying and bundling to encourage advertisers to accept Google's new advertising services. In both instances, Google offered special benefits in its dominant search advertising service to advertisers who also agreed to use its new advertising services. In both instances, market structure and pricing prevented competitors from matching the special benefits Google offered.

1. Special benefits for advertisers accepting Google Checkout

In 2006, Google launched Google Checkout: a payment mechanism that allows users to pay for their purchases at various web sites without retyping their address or payment card details.[173]

[172] See e.g. Frank Schilling, *Pink Houses*, October 15, 2007, http://domainnamesales.com/sevenmile/2007-10/pink-houses/ ("Ask's feed is not Smart-priced"). See also Sig Solares, *RE: is parked better than sedo?*, Domain Name Forum, April 13, 2007, http://www.dnforum.com/f366/parked-better-than-sedo-3-thread-221221.html#post1144105 , (CEO of Parked.com indicating that Parked.com serves Google ads without smart pricing).

When Google launched Checkout, it offered two major benefits to AdWords advertisers who agreed to use it. First, for each dollar spent on AdWords, an advertiser earned the right to process $10 of Google Checkout sales at no charge. If an advertiser spent 10% of its gross revenue on AdWords advertising, this offer provided the advertiser with free credit card processing—saving the advertiser substantial credit card network fees (2% or more). No competing checkout service could match this discount. For example, if Paypal offered credit card processing at no charge, it would have no additional revenue source to cover card network fees and thus would lose money on every transaction.

Second, Google accentuated the effects of the bundling by giving Google Checkout advertisers an oversized Google Checkout logo to appear adjacent to their AdWords listings. Google does not present logos for other checkout services, so no competing checkout service can match this benefit. For example, Paypal offers similar benefits to Google Checkout, but a site using Paypal checkout cannot show an AdWords logo to that effect. During this period, AdWords advertisements had few to no other images, making Google Checkout logos a particularly distinctive visual element that drew extra attention to the corresponding advertisements.

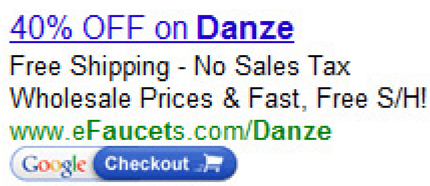

Figure 2: An AdWords advertisement featuring a Google Checkout logo

2. Special benefits for advertisers joining Google Affiliate Network[174]

Affiliate marketing is an online advertising practice wherein small to midsized sites ("affiliates") receive payments if users click links and make purchases from participating merchants. For example, travel site Travelocity pays a 3% to 6% commission if a user clicks an affiliate link to Travelocity and goes on to make a hotel booking purchase within 45 days.

Note significant differences between affiliate marketing versus search advertising. For one, in affiliate marketing, an advertiser incurs a cost only if a

[173] *Google Checkout Opens for Business*, June 29, 2006, http://www.google.com/press/pressrel/checkout.html .
[174] This section is adapted, in part, from Benjamin Edelman, *Tying Google Affiliate Network*, September 28, 2010, http://www.benedelman.org/news/092810-1.html .

user actually makes a purchase.[175] In contrast, in search advertising, payment is due whenever a user clicks an ad. Moreover, in affiliate marketing, an advertiser partners with affiliates who are broadly able to place ads wherever they like. In search advertising, advertisers specify the keywords.

While almost all of the web's largest merchants run affiliate programs, as of 2007 Google offered no affiliate marketing services. Only via its mid-2007 acquisition of DoubleClick did Google obtain an affiliate marketing program,[176] then part of a DoubleClick subsidiary called Performics and subsequently renamed Google Affiliate Network (GAN).[177] But Google's affiliate network began in third place in the US market—behind larger competitors Commission Junction and LinkShare.

Beginning in November 2009, Google's Product Listing Ads service gave GAN major advantages over competing affiliate networks. With regard to search ads, Google began to give GAN advertisers four striking and valuable benefits. First, GAN advertisers received image ads. Whereas standard AdWords advertisements showed only text, GAN advertisements included an image—making GAN offers stand out in search results.

Second, GAN advertisers received preferred placements. AdWords advertisements are understood to be ordered based on advertiser bids as well as Google's assessment of ad relevance, click-through rate, and other factors. But when a GAN image ad appeared, it always appears at the top of the "right rail" of side listings—prominent, highly visible screen space that received more attention than any AdWords listings below. Indeed, by pushing AdWords ads further down the page, GAN ads reduced the value of the AdWords slots.

Third, GAN advertisers enjoyed conversion-contingent payment. AdWords advertisers pay on a per-click basis, incurring costs as soon as a user clicks a link. In contrast, GAN advertisers only had to pay if a user clicked a link and purchased a product.

Finally, GAN advertisers enjoyed preferred payment terms. Because AdWords advertisers pay as soon as a user clicks, they must pay for users' clicks even if servers malfunction, even if credit card processors reject users' charges,

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[175] Benjamin Edelman, *The Design of Online Advertising Marketplaces*, Handbook of Market Design. Oxford University Press, October 2013.

[176] *Google to Acquire DoubleClick*, April 13, 2007, http://googlepress.blogspot.com/2007/04/google-to-acquire-doubleclick_13.html .

[177] Arnold Zafra, *Google Launches Google Affiliate Network*, Search Engine Journal, June 30, 2008, http://www.searchenginejournal.com/google-affiliate-network/7228/ .

and even if users return their orders or initiate chargebacks. In contrast, in all these circumstances, GAN advertisers incur no advertising costs.

As discussed in Section VI.B.4, no other affiliate network could offer these benefits because only Google can control the results, format, and pricing of its search advertising offerings. Google reserved these four benefits for the advertisers that joined GAN—tying these benefits to an advertiser's participation in GAN.

B. Antitrust Analysis: Tying

Google is vulnerable to antitrust scrutiny for the special benefits provided to advertisers using other Google services. These practices are largely grounded in tying, so I begin by applying tying doctrine.

1. Market power in the tying product

Google has market power in the tying product market, sponsored search. See Section V.B.1.

2. A tie

Google imposed a tie between the respective products. First, an advertiser had to join Google Checkout in order to obtain a distinctive logo in search results.

Similarly, an advertiser had to join Google Affiliate Network in order to obtain image advertising as well as preferred placement, conversion-contingent payment, and superior payment terms.

3. Tying and tied products are distinct

The tied and tying services are distinct. There can be no serious suggestion that Google Checkout is the same as search advertising, or that Google Affiliate Network is the same as search advertising. The product markets are separate in that advertisers historically obtained search engine advertising from vendors distinct from those that provided checkout services and affiliate marketing services, and there are few to no genuine synergies in obtaining both from the same vendor.

4. Foreclosing competition

Google's practices in this area tended to foreclose competition by hampering competitors' access to key markets. Specifically, during the relevant period, competing checkout services and affiliate networks simply could not provide the specified logos and images. Given a choice between using a Google service that included these benefits versus a competitor's service that did not, advertisers had every incentive to choose Google.

I note that Google attracted many merchants to Checkout. At peak, in May 2013, more than 28,000 web sites had begun to accept Checkout.[178] Merchants generally had no reason to publicly comment on the reasons why they joined Checkout, but some specifically stated that they joined Google Checkout not to use the service but to enjoy the special logo in search results.[179] In contrast, incumbent Paypal had more users and thus offered an easy checkout service for more users.[180] Were it not for the special benefits Google provided, there is little reason to think a late entrant in checkout services would enjoy any uptake at all, particularly given the substantial burden of integrating checkout with an existing web site.

