

The Antitrust Assault on Ad Tech: A Law & Economics Critique

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Executive Summary

For years, regulators and competition watchdogs have expressed concern about competition in the digital advertising business. They note that digital advertising appears to be dominated by a few dominant firms, such as Google, Facebook, and—to a lesser extent—Amazon. Some claim that this dominance allows these firms—and Google, in particular—to engage in anticompetitive conduct to extend their market power and to earn supercompetitive profit at the expense of advertisers, publishers, and consumers. This paper investigates the digital advertising market and assesses some of these claims. We conclude based on the information that is publicly available that many of the most significant claims made against Google’s advertising technology (ad tech) business are based on a misunderstanding of U.S. antitrust law, or of the details of the ad tech market itself.

Digital advertising provides the economic underpinning for much of the Internet. Targeted digital advertising on independent websites is often facilitated by intermediaries that match advertisers and websites automatically, displaying ads to users for whom they are most relevant. This intermediation has advanced enormously over the past three decades. Some now allege, however, that the digital advertising market is monopolized by its largest participant: Google.

In particular, a lawsuit filed in December 2020 by the State of Texas and nine other U.S. states (later joined by five more states in March 2021) alleges anticompetitive conduct related to Google’s online display-advertising business. It has been reported that the U.S. Justice Department (DOJ) may bring a similar lawsuit before the end of 2022.

Moreover, a bipartisan group of U.S. senators introduced the Competition and Transparency in Digital Advertising Act in May 2022. If passed by Congress and signed into law, the bill would require some of the largest Internet firms—such as Google, Facebook, and Amazon—to break up their digital advertising businesses. A summary of the bill claims that Google is the “leading or dominant” firm in “every part” of the ad tech “stack” and that it uses this dominance to “extract monopoly rents” from advertisers and publishers.

Our paper focuses on the *open-display* digital advertising business. *Display* ads are designed to be visually engaging, combining text, images, and a hyperlink to a website. These are distinct from *search* ads, which are text ads displayed along with organic Internet search results. Most of today’s digital display advertising appears on heavily trafficked *owned-and-operated* sites such as TikTok, Instagram, YouTube, and Amazon, in which the company providing the advertising space is the same company that operates the platforms that place the ads. In contrast, *open-display* space is supplied by independent publishers—such as *The New York Times* (nytimes.com), MLB.com, or The Weather Channel (weather.com)—and is usually facilitated by intermediaries.

This paper begins with an overview of digital advertising. The market’s history is one of dynamic innovation, with many new developments arising to solve problems created by previous innovations, address new innovations, and respond to market developments. The market’s structure has changed

dramatically as advertisers, publishers, and consumers have responded to new technologies. These changes and innovations all must balance the competing demands of advertisers, publishers, and consumers to maximize the total value of the advertising platform. Thus, any antitrust evaluation of digital advertising must consider whether the market's structure and the conduct of its participants may be procompetitive responses to prior market changes, as well as the extent to which the overall market structure may mitigate superficially problematic elements within it.

Of particular importance, digital advertising intermediaries that are vertically integrated into some or all components of the digital advertising “stack” of services use the prices charged to each side of the market to optimize overall use of the platform. As a result, pricing in these markets operates differently than pricing in traditional markets: pricing on one side of the platform is often used to subsidize participation on another side of the market, increasing the value to all sides combined. Consequently, pricing (or other terms of exchange) on one side of the market may appear to diverge from the competitive level when viewed for that side alone. While one side of the market may pay superficially higher fees, this cost can be offset by the benefits from increased participation on the other side of the market. In this way, using subsidies to increase participation on another side of the market creates valuable network effects for the side of the market facing the higher fees.

In the second half of the paper, we address some of the specific allegations of anticompetitive structures and conduct made in the Texas Complaint and by critics of the digital advertising industry. We conclude that a flawed premise underlies many of these allegations. It is a version of the “big is bad” argument, in which conduct by dominant incumbent firms that makes competition more difficult for certain competitors is viewed as inherently anticompetitive—even if the conduct confers benefits on users. Under this approach, the largest firms are seen as acting anticompetitively if they do not share their innovations or reveal their business processes to competing firms. As a result, creating new and innovative products, lowering prices, reducing costs through vertical integration, and enhancing interoperability among existing products is miscast as anticompetitive conduct.

In contrast, we note that U.S. antitrust law is intended to foster innovation that creates benefits for consumers, including innovation by incumbents. The law does not proscribe efficiency-enhancing unilateral conduct on the grounds that it might also inconvenience competitors, or that there is some other arrangement that could be “even more” competitive.

Moreover, U.S. antitrust law does not second guess unilateral conduct simply because it may hinder rivals. Any such conduct would first have to be shown to be anticompetitive—that is, to harm consumers or competition, not merely certain competitors. In multisided markets, this means finding not simply that some firms on one side of the market are harmed, but that the combined net effect of challenged conduct across *all* sides of the market is harmful. The Texas Complaint, however, is built on the alleged harm of reduced revenue to *publishers*, without considering the corresponding benefit of lower prices to *advertisers* (and the consumers of advertised products and services).

Based on the information publicly available, we conclude that many of the most significant claims made against Google’s ad tech business are based on a misunderstanding of U.S. antitrust law, or of the details of the ad tech market itself. Although we cannot be sure how the *Texas et al v. Google* case will develop once its allegations are fleshed out into full arguments, many of its claims and assumptions appear wrongheaded. If the court rules in favor of these, the result will be to condemn pro-competitive conduct and potentially to impose costly, inefficient remedies that function as a drag on innovation.

Legislators, too, who may be concerned about Google’s conduct and tempted to impose regulatory requirements on tech companies should bear in minds the risk of the “Nirvana fallacy,” in which real-life conduct is compared against a hypothetical “competition-maximizing” benchmark and anything that falls short is deemed worthy of intervention. That fanciful approach would pervert businesses’ incentives to innovate and compete and would make an unobtainable “perfect” that exists only in the minds of some economists and lawyers the enemy of a “good” that exists in the market.

Introduction

For years, regulators and competition watchdogs have expressed concern about competition in the digital advertising business. They note that digital advertising appears to be dominated by a few exceptionally large firms, such as Google, Facebook, and—to a lesser extent—Amazon. Some claim that this dominance allows these firms—and Google, in particular—to engage in anticompetitive conduct to extend their market power and to earn supercompetitive profits at the expense of advertisers, publishers, and consumers. This paper investigates the digital advertising market and assesses some of these claims. We conclude, based on the information that is publicly available, that many of the most significant claims made against Google’s advertising technology (ad tech) business are based on a misunderstanding of U.S. antitrust law, or of the details of the ad tech market itself.

Digital advertising provides the economic backbone for much of the Internet. By providing websites and apps a means to monetize their products without having to charge user fees, advertising enables access to entertaining and informative content without payment. Targeted advertising allows companies to inform potential customers of new products, giving new entrants a way to compete with popular incumbents, while effective targeting avoids wasting the time of those who aren’t likely to be interested. Advertising can endow products with new characteristics in customers’ minds and make consumers aware of product features they may not have known about.

Advertising on independent websites is often facilitated by intermediaries that match advertisers and websites automatically, targeting ads at the users to whom they are most relevant. This intermediation has advanced enormously over the past three decades. Some now allege, however, that the digital-advertising market is monopolized by its largest participant: Google. These allegations originate from various sources, including policy discussions, lawsuits, draft legislation, and academic reports.

In particular, a lawsuit filed in December 2020 by the State of Texas and nine other U.S. states (later joined by five more states in March 2021) alleges, among other things, anticompetitive conduct related to Google’s online display-advertising business.¹ This action is one of three currently pending lawsuits brought against Google by government antitrust enforcers in the United States; the other two relate to Google’s distribution agreements and search design.² It has been reported that the U.S. Department of Justice (DOJ) may bring a similar lawsuit before the end of 2022.³ Along similar lines, the European Commission opened an investigation into Google’s display-advertising services

¹ Third Amended Complaint, *Texas v. Google*, 21-md-3010-PKC (S.D.N.Y. Jan 14, 2022) at 105 (hereinafter, “Texas Complaint”).

² See Complaint, *United States v. Google LLC*, No. 1:20-CV-03010 (D.D.C. Oct. 20, 2020); see also, Complaint, *State of Colorado, et al. v. Google LLC*, 1:20-CV-03715 (D.D.C. Dec. 17, 2020).

³ *DoJ Expected to File Antitrust Lawsuit Against Google in Weeks—Bloomberg News*, U.S. NEWS (Jul. 14, 2022), <https://money.usnews.com/investing/news/articles/2022-07-14/doj-expected-to-file-antitrust-lawsuit-against-google-in-weeks-bloomberg-news>.

in June 2021⁴ and the German competition authority has published a report regarding its inquiry into non-search advertising.⁵ Among other things, the European Commission is investigating whether Google “has made it harder for rival online advertising services to compete in the so-called ad tech stack.”⁶

These ongoing cases follow regulatory reports and hearings examining the market, including a year-long study by the United Kingdom’s Competition and Markets Authority (CMA). The CMA investigation of digital advertising (including search and social-media advertising) has thus far produced recommendations for a code of conduct and “pro-competitive interventions” into the market, as well as a new regulatory body to oversee these measures.⁷ The Australian Competition and Consumer Commission is also conducting its own study of the digital advertising market,⁸ and both houses of the U.S. Congress have held hearings on the market in recent years.⁹ In October 2020, the Democratic majority staff of the U.S. House Judiciary Committee’s Subcommittee on Antitrust, Commercial, and Administrative Law issued a report that recommended, among other things, regulation for the display advertising market.¹⁰

The digital advertising industry has also drawn the attention of legislators. In May 2022, a bipartisan group of U.S. senators introduced a bill that would require some of the largest Internet firms to break up their digital advertising businesses.¹¹ Dubbed the Competition and Transparency in Digital

⁴ *Antitrust: Commission Opens Investigation into Possible Anticompetitive Conduct by Google in the Online Advertising Technology Sector*, EUROPEAN COMMISSION (Jun. 22, 2021), https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3143.

⁵ *Bundeskartellamt Publishes Report on Non-Search Online Advertising for Public Discussion*, BUNDESKARTELLAMT (Aug. 29, 2022), https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2022/29_08_2022_SU_Online_Werbung.html?nn=3599398.

⁶ *Id.*

⁷ *Online Platforms and Digital Advertising Market Study*, U.K. COMPETITION AND MARKETS AUTHORITY (Jul. 1, 2020), <https://www.gov.uk/cma-cases/online-platforms-and-digital-advertising-market-study> (hereinafter “CMA Market Study”); *Online Platforms and Digital Advertising, Market Study Final Report*, U.K. COMPETITION AND MARKETS AUTHORITY (Jul. 1, 2020), https://assets.publishing.service.gov.uk/media/5fa557668fa8f5788db46efc/Final_report_Digital_ALT_TEXT.pdf (hereinafter “CMA Final Report”), at 21 & 37.