I also note that Google ceased displaying Google Checkout logos on AdWords ads as of June 2011.[181] But by that point Google had already reaped the benefit of the tie (as well as the bundle discussed in the next section)—using the AdWords logos (and other benefits) to cause advertisers to join Checkout even when they otherwise had little interest in that service.[182]

Turning to Google Affiliate Network, notice that there too, no other affiliate network could match the special benefits Google provided. Other affiliate networks cannot control what ads Google shows, where ads appear in Google search results, or what payment terms are available from Google. Nor can other affiliate networks offer ads on their own search engines, as they do not operate

[178] Google Checkout Usage Trends, BuiltWith Trends, http://trends.builtwith.com/shop/Google-Checkout (historical data available by paid subscription and via archive.org).

[179] Amy Dusto, *It's the Long Goodbye for Google Checkout*, Internet Retailer, May 23, 2013. http://www.internetretailer.com/2013/05/23/its-long-goodbye-google-checkout (discussing an advertiser that "mainly" offered Checkout in order to get a special logo in search ads).

[180] Ryan Douglas, *Merchant Adoption Rates of Google Checkout vs. PayPal Express*, Marketing Pilgrim, June 21, 2007, http://www.marketingpilgrim.com/2007/06/merchant-adoption-rates-of-google-checkout-vs-paypal-express.html .

[181] *Checkout Badges on Adwords Ads*, Google Checkout Merchant Help, https://checkout.google.com/support/sell/bin/answer.py?answer=1323905 .
Michael Kaye. *Google Adwords Will No Longer Display Google Checkout Logos*, *eCommerceCircle,* June 1, 2011, http://www.ecommercecircle.com/google-adwords-will-no-longer-display-google-checkout-logo_3913570.html .

[182] In a November 2013 adjustment, Google rebranded Google Checkout as Google Wallet Instant Buy. See Justin Lawyer, An Update to Google Checkout for Merchants, Google Commerce, May 20, 2013, http://googlecommerce.blogspot.com/2013/05/an-update-to-google-checkout-for.html .

search engines. Thus, these benefits gave GAN advantages that competitors did not match and could not match.

In principle, advertisers could claim GAN benefits by “multi-homing” to use multiple affiliate networks, but affiliate advertisers typically find multi-homing undesirable. Joining an affiliate network requires substantial integration between the affiliate network’s servers and the advertiser’s servers so that the affiliate network receives information about each sale (including the purchase amount and specific items purchased). Furthermore, joining multiple affiliate networks risks paying multiple commissions, i.e. paying commission to two or more networks that purportedly referred the same transaction. As a result, if an advertiser elected to use GAN, it often effectively chose to forego other affiliate networks.

Google’s success with this tactic was tempered by multiple factors. For one, GAN was a late entrant. GAN grew out of Performics, which Google received through its DoubleClick acquisition. Performics had always been the third-largest player in affiliate marketing, and Google never offered an affiliate marketing service prior to the 2008 launch of GAN. Meanwhile, affiliate marketing services tend to be particularly “sticky.” Contracts typically run for at least a year and often longer, making rapid changes in market share unusual. Furthermore, if a merchant switches from one affiliate network to another, all affiliates must change their links—an inconvenience that discourages switching. Finally, some advertisers seemed to anticipate (correctly) that image ads would not always be tied to GAN. The costs of joining GAN would be incurred immediately, but benefits might be relatively brief in light of the possibility of obtaining similar benefits without GAN in the future. These factors slowed the growth of GAN, notwithstanding the tied benefits Google provided to GAN advertisers.

By fall 2011, Google had sharply expanded the presence of images in search results, eliminating the requirement that advertisers use GAN in order to get the benefit of image advertisements. But the strategic benefits of the bundle still applied during the period in which the bundle was offered. For approximately 18 months, an advertiser seeking the benefit of image advertisements needed to sign up with GAN.

I credit that Google did not ultimately gain a dominant position in either checkout services or affiliate marketing; indeed, Google exited the latter market when it closed Google Affiliate Network in 2013,[183] rebranded its checkout

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[183] J.J. Hirschle, *An Update on Google Affiliate Network*, Google Affiliate Network Blog, April 16, 2013, http://googleaffiliatenetwork-blog.blogspot.com/2013/04/an-update-on-google-affiliate-network.html .

service, and reworked various aspects of the service.[184] But the practices nonetheless had the effect of hindering competition. For example, I note that during the period when only GAN advertisers could receive the benefits listed in Section VI.A.2, GAN was able to attract advertisers who had already used other affiliate networks—in sharp contrast to the standard practice of most advertisers joining only one affiliate network. Similarly, I observed advertisers joining Google Checkout not to use the service but to enjoy the special logo in search results.[185] Had checkout services competed on the merits, Paypal might well have achieved success, thanks to its larger preexisting user base.[186]

5. Harm to consumers

Here too, advertisers are relevant constituents whose welfare should be considered. On one hand, the practices at issue are benefits to advertisers—additional services that advertisers can claim if they meet Google's requirements. Yet the structure of Google's offering raises an inference of harm: Google offered benefits contingent on advertisers' unrelated actions, giving every indication that Google's intention was to advance the services Google encouraged advertisers to use, not to genuinely benefit advertisers.

The practices at issue harmed advertisers in two key ways. First, by reducing competition in additional advertising services (including checkout services and affiliate marketing), Google's practices were likely to drive up costs for advertisers. Advertisers would have passed on a portion of the cost to consumers. Second, Google's practices reduced the relevance of Google search results. If Google truly sought to present logos for streamlined third-party shopping carts to help users identify sites with fast checkout, Google would have included logos for *all* such services, including competitors such as Paypal. Google's robust crawling technology could easily have determined which sites to present with these logos.[187] Adding image advertisements was equally straightforward: Consider Google's ease in expanding image ads to more advertisers by mid-2011. Thus, it seems there was no genuine benefit to the approach Google chose—no bona fide technical reason why Google could offer these functions only to advertisers who accepted other Google services. That leaves only improper purposes, e.g. improving the prospects of Google's other services by granting them special benefits that competitors are structurally incapable of matching.

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[184] Lawyer, supra.
[185] Dusto, supra.
[186] Douglas, supra.
[187] Note 178 shows BuiltWith, a small startup, successfully extracting this information using its own crawlers.

6. Lack of countervailing efficiencies

There are no apparent countervailing efficiencies. It would strain credibility for Google to argue that it was feasible to present its own Checkout logo but infeasible to present Paypal's logo (and logos for other third-party shopping costs). It would also strain credibility for Google to argue that it was only able to provide image advertisements for GAN advertisers but not for other advertisers. In any event, Google has offered no such arguments, nor has it offered any other pro-competitive purposes for these practices.

C. Antitrust Analysis: Bundling

Google is vulnerable to antitrust scrutiny for the bundled benefits it provides to advertisers who use Google AdWords as well as Checkout. Specifically, Google raised bundling concerns by providing Google Checkout credit card processing at no additional charge when companies buy AdWords advertising. Through that offer, Google provided credit card processing at a price below Google's marginal cost: Google had to pay credit card interchange fees and network fees of approximately 2%, yet Google was offering this service to advertisers without charge.