⁸ See Josh Frydenberg, *Competition and Consumer (Price Inquiry—Digital Advertising Services) Direction 2020* (Feb. 10, 2020); *Ad Tech Inquiry Issues Paper 5*, AUSTRALIAN COMPETITION & CONSUMER COMMISSION (Mar. 10, 2020); *Digital Advertising Services Inquiry*, AUSTRALIAN COMPETITION & CONSUMER COMMISSION (Feb. 26, 2021), <https://www.accc.gov.au/focus-areas/inquiries-finalised/digital-advertising-services-inquiry/submissions-to-interim-report>.

⁹ *Investigation of Competition in Digital Markets, Majority Staff Report and Recommendations*, SUBCOMMITTEE ON ANTITRUST, COMMERCIAL AND ADMINISTRATIVE LAW OF THE COMMITTEE ON THE JUDICIARY (Oct. 4, 2020), https://judiciary.house.gov/uploadedfiles/competition_in_digital_markets.pdf?utm_campaign=4493-519; *Hearing on Stacking the Tech: Has Google Harmed Competition in Online Advertising?*, COMMITTEE OF THE JUDICIARY, SUBCOMMITTEE ON ANTITRUST, COMPETITION POLICY AND CONSUMER RIGHTS (Sep. 15, 2020), <https://www.judiciary.senate.gov/meetings/stacking-the-tech-has-google-harmed-competition-in-online-advertising>.

¹⁰ *Investigation of Competition in Digital Markets, Majority Staff Report and Recommendations*, *id.*, at 20.

¹¹ *Competition and Transparency in Digital Advertising Act*, S.4258, 117th Congress (2021-2022), <https://www.congress.gov/bill/117th-congress/senate-bill/4258/text>.

Advertising Act (CTDAA), the measure was introduced by Sen. Mike Lee (R-Utah) and co-sponsored by Sens. Amy Klobuchar (D-Minn.), Ted Cruz (R-Texas), and Richard Blumenthal (D-Conn.). Sen. Lee's summary of the CTDAA identifies several allegations against the largest firms in the digital advertising business, with an emphasis on Google.¹² The summary claims that Google is the "leading or dominant" firm in "every part" of the "ad tech stack" and that it "exploits" conflicts of interest to "extract monopoly rents" from advertisers and publishers. Because of these monopoly rents, consumers are harmed in the form of higher prices for advertised goods and services and lower quality of online content, according to Lee's press release.¹³

A 2020 paper published by the Omidyar Network—itself based on an interim CMA report produced during the authority's then-pending investigation¹⁴—alleged anticompetitive practices within Google's display advertising business and laid out a "roadmap" for a prospective antitrust case.¹⁵ Other legal and economic consultants have also voiced concerns about Google's role in the digital advertising industry.¹⁶ These critiques were published before the Texas Complaint and provide more detail underlying the allegations and arguments described in the Texas Complaint. For that reason and because it may influence further lawsuits and regulatory interventions in the digital advertising market, including the DOJ's, we also evaluate several of the *Roadmap's* findings and conclusions.

This paper investigates the digital advertising market and assesses the aforementioned claims that it is uncompetitive. It explains some of the complex dynamics that underpin this market, thereby shedding light on the weaknesses and deficiencies in many of the arguments made about it, particularly those behind the Texas Complaint. This analysis is relevant to the entire Internet and to the wider economy, not just to Google and the display-advertising market. Many of the allegations made in the Texas Complaint would, if upheld by a court, have profound implications for antitrust law by

¹² *Lee Introduces Digital Advertising Act*, MIKE LEE US SENATOR FOR UTAH (May 19, 2022), <https://www.lee.senate.gov/2022/5/lee-introduces-digital-advertising-act>.

¹³ *Support Mounts for Lee's Digital Advertising Act*, MIKE LEE US SENATOR FOR UTAH (May 27, 2022), <https://www.lee.senate.gov/2022/5/support-mounts-for-lee-s-digital-advertising-act>.

¹⁴ *Online Platforms and Digital Advertising Market Study Interim Report*, U.K. COMPETITION AND MARKETS AUTHORITY (Dec. 18, 2019), https://assets.publishing.service.gov.uk/media/5ed0f75bd3bf7f4602e98330/Interim_report_-_web.pdf (hereinafter, "CMA Interim Report").

¹⁵ Fiona M. Scott Morton & David C. Dinielli, *Roadmap for a Digital Advertising Monopolization Case Against Google*, OMIDYAR NETWORK (May 2020), <https://omidyar.com/wp-content/uploads/2020/09/Roadmap-for-a-Case-Against-Google.pdf> (hereinafter, "*Roadmap*" or "*Omidyar Roadmap*"). One of the *Roadmap's* authors testified at a Senate hearing on the display-advertising market, and the report has been widely cited. See, e.g., Gilad Edelman, *Here's What an Antitrust Case Against Google Might Look Like*, WIRED (May 18, 2020), <https://www.wired.com/story/antitrust-case-against-google-roadmap-paper>.

¹⁶ Damien Geradin & Dimitrios Katsifis, *An EU Competition Law Analysis of Online Display Advertising in the Programmatic Age*, 15 EUR. COMP. J. 55 (2019); Damien Geradin & Dimitrios Katsifis, "Trust Me, I'm Fair": *Analysing Google's Latest Practices in Ad Tech from the Perspective of EU Competition Law*, 16 EUR. COMP. J. 11 (2020); Damien Geradin & Dimitrios Katsifis, *Online Platforms and Digital Advertising Market Study: Observations on CMA's Interim Report*, TILEC Discussion Paper No. DP2020-044 (Feb. 13, 2020), <https://ssrn.com/abstract=3537864>; Damien Geradin & Dimitrios Katsifis, *Competition in Ad Tech: A Response to Google*, TILEC Discussion Paper No. DP2020-038 (Jun. 3, 2020), <https://ssrn.com/abstract=3617839>.

establishing precedents that successful platforms effectively have a legal duty to act as essential facilities for their competitors; that efficiency-enhancing innovation by incumbent platforms is anticompetitive (particularly when it is not shared with competitors); and that courts or regulators can impose remedies that put these duties into effect without consideration of the harmful tradeoffs and unforeseen consequences that could themselves constrain competition and innovation. Such an approach would severely affect not only Google and the ad tech industry, but also businesses operating in unrelated markets and industries.

We begin with an overview and history of digital advertising. It is a history of dynamic innovation, with many new developments arising to solve problems created by previous innovations, address new innovations, and respond to market developments. These innovations must balance the competing demands of advertisers and publishers. The market's structure has changed dramatically as advertisers, publishers, and consumers have responded to recent technologies. Because of this dynamism, we argue that it is a mistake to conclude that market structure and firm conduct at some specific point in time was ideal or better from a competition point of view, or that deviations from that paradigm represent a problem for competition enforcers to correct.

In the second half of the paper, we address some of the specific allegations of anticompetitive structures and conduct made in the Texas Complaint and by critics of the digital advertising industry. We conclude that a flawed premise underlies many of these allegations. Fundamentally, the allegations stem from an assertion that conduct engaged in by dominant, incumbent firms that makes competition more difficult for competitors is anticompetitive—even if the conduct confers benefits on users. This often amounts to a claim that the largest firms are acting anticompetitively by innovating and developing their business processes and products in ways that create benefits for one or more digital advertising constituents and for the advertising ecosystem more generally, including by creating new and innovative products, lowering prices, reducing costs through vertical integration, and enhancing interoperability between existing products.

I. Overview of the Digital Advertising Industry

For many people, digital ads are “just there.” They appear on one’s Facebook timeline, get inserted into one’s Twitter feed, or show up in the middle of an online news article. Unseen to most users is a complex stack of services that match advertisers with advertising space, using real-time auctions and other algorithms to deliver ads targeted to produce a user response, such as buying a product, supporting a cause, or visiting another website.

In this section we explain that digital advertising is just one small part of a much broader advertising and marketing industry. We provide a concise history of how the business evolved from simple banner ads to highly targeted display ads. Through this evolution, digital advertising has become a multisided market where intermediaries must balance the demands of advertisers, publishers, and users to maximize the total value of the advertising platform. Because of this balancing, it is a mistake

for policymakers and regulators to focus only on a single set of users or a single segment of the stack of digital advertising services.

A. Digital advertising is part of a broader advertising and marketing market

The Texas Complaint alleges that Google has market power in six distinct product markets, each of which the states claim to be nationwide in geographic scope. Four of these distinct product markets involve intermediation in the sale of “open” display ads on third-party websites and two involve intermediation in the sale of “in-app” display ads on mobile devices.¹⁷ As we note in our earlier paper, it is likely that the states allege overly narrow product-market definitions.¹⁸ In particular, structure and conduct viewed within a broader digital advertising market, overall advertising market, or marketing market indicates that no single firm has significant market power.

Digital advertising comprises about half of U.S. advertising revenues (Figure 1), while advertising itself accounts for about half of marketing activities. Marketing includes advertising, as well as events, sales promotion, direct marketing, telemarketing, product placement, and merchandising. Within digital advertising, advertisers have a broad set of options about where and how to run ads, including:

- Search ads, in which the ad is displayed as a search-engine result (e.g., Google, Bing, DuckDuckGo);
- Display ads on a site owned and operated by the firm that sells the ad space (e.g., Facebook, YouTube, Amazon Marketplace);
- “Open” display ads on a third party’s site (e.g., The New York Times, Dallas Morning News, Runner’s World); or
- “In-app” display ads served on mobile apps.

While total advertising spending in the United States has increased by about 15% since 2009, as a share of the economy spending has been relatively flat at slightly less than 1% of GDP.¹⁹ As mentioned, about half of total U.S. advertising dollars go to digital channels, up from approximately

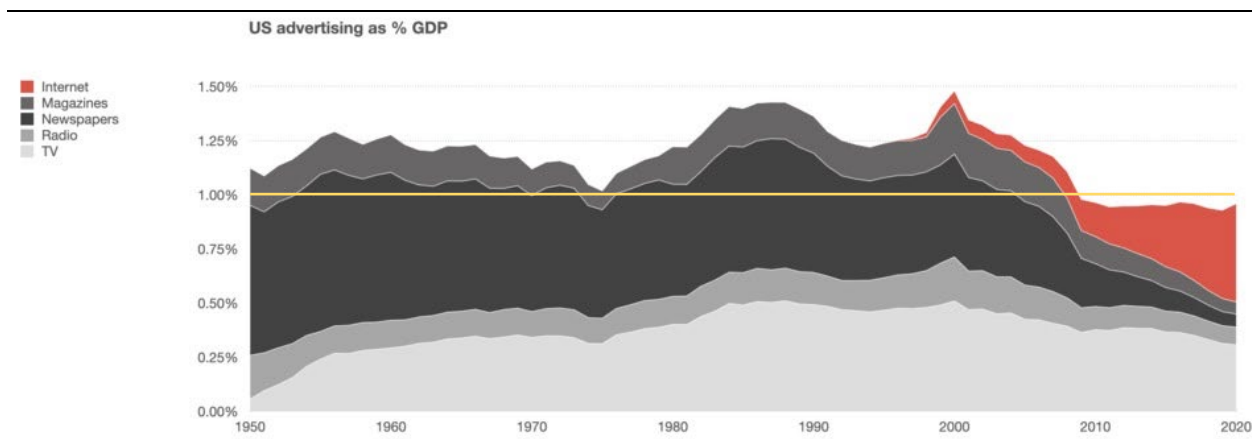
¹⁷ The markets alleged in the Texas Complaint involve (1) publisher ad servers, (2) ad exchanges, (3) ad-buying tools for large advertisers, (4) ad-buying tools for small advertisers, (5) in-app mediation tools, and (6) in-app networks. The complaint does not relate to other forms of advertising on the Internet, such as targeted text-based ads sold by search engines, video ads that run before or during video content, or shareable ads on social media platforms.

¹⁸ This section is distilled from our much longer discussion of the broader market surrounding digital advertising. See Eric Fruits, Geoffrey A. Manne & Lazar Radic, *Relevant Market in the Google AdTech Case*, ICLE Issue Brief 2022-06-01 (2022), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4125569.

¹⁹ Benedict Evans, *News by the Ton: 75 Years of US Advertising* (Jun. 15, 2020), <https://www.ben-evans.com/benedictevans/2020/6/14/75-years-of-us-advertising>; Benedict Evans, *TV, Merchant Media and the Unbundling of Advertising* (Mar. 18, 2022), <https://www.ben-evans.com/benedictevans/2022/3/18/unbundling-advertising>.

10% a decade ago. Approximately 30% of ad spending goes to TV and less than one-quarter goes to radio, newspapers, magazines, billboards, and other “offline” forms of media.²⁰

Figure 1: U.S. Advertising Spending Over Time



Source: Benedict Evans, *News by the Ton*

It is well-understood that television broadcasters and cable networks compete with digital services.²¹ And they do so on virtually all dimensions: for user attention, for labor, for content and other inputs—and for advertising. The same is true of competition for advertising among digital publications, newspapers, radio, magazines, video games, music streaming, and podcasts. The fact that offline and online advertising—to say nothing of marketing more broadly—employ distinct processes does not consign them to separate markets. Indeed, it is widely accepted that online advertising has drawn advertisers from offline markets, as previous technological innovations drew advertisers from other channels before them.²² Moreover, while there is evidence that, in some cases, offline and online advertising may be complements as well as substitutes,²³ the distinction between these cases is becoming less and less meaningful as the revolution in measuring the effectiveness of advertising has

²⁰ See Fruits, Manne & Radic, *supra* note 18.

²¹ Michael Schneider & Kate Aurthur, *R.I.P. Cable TV: Why Hollywood Is Slowly Killing Its Biggest Moneymaker*, VARIETY (Jul. 21, 2020), <https://variety.com/2020/tv/news/cable-tv-decline-streaming-cord-cutting-1234710007> (“[B]asic cable feasted on a dual revenue stream of subscriber fees and advertising revenue. But that gravy train started going off the rails when the streaming services arrived.”).

²² At the same time, as Benedict Evans notes, not *all* digital advertising is drawn from offline sources: “[I]f you talk to people at both Google and Facebook and in the agency world, you’ll hear that a lot of the money spent on Google and Facebook is money that was never spent on traditional advertising—it’s coming from SMEs [small and medium enterprises] and local businesses that *might* have spent in classified at most but probably wouldn’t have done even that.” Evans, *News by the Ton*, *supra* note 19 (emphasis in original).

²³ See Xi He, Rigoberto Lopez & Yizao Liu, *Are Online and Offline Advertising Substitutes or Complements? Evidence from U.S. Food Industries*, 15 J. AGRICULTURAL & FOOD INDUS. ORG. 1 (2017).

changed how marketers approach different levels of what is known as the marketing “funnel.”²⁴ For example, economist David Evans’ review of the literature concludes that digital advertising is a segment of the broader advertising business in which different forms of advertising compete and complement each other:

Advertisers base decisions about the level and allocation of their budgets on formal or informal analyses of the rate of return on investment. For these ad campaigns, the different advertising methods can be substitutes to the extent they provide alternative ways of delivering messages to an audience, and complements to the extent they can reinforce each other.²⁵

Economists Avi Goldfarb and Catherine Tucker demonstrate that display-advertising pricing is sensitive to the availability of offline alternatives.²⁶ Although advertising technology and both supplier and consumer preferences continue to evolve, the weight of evidence suggests a far more unified and integrated *economically relevant* market between offline and online advertising than their common *semantic* separation would suggest:

We believe our studies refute the hypothesis that online and offline advertising markets operate independently and suggest a default position of substitution. Online and offline advertising markets appear to be closely related. That said, it is important not to draw any firm conclusions based on historical behavior.²⁷

In summary, there is evidence that open-display and in-app ads compete with search ads, while digital ads compete with offline advertising. Thus, courts and regulators should be skeptical of overly narrow market definitions focused on only small slices of a much larger relevant market for advertising.

B. A simplified description of digital display advertising

The combination of software and processes that facilitate digital advertising transactions is known as the “ad tech stack.” The stack consists of several software components to match advertisers with publishers.

²⁴ David Bardey, Jorge Tovar & Nicolas Santos, *Characterization of the Relevant Market in the Media Industry: Some New Evidence*, Toulouse School of Economics Working Paper 16-719 (2016), <https://www.tse-fr.eu/publications/characterization-relevant-market-media-industry-some-new-evidence> (“The results show substitution and complementary patterns across certain media outlets. An increase in price for advertising in radio, for instance, leads to higher demand for newspapers and outdoors. Similarly, complementarity relationships between media outlets are observed, suggesting that advertising across the various media platforms is, overall, interwoven.”).

²⁵ David S. Evans, *The Online Advertising Industry: Economics, Evolution, and Privacy*, 23 J. ECON. PERSP. 37, 49 (2009).

²⁶ Avi Goldfarb & Catherine Tucker, *Search Engine Advertising: Channel Substitution When Pricing Ads to Context*, 57 MANAGEMENT SCI. 458 (2011) (The authors find that the price of “ambulance chaser” lawyer ads was significantly more expensive in states prohibiting direct-mail solicitation by attorneys. This leads them to conclude that “online advertising substitutes for online advertising”).

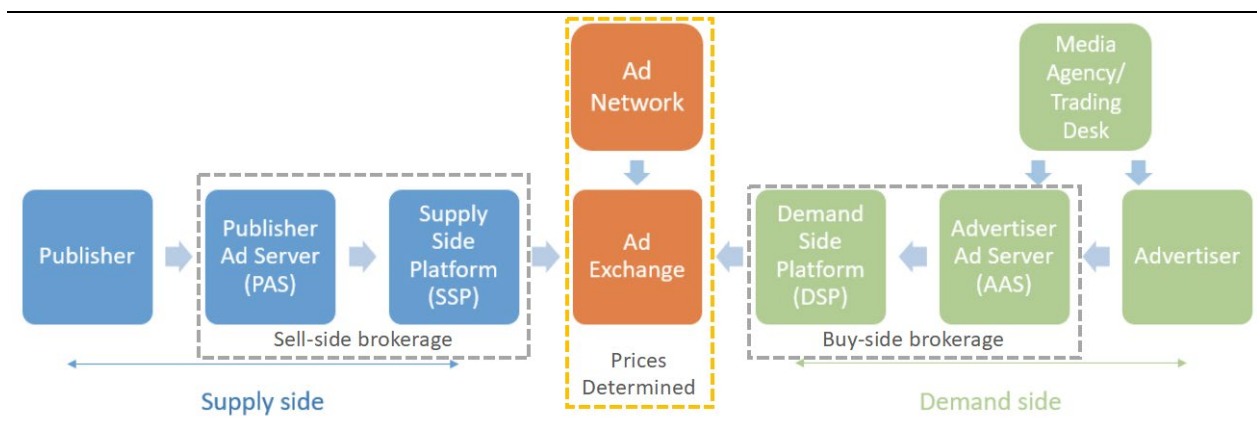
²⁷ Avi Goldfarb & Catherine Tucker, *Substitution Between Offline and Online Advertising Markets*, 7 J. COMPETITION L. & ECON. 37, 43 (2011).

Advertiser ad servers are used by advertisers and media agencies to store ads, deliver them to publishers, track their activity, and assess their effectiveness (by, for example, tracking conversions). *Demand-side platforms* (DSPs) automate the purchase of advertising inventory by collecting bids in real-time auctions from multiple advertiser ad servers. DSP bids are based on the advertiser's objectives, data about the final user, and data on impressions or conversions. *Publisher ad servers* manage publishers' inventory and determine whether and where to serve a particular ad on a publisher's site. *Supply-side platforms* (SSPs) automate the sale of publishers' inventory, typically through real-time auctions involving multiple DSPs.

In general, the process of buying and selling digital ads through open-display auctions works as follows (Figure 2):

1. When a user opens a webpage (or uses an app), the publisher's ad server sends a bid request to SSPs for the advertising impressions available on that page for that user.
2. The SSPs send bid requests to multiple DSPs for the ad impressions.
3. DSPs evaluate the advertising opportunity based on user data and the objectives of their advertisers' campaigns and send bids to the SSPs.
4. SSPs rank the bids received based on price and other priorities set by the publisher. The SSPs send their winning bids to the publisher.
5. The publisher ad server compares bids received from SSPs, along with any pre-existing direct deals between the publisher and specific advertisers and decides which ad to serve on the page.

Figure 2: A Simplified View of the Digital Advertising Stack



Source: OECD, CMA

While this process applies to most programmatic transactions, there are many variations. For example, there are diverse ways in which SSPs are contacted and asked to submit their bids. To the extent that a publisher and advertiser have a pre-existing, direct agreement, there are differences in how these arrangements are handled and integrated with deals arranged through automated platforms. The specific approach used to match ads with ad inventory will reflect a balance among different

sides of a multisided market. One approach might increase the prices received by sellers (publishers) but expose buyers (advertisers) to increased risk of overpayment. Other methods might reduce risks to advertisers, but also reduce the prices received by publishers.

C. A brief history of digital advertising

This history of the digital advertising market is a history of iterative innovation, with new developments and services arising to solve problems created by previous innovations and to respond to changing market conditions. At the heart of these innovations is an attempt to balance the competing demands of advertisers, publishers, and consumers. Given that this is a dynamic market, it would be mistaken to conclude that the market structure at some specific point was the “correct” one from a competition point of view. Moreover, it would be a mistake to conclude that deviations from some previous “ideal” world present a problem that can be corrected by disruptive regulation.

Digital advertising originally worked similarly to conventional print and broadcast advertising. Online publishers would negotiate with advertisers (or their ad agencies) to sell ad space on their websites, giving relevant advertisers information about their readership gathered through market research. All users would see the same ads. The resulting system was poorly targeted, inefficient, and carried high fixed costs, including the cost of things like market research and the transaction costs of publishers hiring sales teams and advertisers hiring ad agencies to do business with one another. Inevitably, these fixed costs meant that only larger publishers and larger advertisers could engage in the online market profitably.