1. After allocating all discounts and rebates attributable to the entire bundle of products to the competitive product, Google sold the competitive product below its incremental cost for the competitive product

For the purposes of assessing whether a bundled product is priced below cost, I attribute the full discount to the competitive product. (See Section II.B.3.) But with the full discount applied to Checkout, that service was offered below cost—offered at a price of 0%, yet Google's cost was approximately 2%. Osama Bedier, Google Vice President for Wallets and Payments, specifically confirmed that Google loses money on every transaction due to card network fees.[188] Such an offer is impermissible under the bundling doctrine.

2. Google was likely to recoup these short-term losses

Google had a plausible chance to recoup its short-term losses from offering Google Wallet below cost. Had Google managed to obtain a dominant position in online checkout services, its market position would have been self-reinforcing. Merchants would have wanted to use the payment platform that the most users have joined, and Google's dominance would be robust to most disruptions. Then

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[188] Mark Milian and Ari Levy, *Google Wallet Is Leaking Money*, BusinessWeek, June 6, 2013.

Google would have been able to charge fees above its marginal cost and would have been able to recoup its short-term losses.

Consistent with this strategy, Google offered free Checkout service immediately upon launch, but scaled back the below-cost offerings as Checkout grew. Specifically, Checkout was free for AdWords advertisers from its launch in 2006 through May 2009,[189] but Google raised the price of Checkout thereafter.[190]

3. The bundled discount or rebate program has had or is likely to have an adverse effect on competition

While the 2% discount may seem small, it could be significant in competitive low-margin sectors: With a 2% cost advantage thanks to subsidized credit card processing provided by Google Checkout, a firm could undercut equally-efficient competitors (i.e., competitors who otherwise have the same costs). Thus, competition among advertisers can compel all to join Google Checkout in order to avoid a relative cost disadvantage, which other online payment processing services may not be able to match. Indeed, in some sectors Google Checkout quickly became widespread—by all indications for this reason.[191]

VII. Requiring that Device Makers and Carriers Use Certain Google Mobile Services in Order to Access App Store and Other Google Mobile Services

Google has tied its services in various combinations in order to strengthen its market positions in multiple facets of mobile services.[192] Thus, even as Google was late to enter the smartphone space, it has achieved a dominant position in multiple key mobile services.

[189] Google Checkout Opens for Business, supra.

[190] Mike Poserina, *Google Checkout Promotion to End*, Engine Ready, March 12, 2009, http://blog.engineready.com/google-checkout-promotion-to-end/ .

[191] See e.g. *TheFurniture.com Boosted Sales 5 percent and Reduced Processing Costs 3 Percent with Google Checkout*, Google Checkout Success Stories. https://checkout.google.com/seller/casestudies/furniture.html (noting small margins in this seller's sector, such that the Google Checkout cost savings is an important advantage; and specifically hoping that competitors do not adopt this strategy to achieve a similar savings, although in fact they did). See also *Ebuyer.com Sees Google Checkout Deliver More Customers and Improve Its AdWords ROI*, Google Checkout Success Stories, https://checkout.google.com/seller/casestudies/ebuyer.html (noting the special importance of Checkout savings in low-margin businesses).

[192] *See generally* Thomas H. Au, Note, *Anticompetitive Tying and Bundling Arrangements in the Smartphone Industry*, 16 STAN. TECH. L. REV. 188 (2012).

A. Facts and Business Analysis

Google's Android is the dominant mobile operating system available for installation on third-party hardware.[193] In contrast, Apple iOS and RIM Blackberry are only available on those companies' own devices. While Windows Phone may be installed on third-party hardware, it has not gained significant adoption.

While Google describes Android as "open,"[194] multiple sources reveal significant restrictions. In particular, if a device manufacturer or carrier wants to install any of Google's services on its Android devices, Google effectively requires the preinstallation and default use of numerous other Google services, and Google bans certain services from competitors. These tactics help Google obtain and retain market position for several of its services while hindering growth of competitors and would-be competitors.

1. Android as the tying product

Shortly after introducing Android, Google began to use its control over Android to require that device manufacturers carry and favor other Google services in the way that Google specified. If a manufacturer wanted to distribute a commercially-viable Android device (branded with the Android name and logo associated with other Android devices, and able to connect to the Google app store to download other apps), the manufacturer had no choice but to make Google location services and Google Search the only and default providers for their respective functions. In other words, Google used its dominant Android platform to favor its other services.

While the Android operating system is open source, a manufacturer needs Google's certification and approval to ship a new device. For one, Google's certification is required for a device to access Google Play (previously known as Android Market) to obtain apps. Google says that Google Play "isn't available to

[193] *comScore Reports February 2014 U.S. Smartphone Subscriber Market Share*, comScore, April 4, 2014 (reporting Android at 93.5% market share among smart phone operating systems for installation on third-party hardware) .

[194] *Welcome to the Android Open Source Project!*, Android Developers, http://source.android.com/ (first sentence: "Android is an open-source software stack"). See also Jonathan Rosenberg, *The Meaning of Open*, Google Public Policy Blog, December 21, 2009. http://googlepublicpolicy.blogspot.com/2009/12/meaning-of-open.html ("We can build … a better mobile operating system (Android)… and then open [it] up for the world to build upon, customize, and improve"). See also Andy Rubin, *I Think I'm Having a Gene Amdahl Moment*, Android Developers Blog, April 6, 2011, http://android-developers.blogspot.com/2011/04/i-think-im-having-gene-amdahl-moment.html ("we've remained committed to fostering the development of an open platform for the mobile industry and beyond").

devices that aren't compatible"[195] without elaborating on the factors that determine compatibility or when or why Google withholds its approval of compatibility. Furthermore, Google reserves the right to withhold the Android compatibility certification (including logo and trademark). As enumerated in the subsequent paragraphs, multiple sources indicate that Google previously used app store access as well as Android "compatibility" certification to require that manufacturers configure devices to favor Google services.

An initial complaint came from Skyhook, a Boston-based company whose software determined a user's geographic location by checking nearby Wi-Fi access points. Skyhook said that its geolocation service was faster and more accurate than Google's. Skyhook also claimed to better protect users' privacy because it did not link a user's geographic location with other information about the user. Some phone manufacturers seemed to share these assessments, choosing Skyhook's geolocation service over Google's offering. But Motorola and Samsung both subsequently dropped Skyhook in favor of Google's offering.

In a 2010 antitrust complaint, Skyhook alleged that Google required Motorola to remove Skyhook's geolocation software from new Motorola phones. Specifically, Skyhook alleged that if Motorola refused to remove Skyhook's software, Google would "impose a 'stop ship' order" to prevent Motorola from shipping Android devices.[196] Skyhook offered similar allegations about phones from Samsung.[197] In discovery, Skyhook obtained documents that support these allegations: By email, a Google executive admitted that "we are using compatibility as club to make [phone makers] do things we want."[198] The court subsequently granted Google's motion for summary judgment, finding that it was Google's privilege to prohibit phone makers from using Skyhook software.[199] Notably, the court's decision considered questions of contract, interference with business relations, and unfair competition (MGL §93A), but not antitrust generally or tying specifically.

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[195] *Android Open Source Project: FAQ,* http://source.android.com/faqs.html .

[196] *Skyhook Wireless, Inc. v. Google Inc.*, Complaint ¶28, MA Civil Action No. 2010-03652-BLS1.

[197] *Skyhook Wireless, Inc. v. Google Inc.*, Complaint ¶33-37, MA Civil Action No. 2010-03652-BLS1.

[198] *Skyhook Wireless, Inc. v. Google Inc.*, Affidavit of Douglas R. Tillberg in Support of Skyhook's Opposition to Google's Motion to Dismiss or for Summary Judgment (Public Set), MA Civil Action No. 2010-03652-BLS1.

[199] *Skyhook Wireless, Inc. v. Google Inc.*, Memorandum of Decision and Order on Defendant Google Inc.'s Motion for Summary Judgment (September 28, 2012), MA Civil Action No. 2010-03652-BLS1.

In parallel, Korean companies NHN (owner of popular Korean search engine Naver) and Daum alleged that Google was blocking the installation of their search service on Android phones. They noted that Google made its own search service the default, and they said users found it "virtually impossible" to switch to another option.[200] They noted that every new phone required certification by Google, and argued that Google delayed the certification of devices that had other search services as their default.[201] Consistent with Skyhook's allegations, NHN and Daum reported that certification was necessary both for phones to be permitted to connect to Google's app store and for phones to use the Android trademark and logo.

2. Google apps as the tying product

In some sectors, Google's apps have no competitors or commercially-viable competitors. Google uses these apps as the basis for tying: If a device manufacturer wants such an app, it must take the others also.

Most notably, device manufacturers seem to perceive that there is no substitute for YouTube. Neither Microsoft, Yahoo, nor any other company offers a video library with the distinctive format and content of YouTube. Given the importance of YouTube in demonstrating the capability and desirability of a smartphone or tablet and associated data plan, phone manufacturers and carriers seem to perceive that a preloaded YouTube app is compulsory.

Google uses the YouTube app and other desirable Google Mobile Services to compel use of other Google services. To preinstall any Google app, including YouTube, Google requires a phone maker or carrier to enter into a Mobile Application Distribution Agreement ("MADA"). MADA section 2.1 instructs that "Devices may only be distributed if all Google Applications [listed elsewhere in the agreement] ... are pre-installed on the Device." MADA section 3.4(1) requires that the phone manufacturer must "preload all Google Applications approved in the applicable Territory … on each device." Section 3.4(2) requires that Google's Search and Google Play must be placed prominently "at least on the panel immediately adjacent to the Default Home Screen," and that all other Google Applications must be no more than one level below. Section 3.4(4) requires that Google Search "must be set as the default search provider for all Web search access points" (to the exclusion of Bing or other competitors). Section 3.8(c)

[200] Mark McDonald, *2 Korean Search Engines File a Complaint Against Google*, New York Times, April 15, 2011.
[201] Jun Yung, *Google Faces Antitrust Complaints in South Korea on Popularity of Android*, *Bloomberg News*, April 15, 2011.

requires that Google's Network Location Provider service be preloaded and the default (to the exclusion of a competitor such as Skyhook).[202]

Consider the impact of these statements on a device manufacturer that seeks to offer a product that competes with a Google app. For example, a manufacturer might conclude that some non-Google service is preferable to one of the listed Google applications—perhaps faster, easier to use, or more protective of user privacy. Alternatively, a manufacturer might conclude that its users care more about a lower price than about preinstalled Google apps. Such a manufacturer might be willing to install an app from some other search engine, location provider, or other developer in exchange for a payment, which would be partially shared with consumers via a lower selling price for the phone. However, Google's MADA restrictions disallow any such configuration if the phone is to include any of the listed Google apps.

In principle, the MADA allows a device manufacturer to install certain third-party applications *in addition* to the listed Google applications. For example, the phone manufacturer could install other search, maps, or email apps in addition to those offered by Google. But multiple apps are duplicative, confusing to users, and a drain on limited device resources. Moreover, in the key categories of search and location, Google requires that its apps be the default, and Google demands prominent placements for its search app and app store. These factors reduce users' attention to other preloaded apps, lessening competitors' willingness to pay for preinstallation. Thus, even if manufacturers or carriers preload multiple applications in a given category, the multiple apps are unlikely to significantly weaken the effects of the tie.

The MADA restrictions are largely contractual, not immediately enforced through software. For example, there appears to be no technical impediment to a manufacturer installing Google Mobile Services despite lack of permission from Google, nor to a manufacturer configuring devices in a way that Google does not permit. But in practice, the threat of contractual enforcement prevents these tactics. For example, when Wales-based device maker KMS installed GMS

[202] Mobile Application Distribution Agreement (Android) between Google and HTC Corporation (Revised 12/10). Publicly available as Trial Exhibit 286 in Oracle America v. Google, 3:10-cv-03561-WHA. Other MADA's appear to be identical in material respects. See e.g. the MADA for Samsung, Trial Exhibit 2775 in the same docket.

without a license from Google, retailer Argos withheld payment for the devices, immediately sending KMS into bankruptcy.[203]

Google's MADA restrictions leave open the possibility that some manufacturers may produce Android devices that include no Google applications at all. But such devices lack Play access to the standard app store. They also lack the widely-known Google Maps, Gmail, YouTube, and similar applications (collectively, Google Mobile Services). Instead, such devices offer basic tools from open-source Android, or a manufacturer can substitute improvements it provides itself or licenses from others.[204] Despite the availability of a bare Android without Google Mobile Services, mainstream device manufacturers strongly prefer to include Google's applications, which provide features that users have come to expect.

Google's MADA restrictions cover the entire operations of signatory device manufacturers. For example, Samsung could not make some devices that comply with MADA rules and others that do not. Rather, the plain language of the MADA requires that *all* of a signatory's devices comply with the specified requirements.[205]

3. YouTube as the tying product

Relatedly, a Microsoft complaint alleges that Google has effectively tied YouTube to Android and iPhone to the exclusion of competing mobile operating systems, specifically Windows Phone. In particular, Microsoft alleges that Google withholds meta-data necessary for Windows Phone to present YouTube videos with video categories, favorites, ratings, and similar information.[206] Microsoft points out that Android and Apple mobile phones can access this data, and that this information is necessary for Windows Phone to match features available on other mobile platforms.

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[203] Alex Dobie, *Tablet Maker Goes Bust after Row with Retailer over Google Services*, Android Central, January 29, 2014, http://www.androidcentral.com/tablet-maker-goes-bust-after-row-retailer-over-google-services .

[204] Jerry Hildenbrand, *Beware the Super-Cheap Android Tablets on Black Friday*, Android Central, November 27, 2013, http://www.androidcentral.com/ac-holiday-gift-guide-beware-cheap-tablets .

[205] MADA Section 2.1 ("Google hereby grants to Company…"); MADA Section 3.4 (restrictions that apply to "each" device, and requiring a signatory to negotiate for any exception devices which must be enumerated in an exhibit to the MADA).

[206] Brad Smith, *Adding Our Voice to Concerns about Search in Europe*, Microsoft on the Issues, March 30, 2011, http://blogs.technet.com/b/microsoft_on_the_issues/archive/2011/03/30/adding-our-voice-to-concerns-about-search-in-europe.aspx .

B. Antitrust Analysis

1. Market power in the tying product

In Google's evolving practices, multiple products have served as the tying product. In each instance, Google has market power in the tying product market.