In 1993, O’Reilly & Associates Inc. introduced its Global Network Navigator (GNN) magazine and other ad-supported online publications, which first rolled out clickable ads. O’Reilly is credited with the first attempt to create an “advertising medium” on the Internet.²⁸ The price of ads ranged from \$500 for a one-page business profile to \$5,000 for up to 25 pages about the company placing the ad.²⁹ A year later, *Wired* magazine’s digital affiliate HotWired ran what later became known as the web’s first banner ads. The ad—for AT&T’s “You Will” campaign—cost \$30,000 for a three-month dedicated placement in a section of HotWired’s site.³⁰

The first step toward automating this process came with the introduction of *ad-server* software on both the publisher and advertiser sides, which allowed each side to automate parts of the ad-placement process. Ad servers allowed publishers to automatically describe the type of content on their pages, which in turn allowed advertisers to place ads tailored to that content. An article about hiking could automatically indicate to a department store to place ads selling walking boots, for instance. It also allowed the publisher to sell to many advertisers without having to transact directly with any

²⁸ Daniel S. Levine, *Ad-Supported Cyber-Magazines to Launch on Internet*, ADWEEK (Sep. 10, 1993).

²⁹ *Id.*

³⁰ Brian Morrissey, *How the Banner Ad Was Born*, DIGIDAY (Apr. 12, 2013), <https://digiday.com/marketing/how-the-banner-ad-was-born>.

of them. Ad servers also allowed advertisers to browse and manage campaigns across a large, aggregated number of publishing sites, instead of having to interact with sales teams one by one. This process was, however, still negotiated directly, and often left publishers with unused “remnant” advertising space that they had not been able to sell.

To solve this problem, *ad networks* entered the market. These functioned as intermediaries between advertisers’ and publishers’ ad servers, aggregating unsold remnant ad space and allowing advertisers to buy that space *en masse* without having to deal directly with each publisher. Ad networks did not replace direct sales, but they allowed for residual space to be bought and sold more easily, increasing the amount of ad inventory available and lowering the fixed costs to use it. This, in turn, made the market feasible for smaller publishers, who would otherwise be unable to attract direct deals to sell ad space, and for advertisers to conduct large-scale ad campaigns across many publishers (including small ones).

In 1995, GNN was acquired by AOL.³¹ That same year, marketing-communications agency Poppe Tyson spun off its Internet advertising division as DoubleClick, with the objective of “responding to advertisers’ need to be able to buy millions of impressions on the Internet without having to buy from hundreds of different sites.”³² The company created “subnets” of publishers to target specific categories of consumers.³³

Also in 1995, ad agency WebConnect, the first ad network, began to collaborate with its clients to identify the websites that their ideal consumers visit. WebConnect then placed ads on the websites where they were more likely to be seen by the audience most relevant to their clients. The company also produced a tool to prevent “ad fatigue,” which occurs when users are repeatedly shown the same ad.³⁴

In 1998, GoTo.com, which was renamed Overture in 2001, launched its ad-supported search engine.³⁵ Search result rankings were based on an open-market bidding process. Advertisers on GoTo were informed of the amounts other advertisers were bidding for a click-through within the results for a given search term, and any advertiser could increase its bid to obtain a higher ranking, a process

³¹ Chris Lapham, *AOL and GNN Partner to Build Launch Pad*, CMC MAGAZINE (Jul. 1, 1995), <https://www.december.com/cmc/mag/1995/jul/cutting.html>.

³² Kim Cleland, *Poppe Creates Web Net*, ADVERTISING AGE (Oct. 30, 1995).

³³ *Id.*

³⁴ *The History of Online Advertising*, OKO AD MANAGEMENT (Jul. 19, 2019), <https://oko.uk/blog/the-history-of-online-advertising>.

³⁵ The company changed its name to Overture, which was acquired by Yahoo! in 2003.

GoTo described as “pay for performance.”³⁶ One of GoTo’s key innovations was linking advertising pricing to click-throughs, rather than to page views.³⁷

To drive home just how efficient these ads could be, [GoTo.com’s founder Bill Gross] came up with an audacious pricing scheme. Instead of paying for page-views—an old-media model that had come to dominate the Web—advertisers would pay only when people actually clicked on their ads. And their placement on the GoTo.com results page would be determined through an auction, so that more desirable keywords would command higher prices, while less common keywords could be had for as little as a penny per click. As a search engine, GoTo.com had nothing on Google. But as a way of making money on searches, it was ingenious.³⁸

During the dot-com boom of the late 1990s, banner ads spread throughout the Internet, though growth was tempered by user complaints that the ads slowed page loading.³⁹ The dotcom bust wiped out many of the firms that were the biggest buyers of digital banner ads. In response, *Wired* predicted that digital advertising would undergo a “facelift.”⁴⁰

Old media revenues will wither as mainstream advertisers storm the Net. Instead of stuffing junk mail into the mailbox outside your house, they’ll send it directly to your inbox. And companies get smarter, choosing sites that take better aim at their quarry, er, potential customers.

“It’s very much a targeted medium,” Robin Neilfield, co-founder of NetPlus Marketing. “You have to analyze the content on a site, you can’t just buy based on demographics.”⁴¹

Because ad networks were not comprehensive—they did not carry the entire inventory of the Internet—publishers began to use *yield managers* (later known as SSPs) to compare bids for their ad space and to decide which to accept. SSPs effectively allowed publishers to aggregate demand from a larger number of ad networks, which themselves aggregated demand from advertisers. This process allowed ad space to be more easily commoditized, with an SSP helping to identify an ad space’s relevance to potential advertisers.

³⁶ GoTo.com Announces First Round of Financing, Totaling More Than \$ 6 Million, Led by Draper Fisher Jurvetson, BUSINESS WIRE (May 19, 1998), <https://www.internetnews.com/marketing/goto-com-raises-6-million-in-first-round-of-financing>.

³⁷ Will Oremus, *Google’s Big Break*, SLATE (Oct. 13, 2013), <https://slate.com/business/2013/10/googles-big-break-how-bill-gross-goto-com-inspired-the-adwords-business-model.html>.

³⁸ *Id.*

³⁹ Dean Schmid, *The History of Display Advertising: Everything You Need to Know*, DISRUPTORDAILY.COM (Aug. 14, 2017), <https://www.disruptordaily.com/the-history-of-display-advertising-everything-you-need-to-know>.

⁴⁰ Julia Scheeres, *Death of Banner Ads Exaggerated*, WIRED (Jan. 26, 2001), <https://www.wired.com/2001/01/death-of-banner-ads-exaggerated>.

⁴¹ *Id.*

As indirect sales became possible, *ad exchanges* emerged to sell ad space using real-time auctions. Ad space could be tagged according to characteristics like audience type, relevance to the advertiser, and/or prominence and quality of the ad, with bids gauged accordingly.

Finally, DSPs on the advertiser side allowed advertisers to engage with many ad networks and ad exchanges at one time. These also allowed advertisers to track campaigns and measure performance of different ads with different publishers, and to adjust their campaigns accordingly. Most ad exchanges now have DSP functionality built in.

In 2000, Google introduced a new self-service advertising product called AdWords (now Google Ads) that allowed businesses to purchase text ads on search-results pages. At the time it was reported that AdWords was designed to attract small-to-midsize advertisers with budgets of \$5,000 or less.⁴² AdWords differed from GoTo/Overture in a major way. GoTo/Overture placed ads within search results, with results ranked by bid. In contrast, AdWords placed ads separate from search results with pricing based on pageviews.⁴³ In this way, Google could display ads without compromising the relevance of search results. In 2002, it launched AdWords Select, its pay-per-click, auction-based search-advertising product.⁴⁴

In 2003, Google acquired Applied Semantics, whose AdSense display advertising product allowed it to sell targeted ads on third-party websites.⁴⁵ With AdSense, the display-ad server was able to read text on a publisher's site and serve relevant ads, considering factors like the user's geographic location, age, demographics, and the search made.⁴⁶ AdSense was the forerunner of *programmatic display advertising*, the process of automating the buying and selling of ad inventory in real time through an automated bidding system. In 2005, Google introduced the Quality Score model, which considers an ad's click-through rate, as well as the bid price, in placing ads.⁴⁷

YouTube was launched in 2005 and acquired by Google the following year, when the company also introduced video ads. In 2007, Google acquired DoubleClick.⁴⁸

⁴² *Breaking News*, ADAGE (Oct. 23, 2000).

⁴³ Mark Evans, *Investors Leap off Overture Roller Coaster: Rival Google Elbows In*, NATIONAL POST (Feb. 21, 2002).

⁴⁴ Oremus, *supra* note 37.

⁴⁵ *Google Grabs Applied Semantics*, EUROPEMEDIA (Apr. 25, 2003); *Google Expands Advertising Monetization Program for Websites*, GOOGLE PRESS RELEASE (Jun. 18, 2003), <http://googlepress.blogspot.com/2003/06/google-expands-advertising-monetization.html>.

⁴⁶ Dean Schmid, *The History of Display Advertising: Everything You Need to Know*, DISRUPTORDAILY (Aug. 14, 2017), <https://www.disruptordaily.com/the-history-of-display-advertising-everything-you-need-to-know>.

⁴⁷ Kate Walsh, *Search Marketing: Understanding the Basics*, B2B MARKETING MAGAZINE (March 2006).

⁴⁸ Louise Story & Miguel Helft, *Google Buys DoubleClick for \$3.1 Billion*, THE NEW YORK TIMES (Apr. 14, 2007), <https://www.nytimes.com/2007/04/14/technology/14DoubleClick.html>.

Around 2015, “header bidding” began to roll out, with publishers Meredith Corp. and Townhall Media as two of largest early adopters.⁴⁹ Before header bidding, it was difficult for every demand-side partner to submit a bid for every ad request. As a result, publishers relied on approaches such as “ad waterfalls”⁵⁰ to try to get the most from each partner. Because of the way ad waterfalls are configured (based on historical, not real-time, data), publishers believed ad waterfalling led to winning bids that were below what some bidders might be willing to pay.⁵¹ Client-side⁵² header bidding was adopted as a way to increase real-time price competition among multiple SSPs, leading to higher returns for publishers and a more efficient allocation of ad space to advertisers.

Despite the widespread adoption of header bidding—as of the second quarter of 2021, about two-thirds of publishers were using it⁵³—the technology has its own challenges. For example, the addition of extra code on the webpage, which client-side header bidding requires, can slow down the publisher’s website, driving away users.⁵⁴

As an alternative to client-side header bidding, server-side header bidding was introduced. Prebid launched in 2015 as an independent and open-source option. Google released Open Bidding in April 2016 and Amazon introduced Transparent Ad Marketplace (“TAM”) at the end of 2016. In these alternatives, the auction among SSPs takes place in a remote server controlled by a third party (the provider of the server-side header-bidding solution) instead of in the user’s browser. This helps to improve site-load speed. On the other hand, this solution leads to less revenue for publishers and reduces the availability of data to advertisers and publishers.⁵⁵

⁴⁹ Sarah Sluis, *The Year Header Bidding Went Mainstream*, ADEXCHANGER (Dec. 27, 2016); *Townhall Media Selects OpenX for Patent-Pending Header Bidding Solution*, BUSINESSWIRE (Sep. 18, 2015), <https://www.businesswire.com/news/home/20150918005110/en/Townhall-Media-Selects-OpenX-for-Patent-Pending-Header-Bidding-Solution>.

⁵⁰ As the name suggests, ad waterfalls enable publishers to sell their inventory *seriatim*, beginning with premium, direct sales and flowing through the most historically profitable ad servers in succession to unload unsold inventory before offering its remnant inventory in the open display channel. See, e.g., Maciej Zawadzinski, *What Is Waterfalling and How Does it Work?*, CLEARCODE (Aug. 20, 2021), <https://clearcode.cc/blog/what-is-waterfalling>.

⁵¹ See, e.g., *Header Bidding*, OKO AD MANAGEMENT, <https://oko.uk/topic/header-bidding> (retrieved July 27, 2022).

⁵² Client-side header bidding is so-named because it operates via a small piece of java script embedded in the header of a publisher’s website and executed within the user’s browser (i.e., client). See, e.g., Maciej Zawadzinski, *What Is Header Bidding and How Does it Work?*, CLEARCODE (Aug. 20, 2021), <https://clearcode.cc/blog/what-is-header-bidding>.

⁵³ *Header Bidding Facts and Statistics 2021*, AUTOMATAD (Jun. 27, 2021), <https://headerbidding.co/header-bidding-statistics>. Today, 70% of the top 10,000 U.S. publishers use header bidding. See *Header Bidding (HBIX) Tracker*, KEVEL (retrieved Nov. 1, 2022), <https://www.kevel.com/hbix>.

⁵⁴ See, e.g., CMA Final Report, *supra* note 7, at Appendix M, ¶ 33.

⁵⁵ See, e.g., Vishveshwar Jatain, *Header Bidding Integrations: Client Vs. Server-Side, Explained*, BLOCKTHROUGH (Apr. 15, 2021), <https://blockthrough.com/blog/header-bidding-integrations-client-vs-server-side-explained>.

Over the past decade, the price of digital advertising has fallen steadily, while output has risen. U.S. digital-ad spending grew from \$26 billion in 2010 to \$189 billion in 2021, an average annual increase of 20%.⁵⁶ Over the same period, the Producer Price Index for Internet-advertising sales declined by an annual average of 4%.⁵⁷ The rise in spending in the face of falling prices indicates that the number of ads bought and sold increased by approximately 25% annually. The combination of increasing quantity, decreasing cost, and increasing total revenues are consistent with a growing and increasingly competitive market, rather than one of rising concentration and reduced competition.

D. Digital advertising is a multisided market

The digital advertising market can be thought of as a complex multi-step and multisided market that involves three key parties—advertisers, publishers, and intermediaries—and is aimed at a fourth: consumers. In contrast, critics of the current structure of and conduct in the digital advertising industry have characterized it as a “straightforward and traditional” market in which publishers supply an inventory of ad space and advertisers are buyers of the ad space.⁵⁸ In this simplistic account of the market, for a given supply of inventory, publishers would seek to maximize the price received per ad, while advertisers would seek to minimize the price paid per ad. Targeting of ads would be based on the demographics of a publisher’s readership or the content of the publication, rather than the individual characteristics of each reader. In general, this is how the market initially operated before the introduction of clickable ads. But even this simple formulation is quite complex. Advertisers expect to maximize the return on their investment in advertising. Even at a low price, advertising expenditures would be wasted if that investment were not converted to increased sales of the advertiser’s product or service.

The invention of clickable ads with which users could interact changed the objective function of digital advertising. Publisher revenues and advertising costs became linked to individual consumers acting on an ad by, for example, clicking on it. Rather than paying or receiving a price-per-ad based on the size of a publication’s user base, advertising expenditures became a function of a price-per-click (or other action) *and* the number of clicks. This meant that the rewards for relevance—as well as the complexities of *determining* relevance—were greater because some viewers might be persuaded to act there and then.

⁵⁶ IAB and PwC, *IAB Internet Advertising Revenue Report, 2010 Full Year Results* (Apr. 2011), available at https://www.iab.com/wp-content/uploads/2015/05/IAB_Full_year_2010_0413_Final.pdf; Megan Graham, *Digital Ad Revenue Jumped 35% in the U.S. Last Year, Biggest Gain Since 2006*, WALL STREET JOURNAL (Apr. 12, 2022), <https://www.wsj.com/articles/digital-ad-revenue-jumped-35-in-the-u-s-last-year-biggest-gain-since-2006-11649759401>.

⁵⁷ *Producer Price Index by Commodity: Advertising Space and Time Sales: Internet Advertising Sales, Excluding Internet Advertising Sold by Print Publishers*, U.S. BUREAU OF LABOR STATISTICS, <https://fred.stlouisfed.org/series/WPU365>; *Producer Price Index, December 2009–February 2021*, U.S. BUREAU OF LABOR STATISTICS, <https://fred.stlouisfed.org/graph/?g=vtTd>.

⁵⁸ Scott Morton & Dinielli, *supra* note 15, at 9.

In this multisided market, ad intermediaries must balance the interests of at least three constituencies: (1) advertisers creating ads and placing them; (2) publishers defining inventory and displaying ads; and (3) users consuming published content who view and act on ads. Intermediaries in these markets often benefit from network effects, through which the value of the platform to each user depends in part on the number and quality of other users on the platform.⁵⁹

The quality and relevance of users is assessed by collecting information on the users as they browse the web. This information can include which ads they have viewed and clicked in the past, their geographical location, as well as their demographics, financial situation, and topics of interest. Broadly speaking, a larger network with diverse users provides more information and is better able to target ads to relevant users, benefiting advertisers, publishers, and consumers.

Network effects are not always positive, however, nor are they always captured by the platform that facilitates them.⁶⁰ While access to consumer data can help to improve the quality of the ads displayed—and increase the value of those ads to advertisers and publishers—claims that such access provides increasing returns to scale are not borne out by the burgeoning empirical literature on the topic. Summarizing these empirical findings, economist Catherine Tucker concludes that “empirically there is little evidence of economies of scale and scope in digital data in the instances where one would expect to find them.”⁶¹

Intermediaries in multisided markets often face difficult optimization problems caused by the inter-related demands of participants on different sides of the market, each group of whom benefits from the existence and size of the other, but whose interests conflict across many margins.⁶² This highlights the key distinction between “straightforward and traditional” markets and multisided markets.

Ad tech intermediaries that are vertically integrated into some or all components of the ad tech stack use prices charged to each side of the market to optimize overall use of the platform. As a result, pricing in these markets operates differently than pricing in traditional markets. Pricing on one side of the platform is often used to subsidize participation on another side of the market, increasing the value to all sides combined. Consequently, pricing (or other terms of exchange) may appear to one side of the market to diverge from the competitive level when viewed for that side alone. While one

⁵⁹ Importantly, however, network effects are not monolithic; nor do they increase forever. For different types of networks at different points in their growth, adding more users might not increase the value of the platform and could even reduce the platform’s benefits. See, e.g., D’Arcy Coolican & Li Jin, *The Dynamics of Network Effects*, ANDREESEN HOROWITZ (Dec. 13, 2018), <https://a16z.com/2018/12/13/network-effects-dynamics-in-practice>.

⁶⁰ See Stan J. Liebowitz & Stephen E. Margolis, *Network Externality: An Uncommon Tragedy*, 8 J. ECON. PERSP. 133 (1994).

⁶¹ Catherine Tucker, *Digital Data, Platforms and the Usual [Antitrust] Suspects: Network Effects, Switching Costs, Essential Facility*, 54 REV. INDUS. ORG. 683, 686 (2019).

⁶² See, e.g., David S. Evans, *Economics of Vertical Restraints for Multi-Sided Platforms*, University of Chicago Institute for Law & Economics Olin Research Paper No. 626 (Jan. 2, 2013), <https://ssrn.com/abstract=2195778>.

side of the market may pay higher fees, this cost can be offset by the benefits from increased participation on the other side of the market. Thus, using subsidies to increase participation on another side of the market creates valuable network benefits for the side of the market facing the higher fees.

For example, among the criticisms of digital advertising business practices is the use of “second-price auctions” rather than “first-price auctions.”⁶³ *First-price auctions* are those most familiar to people: multiple bidders offer prices, and the highest bidder wins the auction and pays an amount equal to her winning bid. In a *second-price auction*, the highest bidder wins the auction but pays an amount based on the next-highest bid. In markets with many bidders possessing the same information, first-price auctions and second-price auctions would be expected to produce the same amount of revenue under the well-known auction-theory concept of *revenue equivalence*.⁶⁴

The choice of auction approach reflects the tensions between different sides of the market in a multisided market. On the one hand, under certain circumstances, a first-price auction tends to increase the prices received by sellers (here, publishers), but exposes buyers (here, advertisers) to an increased risk of overpayment.⁶⁵ On the other hand, under certain conditions, a second-price auction reduces risks to advertisers, but also reduces the prices received by publishers.⁶⁶ It would be expected that an ad tech intermediary would balance these competing interests to maximize total revenues flowing through the ad tech stack, to maximize its profitability. In such a multisided market, it would be a mistake to focus only on one side of the market and ignore the effects that decisions such as this have on the other participants.

The extent to which ad tech intermediaries—in particular, vertically integrated services like Google’s—act to optimize the overall value of the platform is critical to understanding how these markets work. It also highlights how misleading it can be to assume that these processes can be analyzed as “straightforward and traditional” markets.

II. Antitrust Primer: Effective Competition Is not an Antitrust Offense

A flawed premise underlies much of the Texas Complaint, the Omidyar Network’s *Roadmap* report, and the CTDAA legislation. Fundamentally, most of the charges that each of these level against Google and Facebook’s ad tech businesses derive from an assertion that conduct engaged in by dominant incumbent firms that makes competition more difficult for competitors is anticompetitive—

⁶³ See, e.g., Stylianos Despotakis, R. Ravi & Amin Sayedi, *First-Price Auctions in Online Display Advertising*, 58 J. MARKETING RESEARCH 888 (2021). See also *Display Advertising Switched to First-Price Auctions After Adoption of Header Bidding, New Study Finds*, TEPPER SCHOOL OF BUSINESS (Apr. 22, 2020), <https://www.cmu.edu/tepper/news/stories/2020/april/display-advertising-research-ravi.html>.

⁶⁴ Jonathan Levin, *Auction Theory* (Oct. 2004), available at <https://web.stanford.edu/~jdlevin/Econ%20286/Auctions.pdf>.