For Google's early dealings with phone manufacturers, Android was initially the tying product. While Android's open source structure might have seemed to dull Google's market power, Google was nonetheless able to exploit its control over Android by limiting Google Play application store access and by limiting permission to describe a device with the Android trademark and logo. Throughout the relevant period, Android was by far the largest mobile phone operating system available for installation on third-party hardware.[207] Apple iOS and RIM Blackberry are only available on those companies' own phones, and Windows Phone has not gained significant adoption.

More recently, the YouTube app emerged as a second crucial product for which manufacturers see no substitute. Here too Google possesses significant market power. Phone manufacturers report that there is no clear substitute for YouTube: YouTube alone presents many popular video clips, and consumers appear to view YouTube as irreplaceable. It appears to be impractical to sell a phone and data plan to mainstream US or European consumers if that phone does not include high-quality YouTube access. Indeed, YouTube is the fourth most popular app (in monthly users),[208] and the three more popular apps all are either available to install without restriction (e.g. Facebook) or have some competitors (e.g. Bing, Yahoo, and others providing web search, albeit each much smaller than Google).

I note that Google uses its YouTube market power in different ways depending on the circumstances. In the context of manufacturers making Android phones, Google can use its power over YouTube to compel use of other apps that benefit Google. In the context of devices using other operating systems, such as Windows Mobile, Google uses its power over YouTube to reduce the commercial viability of such devices.

[207] comScore, April 4, 2014, supra.
[208] Matt Petronzio, *The 10 Most Popular Smartphone Apps in the U.S.*, Mashable, April 3, 2014, http://mashable.com/2014/04/03/popular-apps-chart/ .

2. A tie

As discussed in Section VII.A.1, Google began by using Android as the tying product, and certain Google applications (including Google location services and Google search) as the tied product. Google implemented this tie by conditioning use of Android (including app store access, certification, and trademark and logo usage) on device manufacturers acceding to Google's other requirements, including installing certain Google applications, not installing certain applications from competitors, and otherwise configuring the device as Google instructed. If a manufacturer refused to do so, Google withheld certification.

Then, as discussed in Section VII.A.2, Google began to develop ties in which certain Google apps (most powerfully, YouTube) served as the tying product, while other Google apps and services served as the tied product. Specifically, Google conditioned preinstallation of any Google apps on preinstallation of *all* the apps Google specified (including the configuration and prominence Google required). The MADA specifically disallows a device manufacturer from installing only certain apps but not others; the manufacturer must install them all, according to Google's instructions.

Google's restrictions on YouTube access, from other mobile operating systems, are also implemented as a series of ties. Here, the tying product is YouTube, and the tied product is Android or, failing that, the popular iOS platform. In contrast, through YouTube API license agreement restrictions, Google denies full YouTube functionality to users who choose Windows Phone.

3. Tying and tied products are distinct

The core Android operating system is logically distinct from the Google applications, including separate demand and separate purposes. Users can seek Android and the various Google applications in any combination: some users may only want Android with applications from other vendors (no Google), and others may want only a subset of Google applications. Separation is reinforced by user interface design: Each Google application is accessed via a separate icon on a device's screen. In addition, each application has a distinctive name, user interface, program code, and installation files. There is no logical or technical reason why using or installing one such application must require using or installing the others, or why all must have the prominence and other benefits Google requires.

Analogously, in the context of the proceedings against Microsoft for tying Windows with Internet Explorer—i.e., a tie of an operating system with an application—the US courts ruled that Windows and Internet Explorer were separate products.[209] Similarly, the General Court of the EU considered that Windows and Windows Media Player were separate products.[210]

YouTube content is also logically distinct from the question of which mobile operating system a user or device manufacturer chooses to employ. YouTube content is made available via a platform-independent web service, usable via HTTP from any standard platform. The YouTube API structure is designed precisely to facilitate use from all manner of devices. There is no logical or technical reason why certain devices should be excluded from access.

4. Foreclosing competition

From one perspective, these allegations are diverse and unrelated: Skyhook, NHN, and Daun flag Google's control over app store access, while others' concerns result from Google's power over YouTube and other applications. But these complaints feature a structural similarity: Google has market power over multiple services without close substitutes (including Android certification, Google Play access, and YouTube); Google then uses that power to compel use of its other services, even in markets where competitors have viable offerings (including geolocation service, mobile search, and maps). In particular, Google can use its market power in the first group of services to protect and expand its position in the second group of services—thereby expanding its dominance and preventing entry.

Tying its apps together helps Google whenever a device manufacturer sees no substitute to even *one* of Google's apps. Some manufacturers may be willing to offer devices that default to Bing Search, Duckduckgo, Yahoo Search, or to Bing Maps, Mapquest, or Yahoo Maps, particularly if one of these vendors pays the manufacturer to do so. (With such a payment, and with costs otherwise identical, a manufacturer could set a lower retail price for its device, which might attract additional consumers.) But it is not clear what other app store a manufacturer could preinstall in order to offer a comprehensive set of apps. Furthermore, a manufacturer would struggle without a preinstalled YouTube app: Without the short-format entertainment videos that are YouTube's specialty, a phone would be unattractive to many consumers—undermining carriers' efforts to sell data plans, and putting the phone at heightened risk of commercial failure. Needing Google Play and YouTube, a manufacturer must then accept Google Search, Maps,

[209] *United States v Microsoft Corp*, supra note 21, at 85.
[210] *Microsoft v. Commission*, supra note 30, at § 933.

Network Location Provider, and more—even if the manufacturer prefers a competitor's offering or prefers a payment for installing some alternative.

Google's tying suppresses competition. The restrictions at issue prohibit alternative vendors of search, maps, location, e-mail, and other apps from outcompeting Google on their merits; even if a competitor offers an app that iss better than Google's offering, the carrier is obliged to install Google's app also, and Google can readily amend its rules to require making its app the default in the corresponding category (for those apps that don't already have this additional protection). Furthermore, Google's tying impedes competitors' efforts to pay device manufacturers for distribution. To the extent that manufacturers can install competitors' apps, they can offer only inferior placement adjacent to Google, leaving Google as the default in key sectors and preventing competitors from achieving scale or outbidding Google for prominent or default placement on a given device.

Google's tying forecloses competition in multiple mobile services. Competing geolocation service Skyhook could not distribute its service in light of Google's "stop ship" order as to devices with Skyhook installed. In spite of their large popularity in Korea, competing search engines NHN and Daum cannot effectively distribute devices with their search services as defaults due to the delays Google has imposed in certifying those devices. Similarly, mobile phone manufacturers and carriers cannot substitute competing search or maps services or develop business models grounded in such substitution (for example, via lower-cost devices subsidized in part by payments from app makers), as such a change would cause their devices to lose access to YouTube and other key Google apps. Competing mobile operating system Windows Phone cannot offer a full-feature YouTube app for lack of the meta-data that Google withholds. In each instance, Google's actions effectively limit competition.

As to Skyhook, Google argues that it had a proper motive for encouraging or requiring phone makers to cease distributing Skyhook software. Specifically, Google claims it sought to avoid contaminating Google data with Skyhook data that Google considered less accurate. In any event, Google claims that phone makers were within their rights to terminate their distribution of Skyhook software and that no further scrutiny is required.[211] Though these arguments succeeded in the context of Skyhook's claims of intentional interference with

[211] *Skyhook Wireless, Inc. v. Google Inc.*, Motion for Summary Judgment, MA Civil Action No. 2010-03652-BLS1.

contract and unfair competition,[212] they carry little weight in the context of a tying claim. On the narrower scrutiny appropriate for the claims that Skyhook brought, the court may have reached the appropriate result—yet in doing so missed the larger effects that more naturally arise in an antitrust suit. Specifically, the court gave little consideration to Google's market power, mentioning this only in passing as to Motorola's motives[213] and without considering the effects on innovation, entry, and consumer welfare.