⁶⁵ Maciej Zawadziński, *How Do First-Price and Second-Price Auctions Work in Online Advertising?*, CLEARCODE (Aug. 12, 2021), <https://clearcode.cc/blog/first-price-second-price-auction>.

⁶⁶ *Id.*

even if the conduct confers benefits on users. This often amounts to a claim that the largest firms are acting anticompetitively by innovating and developing their business processes and products in ways that create benefits for one or more digital advertising constituents and for the advertising ecosystem more generally. These include creating new and innovative products, lowering prices, reducing costs through vertical integration, and enhancing interoperability between existing products, among other things.

This approach entails an argument—made explicit in the Texas Complaint and the Omidyar *Roadmap*—that Google harms competition by creating obstacles for rivals without offsetting “incremental efficiencies.”⁶⁷ According to the report, this means that, even if Google’s practices produce benefits for such constituents as advertisers, publishers, or consumers, they could possibly be reimagined to create *even more* competition or achieve the same benefits in ways that *better* prop up rivals. According to the *Roadmap*, the practices should therefore be condemned as anticompetitive.⁶⁸

But that is not how the law—or the economics—works. Such an approach converts manifestly beneficial aspects of Google’s ad tech business into anticompetitive defects, essentially arguing that successful competition creates barriers to entry that merit correction through antitrust enforcement. The CTDAA takes this argument a step further by imposing “best interests,” “best execution,” and “transparency” obligations on large firms and mandating divestiture of parts of the largest firms to facilitate more entry by competitors. This approach turns U.S. antitrust law (and basic economics) on its head. As some of the most famous words of U.S. antitrust jurisprudence have it:

A market may, for example, be so limited that it is impossible to produce at all and meet the cost of production except by a plant large enough to supply the whole demand. Or there may be changes in taste or in cost which drive out all but one purveyor. A single producer may be the survivor out of a group of active competitors, merely by virtue of his superior skill, foresight and industry. **In such cases a strong argument can be made that, although, the result may expose the public to the evils of monopoly, the Act does not mean to condemn the resultant of those very forces which it is its prime object to**

⁶⁷ Texas Complaint, *supra* note 1, at ¶ 351 (“Overall, the lack of transparency prevents more efficient competition that would drive greater innovation, increase the quality of intermediary services, increase output, and create downward pricing pressure on intermediary fees.”); Scott Morton & Dinielli, *supra* note 15, at 18 (“Based on the public facts known at the moment, however, it does not seem plausible that the incremental efficiencies created by the conduct described here could outweigh all the harms to competition resulting from this broad pattern of behaviors.”); Scott Morton & Dinielli, *supra* note 15, at 38 (“It also is true that Google has allowed some rivals to survive (although not necessarily to thrive). It is possible that Google adopted a strategy of incomplete foreclosure specifically so that it can paint an illusion of healthy competition when the reality is quite different. Indeed, to the extent Google has adopted ‘pro-competitive’ concessions, the narrative here demonstrates that they simply have not succeeded in addressing the harms or lowering the barriers to entry.”).

⁶⁸ *Id.* at 3 (“It is clear even to us as lay people that there are less anticompetitive ways of delivering effective digital advertising—and thereby preserving the substantial benefits from this technology—than those employed by Google.”).

foster: *finis opus coronat*. The successful competitor, having been urged to compete, must not be turned upon when he wins.⁶⁹

U.S. antitrust law is intended to foster innovation that creates benefits for consumers, including innovation by incumbents. The law does not proscribe efficiency-enhancing unilateral conduct on the grounds that it might also inconvenience competitors, or that there is some other arrangement that could be “even more” competitive. Under U.S. antitrust law, firms are “under no duty to help [competitors] survive or expand.”⁷⁰

To be sure, the arguments are couched in terms of anticompetitive *effect* rather than being described merely as commercial disagreements over the distribution of profits. But these effects are simply inferred, based on assumptions that Google and Facebook’s vertically integrated business models entail an inherent ability and incentive to harm rivals. For example, Google is alleged to be able to surreptitiously derive benefits from display advertisers by “leveraging” its search-advertising capabilities,⁷¹ or by “withholding YouTube inventory,”⁷² rather than altruistically opening it up to rival ad networks, or by using its access to data to improve its products without sharing that data with competitors.

All these charges may be true, but none is inherently anticompetitive. Under U.S. law, companies are not obligated to deal with rivals and certainly are not obligated to do so on rivals’ preferred terms.⁷³ In the Texas Complaint, for example, the court, citing *Charych v. Siriusware*, noted, “[D]efendants were under no obligation to develop an interface that was compatible with plaintiffs’ product.”⁷⁴ As long ago as 1919, the U.S. Supreme Court held that “[i]n the absence of any purpose to create or maintain a monopoly, the [Sherman Act] does not restrict the long recognized right of [a] trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal.”⁷⁵ More recently (in 2004) the Court held:

⁶⁹ *United States v. Aluminum Co. of America*, 148 F.2d 416, 430 (2nd Cir. 1945) (Learned Hand, J.) (emphasis added).

⁷⁰ *Cal. Computer Prods., Inc. v. Int’l Bus. Machine Corp.*, 613 F.2d 727, 744 (9th Cir. 1979) (“IBM, assuming it was a monopolist, had the right to redesign its products to make them more attractive to buyers whether by reason of lower manufacturing cost and price or improved performance. It was under no duty to help [its competitors] survive or expand.”).

⁷¹ Scott Morton & Dinielli, *supra* note 15 at 18.

⁷² Texas Second Amended Complaint at ¶ 113.

⁷³ See *Verizon Commc’ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 408 (2004). The exception—“at or near the outer boundary of § 2 liability” (*id.* at 409)—is the extremely narrow case in which a monopolist (i) sacrifices profits, by (ii) terminating a prior course of dealing, (iii) for no purpose except to harm competition. See *Novell v. Microsoft*, 731 F.3d 1064, 1074-75 (10th Cir. 2013) (Gorsuch, J.) (holding that a refusal-to-deal claim requires terminating “a preexisting voluntary” course of dealing where the “monopolist decided to forsake short-term profits,” and “the monopolist’s conduct” is “irrational but for its anticompetitive effect”).

⁷⁴ Opinion and Order, *Texas, et al. v. Google*, 21-md-3010-PKC (S.D.N.Y., Sep. 13, 2022) (citing *Charych v. Siriusware, Inc.*, 790 Fed. App’x 299, 302 (2nd Cir. 2019)).

⁷⁵ *United States v. Colgate & Co.*, 250 U.S. 300, 307 (1919).

Firms may acquire monopoly power by establishing an infrastructure that renders them uniquely suited to serve their customers. Compelling such firms to share the source of their advantage is in some tension with the underlying purpose of antitrust law, since it may lessen the incentive for the monopolist, the rival, or both to invest in those economically beneficial facilities.⁷⁶

Moreover, U.S. antitrust law does not second guess unilateral conduct simply because it may hinder rivals. Any such conduct would first have to be shown to be anticompetitive—that is, to harm consumers or competition, not merely certain competitors.⁷⁷ In two-sided markets, this means finding not simply that some firms on one side of the market were harmed, but rather that the combined net effect of challenged conduct across *all* sides of the market was harmful.⁷⁸

In the platform context, understanding whether there is harm to competition at all requires an assessment of the effects of conduct on all sides of the platform. “[N]o economic basis exists for establishing a presumption that ‘harm’ on one side of a two-sided platform is sufficient to demonstrate that market output has been restricted, or that consumer welfare has otherwise been harmed.” In fact, “[s]eparating the two markets allows legitimate competitive activities in the market for general purposes to be penalized no matter how output-enhancing such activities may be.”⁷⁹

The Texas Complaint, however, is built on the alleged harm of reduced revenue to *publishers*, without considering the corresponding benefit of lower prices to *advertisers*, or the net effect on *consumers*.⁸⁰

⁷⁶ *Trinko*, 540 U.S. at 407-08

⁷⁷ See *Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*, 429 U.S. 477, 488 (1977) (“The antitrust laws, however, were enacted for ‘the protection of competition not competitors.’”) (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 320 (1962)).

⁷⁸ See *Ohio v. American Express*, 138 U.S. 2274, 2285 (2018) (“Due to indirect network effects, two-sided platforms cannot raise prices on one side without risking a feedback loop of declining demand.... Price increases on one side of the platform [] do not suggest anticompetitive effects without some evidence that they have increased the overall cost of the platform’s services.”).

⁷⁹ Geoffrey A. Manne, *In Defence of the Supreme Court’s ‘Single Market’ Definition in Ohio v American Express*, 7 J. ANTITRUST ENFORCEMENT 104, 111 (2019) (quoting Brief for Amici Curiae Antitrust Law & Economics Scholars in Support of Respondents at 19, *Ohio v. American Express*, 138 U.S. 2274 (2018) (No. 16-1454) and *United States, et al. v. American Express*, 838 F.3d 179, 198 (2nd Cir. 2016)).

⁸⁰ Among innumerable examples, see Texas Complaint, *supra* note 1, at ¶ 297 (“Google’s harm to the competitive process has harmed customers in this market, i.e., online publishers.”). Notably, the Texas Complaint does, in places, recognize that identifying the incidence of benefits and harms in multisided markets is complex—it just fails to carry its analysis to its logical conclusion. Thus, in ¶157 the Complaint notes that “[t]he higher advertising revenue publishers make from exchanges permits publishers to offer consumers better quality content and lower-priced or free access to their content.” (Emphasis added). Undoubtedly, this is true. But if it is correct, then it must also be correct that, at the same time, the correspondingly higher prices advertisers pay for advertising through exchanges limits their ability to provide marketing benefits directly to consumers and may increase the price to consumers of the advertised goods. It is an empirical question which effect is larger, but the mere possibility that one set of consumers could benefit from a different arrangement is insufficient on its own to identify harm when another set of consumers would be harmed by it.

Beyond that, antitrust law does not condemn conduct on the basis that an enforcer (or a court) is able to identify or hypothesize alternative conduct that might provide similar benefits at lower cost. In alleging that there are ostensibly “better” ways that Google could have pursued its product design, pricing, and terms of dealing, both the Texas Complaint and Omidyar *Roadmap* do just that—assert that, had the firm only selected a different path, an alternative could have produced even more benefits or an even more competitive structure. This line of thinking seems to be one motivation for the CTDAA’s remedies.