As to the tying of Google Play, YouTube, and YouTube API, Google would argue that it is entitled to structure its product offerings as it sees fit. Google would question whether it truly has market power in the relevant markets, including noting rapid innovation in mobile devices and apps. Google would also deny that consumers are harmed, noting that consumers at all times had the ability to change settings and install or uninstall apps. In my view, these arguments are unconvincing. Tying doctrine seeks to prevent combinations of products from improperly extending a firm's dominance from one market into another, a concern consistent with the practices as alleged here. Users' ability to change settings and add or remove apps may pose some constraint on Google's conduct, protecting users from Google practices that users notice and strongly dislike. But this ability does not restore the business models foreclosed by Google's restriction. Specifically, this ability, on a user-by-user basis, gives competing search providers and app developers no way to pay to attract users en masse, as they could by, for example, contracting with phone manufacturers or carriers. Nor does this ability restore the feasibility of search providers or app developers partially subsidizing the cost of a phone or plan by if their offerings are default, to the exclusion of Google's offerings.

Google's tie also helps to insulate against competition from alternative mobile ecosystems. For example, the Amazon Kindle Fire is built on top of the Android operating system and is capable of running Google Maps, most or all other Google apps, and most or all apps in the Play app store. But Fire does not comply with the MADA restrictions and hence can preinstall none of these. Without Play, users lack an easy way to install such apps. Instead, a user seeking to add these features to Fire must use a convoluted manual procedure: the antithesis of easy app store installation.[214] Most users would struggle to complete this procedure, even with online instructions. As a result, competing mobile ecosystems offer

[212] *Skyhook*, Memorandum of Decision and Order on Defendant Google Inc.'s Motion for Summary Judgment.
[213] *Id.*, p.28.
[214] David Nield, *How to Get Maps, Gmail on the Kindle Fire HD without Rooting*, CNET, February 15, 2013.

only a subset of available apps, even though no technical impediment requires such a limitation.

When questioned about Android's dominance, Google typically argues that Android is "open" and "open source"[215] which, Google argues, reduces Google's ability to exploit Android's popularity. But the fact that core Android code is available and in some respects customizable in no way dulls the impact of the contractual practices at issue in this section.

By limiting the YouTube functionality available on Windows Phone devices, Google specifically weakens that platform—the strongest competitor to Android in the market for operating systems available for installation on third-party hardware. Without a full-featured YouTube app, Windows Phone becomes significantly less attractive to most consumers, making it less likely that Windows Phone will develop into a robust competitor against Android.

5. Harm to consumers

Google's ties harm consumers. One direct harm is that competing app vendors face greatly reduced ability to subsidize phones via payments to manufacturers for preinstallation or default placement; Google's rules leave manufacturers with much less to sell. Furthermore, these restrictions insulate Google from competition. If competing vendors were nipping at Google's heels, Google would be forced to offer greater benefits to consumers—perhaps fewer ads or greater protections against deceptive offers. Instead, the restrictions increase Google's ability to outmaneuver competitors—insulating Google from the usual competitive pressures.

Google accentuates the harm to consumers by including the Google Play app store among the services subject to the restrictions listed in this section. If a manufacturer provides a device without Google apps, the device also lacks Google Play—then lacks any easy means by which a user can install other desired Google apps (or other apps available only or most easily through Google Play). Various online articles demonstrate possible means to obtain such apps, but these methods typically include rooting a phone (risking security vulnerabilities and foregoing future operating system updates) or manual web downloading (requiring numerous additional steps), making these methods unrealistic for most users.[216] These impediments cause users to particularly disfavor Android devices

[215] See note 194. See also Jung-Ah Lee, *South Korean Search Portals File Phone Complaint Against Google*, Wall Street Journal, April 18, 2011 (unnamed Google spokesman arguing that "Android is an open platform" as a reason why regulatory concern is unfounded).
[216] Nield, supra.

that lack Google Play, reinforcing the power and the effectiveness of the restrictions discussed in this section.

One might reasonably compare Google's ties to other recent Google rules—also secret—which apparently require that device manufacturers only install a recent version of Android if they want to install Google apps (even if the apps run on earlier versions, which in general they do).[217] But there are plausible pro-consumer benefits for this requirement, including facilitating upgrades and coordinating platform usage on the latest version of Android. In contrast, there are no plausible pro-consumer benefits to the Google ties I analyze above. For example, consumers do not benefit when Google prevents phone manufacturers from installing apps in whatever combination consumers prefer.

Notably, Google's tying is implemented through confidential documents that are ordinarily unavailable for public review. During *Oracle America v. Google*, the HTC Corporation and Samsung MADAs became publicly available, and they are the basis for much of my analysis of Google's mobile tying.[218] As a result of the general unavailability of MADA provisions or other statements of Google's requirements, even industry experts are uncertain about applicable rules and restrictions.[219] By keeping its policies confidential and little-known, Google can suppress awareness and potential backlash from manufacturers, app developers, and consumers. If users, app developers, and the concerned public knew about these restrictions, they would criticize the tension between the restrictions and Google's promise that Android is "open" and "open source,"[220] and Google's claims of openness would ring hollow. In contrast, by keeping the restrictions secret, Google avoids such scrutiny and is better able to continue to tie its applications in the manner described.

When questioned about restrictions on device manufacturers and carriers installing apps from other carriers, Google typically directs attention to combinations that Google permits. For example, in response to Senate follow-up

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[217] David Ruddock, *Rumor: Google to Begin Forcing OEMs to Certify Android Devices with a Recent OS Version if They Want Google Apps*, Android Police, February 10, 2014, http://www.androidpolice.com/2014/02/10/rumor-google-to-begin-forcing-oems-to-certify-android-devices-with-a-recent-os-version-if-they-want-google-apps/ .

[218] See note 202, supra.

[219] See e.g. Danny Sullivan, *Google Doesn't Require Google Search On Android, Despite What FairSearch & Microsoft Want You To Believe*, Search Engine Land, September 13, 2012, http://searchengineland.com/google-doesnt-require-google-search-on-android-133158 (consulting publicly available sources to attempt to determine whether Google allows Android manufacturers to change Android default search while installing other Google apps, finding no such provisions in available documents, and tentatively concluding that such changes are permitted—though recognizing the difficulty of the question via four separate postscripts).

[220] Follow-up Questions for the Record of Eric Schmidt, response to Lee, question 15.b.

questions, Google's Eric Schmidt wrote that "Manufacturers can choose to pre-install Google applications on Android devices, … but they can also choose to pre-install competing search applications like Yahoo! and Microsoft Bing."[221] Similarly, Google spokesman Adam Kovacevich told conference attendees that it is "just not true" that Android manufacturers must make Google Search the default.[222] After Korean search portals filed complaints against Google, a Google spokesman claimed "carrier partners are free to decide which applications and services to include on their Android phones."[223] These statements give a reader the sense that device manufacturers and carriers are free to install Google apps and competing apps in any combination they see fit, but in fact the statements do not include this commitment. A more careful read reveals that the statements are most notable for what they do not say; importantly, the statements never disavow the tying described in the preceding sections. Because MADAs were not previously publicly available or their importance was not previously recognized, critics largely did not know what precise questions to ask to uncover the restrictions at issue, and Google therefore has never been pushed to offer any public rationale or defense for these restrictions.

A further harm to consumers comes from increase in device prices. On desktops and laptops, manufacturers solicit competing bids from various search engines seeking to be the browser default. These payments yield an additional revenue source to all computer manufacturers, and competition causes the manufacturers to pass these savings on to consumers through lower up-front prices for laptop and desktop computers. By insisting that all mobile device manufacturers make Google search and other apps the default, without any payment, Google prevents such bidding in the mobile context—thereby preventing any pass-through price reductions to consumers.

To the extent that Google withholds functionality from competing mobile operating systems such as Windows Phone, the harm to consumers is particularly clear-cut: A user with a Windows Phone device receives inferior functionality (e.g. lack of YouTube meta-data and robust search). If such consumers mitigate their damages by choosing Android devices rather than Windows Phone, Google's actions then suppress competition from other mobile operating systems.

[221] Follow-up Questions for the Record of Eric Schmidt, response to Kohl, question 8.a.
[222] *Searching for Innovation and Competition Online*, FairSearch Conference, September 13, 2012, video at http://vimeo.com/49400550 .
[223] Lee, supra.

6. Lack of countervailing efficiencies

The harm to competition created by Google's conduct is not outweighed by efficiencies. Whatever the benefits of the certification Google seeks to impose (which Google alleges Skyhook violates and which causes the delays flagged by NHN and Daum), an alternative approach could obtain the same benefits without harming competition. For example, if Google believes that Skyhook returns inaccurate information to Google servers, Google could tag the inaccurate information as such and decline to rely on it. If a handset manufacturer seeks to customize Android only to change the default search vendor, Google probably need not "certify" that exceptionally narrow change; if such a certification were truly required, the review could be exceptionally quick due to the limited questions raised.

Meanwhile, Google offers no countervailing efficiency whatsoever to explain why a handset vendor should be prohibited from preinstalling only some Google apps and not others. Google's apps come in separate installation packages, each with a separate code yielding a separate icon. Even if some applications rely on shared code libraries or create other interdependencies, phone manufacturers could hide the icons of any applications they declined to present to users. Google provides no reason why this should not be permitted.

One analyst pointed out that Google's restrictions help to assure that every new device includes basic functionality—noting the risk of devices that lack, e.g., a maps app.[224] But if this is Google's concern, Google could easily require a manufacture to install *either* a Google app or a competitor's app with similar functionality. This concern does not justify requiring all manufacturers to install *Google*'s offering in every market.

The same analyst also pointed out that a device manufacturer can forego the entire Google suite of apps and services.[225] But, as discussed above, this is not commercially viable for mainstream consumers in the US and Europe. Furthermore, if a manufacturer foregoes the entire suite of Google services, users will be unable even to access Google Play: the largest and most comprehensive app store, to obtain the Google or third-party apps they seek.

Nor has Google offered any reason why Windows Phone apps should not be able to receive full YouTube access including the meta-data noted in the

[224] Daniel O'Connor, *Observations on the Economics of Mobile App Suite Bundling*, Disruptive Competition Project, March 3, 2014, http://www.project-disco.org/competition/030314-observations-on-the-economics-of-mobile-app-suite-bundling/ .
[225] Id.

Microsoft complaint. Such a reason seems particularly unlikely since the same data is broadly available through Google's YouTube API (for which I gather Microsoft was denied a license).[226]

VIII. IMPLICATIONS FOR GOOGLE'S GROWTH AND DOMINANCE

On one view, fast-moving digital markets are ill-suited for competition frameworks that have run for decades. Certainly some of Google's tactics extend beyond the simple ties examined in early competition cases. But modern standards evaluating tying and bundling are remarkably flexible, calling for consideration of broad economic impact without a narrow focus on particular isolated factors. As shown in the preceding sections, the existing doctrine can capably consider Google's practices.

Notably, Google's strategic use of tying and bundling lets Google expand its dominance to numerous sectors adjacent to its current strongholds. In any sector reliant on referrals from search—almost any online service that collects, analyzes, or aggregates information—Google can send ample traffic to its own service, gaining scale immediately and with virtual certainty. So too for any service reliant on advertisers' participation: Google can cause its existing advertisers to accept the service, either by requirement or by a strongly-imposed default, and then Google's new service will enjoy ample revenues. With no uncertainty about whether a new Google search service or advertising service will take off, Google's expansion to sector after sector is faster, more successful, and more likely than would be the case if Google had to compete on the merits. Whatever the prospects for competition in search, various sectors adjacent to search enjoy greater competition. But if Google is able to use tying to expand into these sectors, then its dominance grows that much further—with corresponding harms to consumers and advertisers.

Anticipating Google's various expansions, other firms have found that they must accede to Google's terms, get out of the way, or suffer whatever sanctions Google elects to impose. Existing competitors tend to disappear or collapse—accepting acquisitions from Google or competitors on less favorable terms than they could have otherwise obtained, or shrinking or accepting reduced growth.[227]

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[226] *YouTube API*, Google Developers, https://developers.google.com/youtube/ .

[227] See e.g. *Testimony of Jeremy Stoppelman*, Senate Judiciary Subcommittee on Antitrust, Competition Policy and Consumer Rights, Hearing on Competition in Online Markets / Internet Search Issues, September 21, 2011 (reporting reduced traffic flowing from Google to Yelp). See also *Foundem's Google Story*, Searchneutrality.org, http://www.searchneutrality.org/eu-launches-formal-investigation/foundem-google-story (reporting reduced traffic flowing from Google to Foundem).

Conversely, the incentive to start new businesses in affected fields is much reduced. The leadership of TripAdvisor and Yelp stand among many in saying that they would not have started their companies had Google then engaged in the behaviors that have since become commonplace.

Meanwhile, anticipating the favored treatment Google grants to those who support its vision, Google creates an incentive for advertisers, publishers, and users to participate in Google services they dislike and would prefer to avoid. Consider the publisher who in one sentence flagged the "evil-ness" of Google favoring its own services, but in the next found the "huge opportunity" too large to pass up (particularly because if he elected to forego the opportunity, others would claim it).[228] Thus, even if Google services seem to enjoy reasonable usage, that usage may not indicate genuine user interest; it may instead indicate acceptance under effective duress.

I are struck by the similarities between Google's current powerful position and the power previously enjoyed by Microsoft. In prior antitrust litigation, critics alleged that Microsoft improperly used its power to control the desktop—what programs were preinstalled and hence easy to access. The same could be said of Google: By adjusting what sites and services readily appear in search results, Google shapes what destinations are easy to access on computers. And by imposing rules for what apps must be preinstalled on a mobile device (and what must not), Google shapes what services are easy to access on mobile platforms. In both the Microsoft and the Google instances, consumers were broadly able to access additional programs and destinations, yet that capability, standing alone, may not sufficiently address competition concerns.