The reason that the possibility of “better” theoretical arrangements cannot serve as the basis for antitrust intervention is that there are limits to what can be achieved through intervention, not least because of limitations on legislators’ and enforcers’ knowledge about the competitive dynamics of the markets they seek to regulate.⁸¹ A practice’s departure from a theoretical competitive benchmark may be inextricably linked to the social benefits it generates. When this is the case, enforcement that requires the practice or product to change in order to adhere to a theoretical standard may end up undermining the benefits of the practice in the first place. That is particularly true in the context of the sort of “vertical foreclosure” arguments leveled against Google in the advertising space, in which it is alleged that the combination of different levels of the ad-supply chain by Google limits the ability of competitors to enter and compete effectively.⁸² It is surely conceivable that the product improvements conferred by the combination of different functions into a single platform—e.g., greater efficiency, realization of network effects, more effective targeting—could be replicated by a different means that might also facilitate “even more competition.” But such an approach is fraught with the risk of serious and costly error.⁸³

⁸¹ See Harold Demsetz, *Information and Efficiency: Another Viewpoint*, 12 J. L. & ECON. 1, 1-2 (1969) (“In practice, those who adopt the nirvana viewpoint seek to discover discrepancies between the ideal and the real and if discrepancies are found, they deduce that the real is inefficient.... The nirvana approach is... susceptible... to committing three logical fallacies—the grass is always greener fallacy, the fallacy of the free lunch, and the people could be different fallacy.”) (emphasis in original).

⁸² See, generally, Thomas Nachbar, *Less Restrictive Alternatives and the Ancillary Restraints Doctrine*, Virginia Law and Economics Research Paper No. 2020-18 (2021) (forthcoming U. SEATTLE L. REV.) at 57-8, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3723807 (“The more general risk to tech markets comes from the intangible nature of the products and services they produce. Although many of the cases cited for less restrictive alternatives are horizontal cases, it is the vertical context (which normally receives more permissive antitrust review) in which less restrictive alternatives present the greatest likelihood of destabilizing current law because of the difficulty of specifying what is and is not less restrictive with regard to the intangible products produced by today’s ‘big tech’ economy. To the extent that less restrictive alternatives present problems of incrementalism, those problems will be exacerbated in the ‘big tech’ markets.”).

⁸³ See Geoffrey A. Manne, *Error Costs in Digital Markets*, GLOBAL ANTITRUST INSTITUTE REPORT ON THE DIGITAL ECONOMY (Joshua D. Wright & Douglas H. Ginsburg, eds., 2020) 33, 76, available at <https://gaidigitalreport.com/wp-content/uploads/2020/11/Manne-Error-Costs-in-Digital-Markets.pdf> (“The concern with error costs is especially high in dynamic markets in which it is difficult to discern the real competitive effects of a firm’s conduct from observation alone. And for several reasons, antitrust decision-making in the context of innovation tends much more readily toward distrust of novel behavior, thus exacerbating the risk and cost of over-enforcement.”).

The alleged cure of tinkering with benefit-producing unilateral conduct by applying an “even more competition” benchmark is worse than the supposed disease. The adjudicator is likely to misapply such a benchmark, deterring the very conduct the law seeks to promote. As then-Judge Stephen Breyer explained in the context of above-cost low pricing (another “defect” that both the Texas Complaint and the *Roadmap* claim constitutes anticompetitive conduct by Google⁸⁴), “the consequence of a mistake” is “to penalize a procompetitive price cut,” conduct that, from an antitrust perspective, is “the most desirable activity.”⁸⁵ That commentators or enforcers may be able to imagine alternative, theoretically more desirable, conduct is beside the point.

Similarly, subjecting the kinds of product-design decisions at issue in the Google case to refined balancing of benefits and harms would deter innovation. “To weigh the benefits of an improved product design against the resulting injuries to competitors is not just unwise, it is unadministrable. There are no criteria that courts can use to calculate the ‘right’ amount of innovation, which would maximize social gains and minimize competitive injury.”⁸⁶ Put simply, “no one can determine with any reasonable assurance whether one product is ‘superior’ to another.”⁸⁷

For these reasons, a “product improvement by itself does not violate Section 2, even if it is performed by a monopolist and harms competitors as a result.”⁸⁸ “Any other conclusion would unjustifiably deter the development and introduction of those new technologies so essential to the continued progress of our economy.”⁸⁹ A benefit-creating product design, even if it hinders rivals, is “necessarily tolerated by the antitrust laws.”⁹⁰

Nor does U.S. law condemn a firm’s decision not to share a product improvement with rivals on terms rivals might prefer, even when such sharing might lead to greater competition in the short term. “Compelling” innovators “to share the source of their advantage” with rivals, among other evils, “may lessen the incentive for the monopolist, or rival, or both” to invest in innovation.⁹¹ Except

⁸⁴ Among many other examples, see Texas Second Amended Complaint at ¶138 (“Then, through Dynamic Allocation, Google’s ad server passed inside information to Google’s exchange and permitted Google’s exchange to purchase valuable impressions at artificially depressed prices. Competing exchanges were deprived of the opportunity to compete for inventory and left with the low-value impressions passed over by Google’s exchange.”); Omidyar *Roadmap*, *supra* note 15, at 20 (“[A]fter purchasing DoubleClick, which became its publisher ad server, Google apparently lowered its prices to publishers by a factor of ten, at least according to one publisher’s account related to the CMA. Low prices for this service can force rivals to depart, thereby directly reducing competition.”).

⁸⁵ *Barry Wright Corp. v. ITT Grinnell Corp.*, 724 F.2d 227, 235 (1st Cir. 1983) (Breyer, C.J.).

⁸⁶ *Allied Orthopedic Appliances, Inc. v. Tyco Health Care Grp. LP*, 592 F.3d 991, 1000 (9th Cir. 2010).

⁸⁷ *Berkey Photo, Inc. v. Eastman Kodak Co.*, 603 F.2d 263, 287 (2nd Cir. 1979). See also, Manne & Wright, *Innovation and the Limits of Antitrust*, 6 J. COMP. L. & ECON. 153–202 (March 2010), <https://doi.org/10.1093/joclec/nhp032>.

⁸⁸ *Allied Orthopedic*, 592 F.3d at 999-1000; see also, *California Computers Prods. v. IBM*, 613 F.2d 727, 744 (9th Cir. 1979); *Foremost Pro Color, Inc. v. Eastman Kodak Co.*, 703 F.2d 534, 543-45 (9th Cir. 1983).

⁸⁹ *Foremost Pro Color*, 703 F.2d at 543.

⁹⁰ *Allied Orthopedic*, 592 F.3d at 1000.

⁹¹ *Verizon Commc’ns, Inc. v. Law Offices of Curtis V. Trinko*, 540 U.S. 398, 400-41 (2004).

in extremely limited circumstances, firms can decide the terms on which they offer their products and services.

Directly rejecting the *Roadmap*'s suggestion—and the CTDAA's mandate—of compelling dealings on terms that might produce greater competition, the Supreme Court has decreed that the “Sherman Act . . . does not give judges *carte blanche* to insist that a monopolist alter its way of doing business whenever some other approach might yield greater competition.”⁹² Firms are not obliged to go into new lines of business or abandon existing lines to throw lifelines to rivals.⁹³

The law similarly encourages vertical integration, because it tends to foster innovation-enhancing synergies and lower prices by eliminating double marginalization.⁹⁴ As the *Roadmap* elsewhere admits, it is “not in itself uncommon” to see vertical integration result in “fewer and fewer companies,” even “in competitive markets.”⁹⁵ Thus, vertical integration by internal expansion—even by a monopolist—is presumptively lawful.⁹⁶ The *Roadmap* and the CTDAA, however, simply disregard this, instead presumptively condemning vertical integration that hinders rivals by creating efficiencies.⁹⁷ Again, this is simply not a defensible interpretation of U.S. antitrust law, nor should it be.

⁹² *Trinko*, 540 U.S. at 415-16.

⁹³ *Id.*; see also *New York Merc. Exch., Inc. v. Intercontinental Exch. Inc.*, 323 F.Supp.2d 559 (S.D.N.Y. 2004) (dismissing Section 2 claim and reiterating limited exceptions in which forced sharing is appropriate).

⁹⁴ See, e.g., *Jack Walters & Sons Corp. v. Morton Bldg., Inc.*, 737 F.2d 698, 710 (7th Cir. 1984) (“We just said that vertical integration is not an improper objective. But this puts the matter too tepidly; vertical integration usually is procompetitive. If there are cost savings from bringing into the firm a function formerly performed outside it, the firm will be made a more effective competitor.”). There is a robust body of empirical research indicating that vertical integration is generally procompetitive or benign. For a summary of the leading meta-studies by DOJ and FTC economists and others, see Koren W. Wong-Ervin, *Antitrust Analysis of Vertical Mergers: Recent Developments and Economic Teachings*, THE ANTITRUST SOURCE (February 2019), https://www.americanbar.org/content/dam/aba/publishing/antitrust_source/2018-2019/at-source-february2019/feb19_wong_ervin_2_18f.pdf. See also, Francine Lafontaine & Margaret Slade, *Vertical Integration and Firm Boundaries: The Evidence*, 45 J. ECON. LIT. 677 (2007) (“In spite of the lack of unified theory, overall a fairly clear empirical picture emerges. The data appear to be telling us that efficiency considerations overwhelm anticompetitive motives in most contexts. Furthermore, even when we limit attention to natural monopolies or tight oligopolies, the evidence of anticompetitive harm is not strong.”). See also, generally, Geoffrey A. Manne, Kristian Stout & Eric Fruits, *The Fatal Economic Flaws of the Contemporary Campaign Against Vertical Integration*, 68 KANSAS L. REV. 923 (2020).

⁹⁵ Scott Morton & Dinielli, *supra* note 15, at 17.

⁹⁶ See, e.g., *Port Dock & Stone Corp. v. Oldcastle Ne., Inc.*, 507 F.3d 117, 123-25 (2nd Cir. 2007) (affirming dismissal of a Section 2 claim and finding that even a monopolist’s “vertical expansion into another level of the same product market will ordinarily be for the purpose of increasing its efficiency, which is a prototypical valid business purpose”). Moreover, single-firm conduct that supposedly projects power into another market, even through anticompetitive means, does not violate Sherman Act Section 2 unless the practices threaten monopoly power in that distinct second market. Harming competition is not enough. See *Trinko*, 540 U.S. at 415 n.4 (citing *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 459 (1993)).

⁹⁷ Thus, the Omidyar *Roadmap* condemns Google’s supposed integration of data “to maximize the effectiveness and precision of ad targeting and attribution and thereby the value of an ad,” Scott Morton & Dinielli, *supra* note 15, at 20, even though the conduct makes Google’s offering to advertisers more attractive.

III. Allegations Against Google in Digital Display Advertising

Critics of the digital advertising industry—and Google’s role in it—have leveled numerous allegations. These include claims that Google “leverages” its ownership of YouTube to obtain and exert market power in the buying and selling of other digital-display ads. Some claim that Google anticompetitively uses cross-subsidies, charging supercompetitive prices at one end of the ad tech stack to subsidize supra-competitive prices at another end of the stack. It is also alleged that Google has superior information about consumers that it will not provide to competitors, giving Google an anticompetitive advantage. It is claimed that steep entry barriers—some allegedly erected by Google—inhibit entry and allow the company to achieve a supercompetitive “take rate” from its intermediation services. While the lawsuits may provide additional information and data to support these claims, we argue that, with the limited public information available to us, it is not clear that any of them constitute anticompetitive conduct.