Comparing Microsoft's prior practices to Google's current approach, I note three differences of particular importance. First, a user dissatisfied with Microsoft's preinstalled programs could largely fix the problem once—an action that would take permanent effect on that computer. For example, a user who preferred another web browser, not Internet Explorer, could install that other browser, make it the default, and delete all IE icons—effectively removing the unwanted program. Moreover, a sophisticated user making decisions for others (configuring a friend or relative's computer) can make such a change on behalf of the requesting user, again with permanent effect. In contrast, a user can do nothing to remove links to Google+, Google Finance, Google Images, Google Local, Google Maps, and other services that appear within Google search results. Those links are bound to appear when users run future searches at Google, and

[228] Keller, supra (note 99).

short of abandoning Google Search altogether, a user cannot avoid these links. I note that this is a conscious decision by Google, systematically different from the customization available in modern operating systems and indeed in some web services. For example, Facebook lets a user customize a profile with third-party apps, sections, and more.[229] Even iGoogle (Google Personalized Homepage) let users install widgets to emphasize preferred information.[230] Elsewhere, the author has suggested an approach to providing such customization of Google search results, to let users avoid unwanted Google services and substitute best-in-class competitors as desired.[231]

Second, as best I can tell, Google imposes rules that are significantly more intrusive than prior Microsoft requirements. For example, Microsoft required that computer manufacturers distribute Windows intact, without removing Internet Explorer or other components that Microsoft claimed were part of Windows.[232] But as I present in section VII, Google's rules go much further, including requiring not just that Google apps be installed but that they be *default*, requiring that Google apps be presented in prominent locations, and prohibiting competitors' apps from being installed (in categories where the underlying architecture permits only one such app, and where Google insists on use of its own offering, specifically geolocation services).

Third, Google's practices are subject to significantly greater opacity and, indeed, secrecy. A site may suspect that it has been penalized or improperly demoted within Google search results, or that its advertising price unduly inflated by a similar penalty. But most sites struggle to prove this; any change might be a mere coincidence. Microsoft's practices invited no such complaint. Meanwhile, in the mobile context, many of Google's restrictions are subject to NDA, and Google has been less than forthright in telling the public about its rules. (Recall Section VII.B.5.) This opacity impedes understanding by consumers, firms, and regulators—slowing or preventing the forces that would often counter unwanted restrictions. For example, a firm that cannot prove a penalty or retaliation may hesitate to come forward—all the more so since a complaint could prompt *further*

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[229] *Add Things You Care About*, Facebook. https://www.facebook.com/help/www/289895441138172 .

[230] Barry Schwartz, *Test The New iGoogle, Google's Personalized Home Page*, Search Engine Land, June 27, 2008, http://searchengineland.com/test-the-new-igoogle-googles-personalized-home-page-14288 .

[231] See works cited in note 119.

[232] United States v. Microsoft Corp., 87 F Supp 2d 30, at 40 (D.D.C. 2000) ("The Court has already found that no quality-related or technical justifications fully explain Microsoft's refusal to license Windows 95 to OEMs without version 1.0 through 4.0 of Internet Explorer, or its refusal to permit them to uninstall versions 3.0 and 4.0.")

adverse action by Google. Similarly, a consumer who sees that all phones come with Google Maps preinstalled might conclude that Google Maps is so overwhelmingly preferable to competitors that all manufacturers chose to preinstall it, even though the actual reason for uniform preinstallation is quite different.

I note that Google uses tying and bundling in multi-sided markets. In affected markets, the benefit of a platform depends on the number of users, of two or more types, who use the platform. For example, the attractiveness of Google's checkout system depends both on the number of users who pay with checkout and the number of merchants who use the system. Similarly, the usefulness of Google's review platform depends on the number of users reading the reviews and also on the number of reviews on the platform. Google's use of tying has distinctive effects in this context. First, Google is able to use tying to bootstrap its offerings—causing users (both consumers and companies) to use, receive, or participate in its services even when the merits of the service do not immediately justify such usage. Second, users (again, both consumers and companies) *anticipate* that Google can invoke such methods to make its service succeed—making the success of Google's offerings appear that much more inevitable. Finally, would-be competitors anticipate both the benefits that Google can grant to its own services and the privileges Google can withhold from them, and would-be competitors have every incentive to find other businesses, abandon their plans, or accept inferior outcomes. Broadly, these factors all fit within the foreclosure analysis long applied under tying doctrine, but I note that these factors carry greater importance in the markets in which Google operates, compared to classic tying cases in ordinary product markets.

Viewing Google's conduct as tying and bundling offers further insight on remedies. Google's proposed commitments entail search results that show both Google's own services and, somewhat less prominently, competitors' offerings.[233] Commentators provided various critiques of this approach, including the cost to the companies that obtain such placements,[234] limits to which companies are eligible to obtain the placements,[235] low prominence of the proposed

[233] *Commission Obtains from Google Comparable Display of Specialised Search Rivals – Frequently Asked Questions*, European Commission Memo 14/87, February 5, 2014.
[234] *ICOMP Response to the European Commission's RFI in Relation to Google's Revised Proposed Commitments*, October 21, 2013, http://www.i-comp.org/fr/wp-content/uploads/sites/6/2013/12/ICOMP_rfi.pdf .
[235] Id.

placements,[236] and the many problems not solved by the proposed commitments. If one views Google's practices as tying, the natural remedy is to undo the ties, allowing competitors to wholly replace Google's offerings (if users so choose) rather than, as the proposed commitments contemplate, presenting consumers with offerings from both Google and competitors. I note that it appears to be possible to present competitors' offerings on equal footing within Google search results, just as others' browsers can be installed into Windows as true replacements to Internet Explorer.[237]

Ultimately, Google's use of tying portends a future of reduced choice, slower innovation, lower quality, and higher prices. To date, Google has focused its harshest terms on advertisers, but when advertisers pay Google some $60+ billion each year, advertisers then recoup these expenses through higher prices to consumers.[238] Meanwhile, if a broad class of opportunities are effectively off-limits to competitors because Google either has claimed those sectors or is positioned to be *able* to claim them whenever it chooses, the incentive to invest is sharply attenuated. These are exactly the practices that competition law seeks to prevent.

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[236] David Franklyn and David Hyman, *Review of the Likely Effects of Google's Proposed Commitments dated April 25, 2013*, http://www.fairsearch.org/wp-content/uploads/2013/07/FS-Survey-Results-on-Effects-of-Googles-Proposed-Commitments.pdf .

[237] See note 119.

[238] Benjamin Edelman and Julian Wright, *Price Coherence and Adverse Intermediation*, Harvard Business School Working Paper No. 14-052, December 2013.

IX. APPENDIX: SELECTED AFFECTED MARKETS

If a … wants…	**Then it must accept…**
If a **consumer** wants to use **Google Search**	Google Finance, Images, Maps, News, Products, Shopping, YouTube, …
If a **mobile carrier** wants to preinstall **YouTube for Android**	Google Search, Google Maps (even if a competitor offers to pay to be default)
If an **advertiser** wants to advertise on **any AdWords Search Network Partner**	All AdWords Search Network sites (in whatever proportion Google specifies)
If an **advertiser** wants to advertise on **Google Search as viewed on computers**	Tablet placements and, with limited restrictions, smartphone placements
If an **advertiser** wants **image ads**	Google Affiliate Network (historic)
If an **advertiser** wants a **logo in search ads**	Google Checkout (historic)
If a **video producer** wants **preferred video indexing**	YouTube hosting
If a **web site publisher** wants **preferred search indexing**	Google+ participation