A. ‘Leveraging’ market power in video streaming into the digital open-display market

The Omidyar *Roadmap* argues that Google, by virtue of its vertical integration throughout the intermediary stack and into the supply side (as the owner of YouTube), has the incentive and ability to derive unwarranted benefits from its display advertising business. It alleges, for example, that, by offering a single interface for placing both search and display ads, “Google leverages its monopoly position in search to coerce advertisers into using Google’s display products.”⁹⁸ In support it cites the CMA as saying:

Google may also be able to leverage its market power in search into the open display market. Smaller advertisers often choose to single-home to minimize transaction costs. Advertisers that wish to single-home have a strong incentive to use Google Ads as they can use it to access Google search advertising and YouTube inventory as well as the open display market.⁹⁹

An earlier version of the Texas Complaint echoed these claims:

Google’s practice of withholding YouTube video inventory from rival ad buying tools... effectively locks single-homing small advertisers into Google’s ad buying tool. In addition, other providers of ad buying tools indicate that it does not make economic sense to try to compete with Google Ads for small advertisers, because they cannot achieve sufficient scale with smaller advertisers who want to buy display, YouTube, and even search ads, through just one tool.¹⁰⁰

⁹⁸ *Id.* at 18-19.

⁹⁹ CMA Interim Report, *supra* note 14, at ¶ 5.89.

¹⁰⁰ Texas Second Amended Complaint at ¶ 113.

And, similarly, the *Roadmap* also argues that most sources of demand for Google Ads purchase ad space through AdX because Google “designed its exchange in such a way that it operates more efficiently with requests from Google’s own ad server than it does when requests come from rival ad servers.”¹⁰¹

All these assertions describe *efficiency-enhancing* behavior as anticompetitive. The report does not allege that Google preferences its own ad exchange in ways that harm advertisers; rather, the company’s products simply work better together (which is not unusual when different software products must interact) and it is thus in advertisers’ best interests for Google to act this way.

U.S. law, rightly, does not consider efficiencies obtained from vertical integration in this way to be anticompetitive. Nor do efficiencies that rivals cannot beat qualify as “barriers to entry.” The alternative—requiring Google to refrain from using the cheapest and/or fastest option available, because doing so makes its product better than all competitors—would mean reduced innovation, higher overall costs, and no benefit to either advertisers or publishers.

Later, the *Roadmap* makes another similar allegation: that Google “leverages” its ownership of YouTube, and the fact that only Google’s DSP can place ads on YouTube, to give itself an anticompetitive advantage in open-display advertising because rival DSPs are inherently limited by being unable to place ads on YouTube. An earlier version of the Texas Complaint echoed this claim.¹⁰²

The *Roadmap* characterizes this conduct as “a contractual way to deny interoperability,”¹⁰³ but there is no contractual restraint here. How Google distributes YouTube’s ad inventory is a unilateral distribution decision permitted under U.S. law. And Google’s policy is not unusual in any way: many other websites that carry video advertising—including Hulu, Instagram, and Twitter—self-distribute their own inventory and do not make it available for resale by third parties.¹⁰⁴ Google does not have a duty to maximize its competitors’ profits by allowing them to resell YouTube inventory.

¹⁰¹ Scott Morton & Dinielli, *supra* note 15, at 22.

¹⁰² Texas Second Amended Complaint at ¶¶ 284-91 (“Cutting off access to YouTube foreclosed competition in the ad buying tool markets and protected Google’s market power in these markets. Many DSPs stopped growing, many others went out of business, and the market overall has been closed to entry.”).

¹⁰³ Scott Morton & Dinielli, *supra* note 15, at 22.

¹⁰⁴ See, e.g., Ryan Joe, *The Big Story: Call of the Peacock*, ADEXCHANGER (Jan. 22, 2020) at 31:05-31:26, <https://www.adexchanger.com/podcast/the-big-story/the-big-story-call-of-the-peacock> (indicating that NBC’s Peacock streaming service will have only direct sales when it launches); Kevin Weiss, *What Is the Amazon Demand Side Platform (DSP)?*, AMPLIO (July 2019), <https://www.ampliodigital.com/blog/what-is-the-amazon-demand-side-platform-dsp> (“Amazon DSP is the only way to access advertising inventory exclusively available on Amazon’s collection of owned online properties and devices like: Kindle; Fire TV; IMDb; Amazon Owned & Operated properties”); Tim Cross, *Xandr Launches New Demand-Side Platform ‘Xandr Invest’*, VIDEOADNEWS (Jun. 10, 2019) <https://videoadnews.com/2019/06/10/xandr-launches-new-demand-side-platform-xandr-invest> (“Xandr [AT&T-Time Warner’s ad tech division] has announced it will be the exclusive source of inventory from Community, its recently announced video marketplace which includes content from various WarnerMedia brands as well as Vice, Hearst Magazines, Newsy, Philo, Tubi and XUMO.”).

Access to YouTube is also not essential to a DSP's success. Before Google stopped third-party platforms from buying YouTube ad inventory, it reported that only a "small amount" of buying was being done through Google's AdX, which allowed third-party platforms to bid. At the time, AdExchanger reported that "[b]y 'small amount,' that reportedly means 5%."¹⁰⁵ A competing DSP, TubeMogul, said that this decision was an "unfortunate development" but "immaterial, since less than 5% of total ad spend through our software in Q2 was directed to YouTube."¹⁰⁶

This is consistent with the fact that there are several successful DSP competitors that compete with Google, despite not having access to YouTube's ad inventory. The Trade Desk went public for \$1 billion in 2016, processed more than \$6.2 billion in transactions in 2021, and had a market cap of more than \$25 billion in the first week of August 2022.¹⁰⁷ Other DSPs, like Amazon's and Xandr (formerly AppNexus), both continue to compete with Google vigorously without access to YouTube inventory, as the Omidyar *Roadmap* admits in the case of AppNexus.¹⁰⁸

The *Roadmap* further alleges that Google's owned-and-operated properties—including Search, YouTube, Shopping, Flights, and News—confer an anticompetitive advantage because "Google pays no 'traffic acquisition costs'" for the advertising space on its own sites: "When Google places ads on YouTube, just as when it places ads on its own search results pages, Google pays no 'traffic acquisition costs' because it needn't pay any publisher for access to the 'eyeballs' that will see or interact with the ads it helps place."¹⁰⁹

Google's parent Alphabet reported that the company's traffic-acquisition costs were approximately 20% of its revenues in 2021.¹¹⁰ Over the past few years, 40-50% of Alphabet's expenditures have

¹⁰⁵ Neal Mohan, *Focusing Investments to Improve Buying on YouTube*, GOOGLE (Aug. 6, 2015) <https://doubleclick-advertisers.googleblog.com/2015> ("To continue improving the YouTube advertising experience for as many of our clients as possible, we'll be focusing our future development efforts on the formats and channels used by most of our partners. To enable that, as of the end of the year, we'll no longer support the small amount of YouTube buying happening on the DoubleClick Ad Exchange."); see also, Kelly Liyakasa, *Google to Yank YouTube Inventory out of AdX by Year's End*, ADEXCHANGER (Aug. 6, 2015), <https://www.adexchanger.com/ad-exchange-news/google-to-yank-youtube-inventory-out-of-adx-by-years-end>.

¹⁰⁶ Liyakasa, *id.*

¹⁰⁷ See Lara O'Reilly, *Ad Tech Company The Trade Desk Goes Public at \$28.75 Per Share—A Huge Pop on its \$18 Price Target*, BUSINESS INSIDER (Sep. 21, 2016), <https://www.businessinsider.com/the-trade-desk-ipo-2016-9>; Trey Titone, *The Bill That Could Break Up Google and Shake Up Ad Tech*, AD TECH EXPLAINED (May 23, 2022), <https://adtechexplained.com/competition-and-transparency-in-digital-advertising-act-ctda>; *Trade Desk Market Cap*, YCHARTS, https://ycharts.com/companies/TTD/market_cap.

¹⁰⁸ Scott Morton & Dinielli, *supra* note 15, at 16 n.70 (identifying AppNexus as a "vigorous competitor to Google").

¹⁰⁹ *Id.* at 2, 28-29.

¹¹⁰ *Annual Report (Form 10-K) for Year Ending December 31, 2021*, ALPHABET INC. (Feb. 02, 2022), <https://www.sec.gov/ix?doc=/Archives/edgar/data/0001652044/000165204422000019/goog-20211231.htm>.

been on “cost of revenues,”¹¹¹ and of these, roughly half have involved traffic-acquisition costs.¹¹² Alphabet defines *traffic-acquisition costs* as (a) “the amounts paid to our distribution partners who make available our search access points and services” and (b) amounts paid for ads displayed on Google Network Members properties. It identifies “distribution partners” as browser providers, mobile carriers, original equipment manufacturers, and software developers.

Contrary to the *Roadmap*’s insinuations, there is nothing to suggest that these expenditures become less burdensome as a company increases in scale. Indeed, the opposite may be true, if it is more costly to gain access to marginal users than inframarginal ones, consistent with Google’s traffic-acquisition costs increasing over the years as it has grown.¹¹³ While Google does not have to pay itself for the use of its own display inventory, there is clearly an opportunity cost to displaying its own inventory rather than that of another firm. The claim that the company faces no traffic-acquisition costs for these properties is inaccurate.

The *Roadmap*’s focus on *traffic-acquisition costs* also overlooks *content-acquisition costs*—the payments to content providers from whom Google licenses video and other content for distribution on ad-driven and subscription services such as YouTube and Google Play. While Google does not pay a publisher for access to “eyeballs” on its owned-and-operated properties, it pays substantial and increasing amounts for content on those properties that attract the “eyeballs.”¹¹⁴ Alphabet CFO Ruth Porat indicates, for example, that YouTube pays content creators “a majority of our revenue.”¹¹⁵ Leaving this expense out of the calculation is another example of the over-simplification that characterizes many of the claims that Google’s ad tech business is a simple (and simply anticompetitive) business.

B. Excess pricing

Where Google’s critics diverge most significantly from the spirit of U.S. antitrust law is in their overriding concern for how advertising revenues are distributed among the recipients of advertisers’ payments: intermediaries (Google) and publishers. The Texas Complaint alleges that Google has a

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ Rachel Kaser, *YouTube Claims to Share Billions in Ad Money with Creators, Unlike Instagram*, THE NEXT WEB (Feb. 5, 2020), <https://thenextweb.com/facebook/2020/02/05/youtube-claims-share-billions-ad-money-creators-unlike-instagram>.

higher “take rate” than competing exchanges,¹¹⁶ is able to increase its take rates without losing market share,¹¹⁷ and “manipulates auctions to increase its take rate.”¹¹⁸ This follows the *Roadmap*’s speculation—based on the CMA Interim Report—that Google may take a larger cut of advertising spending than its competitors.¹¹⁹ And these allegations echo claims made in another report that Google introduces “hidden” fees that increase the overall cut it takes from ad auctions.¹²⁰

First, it should be noted that the basis for these claims in the *Roadmap* are drawn from the CMA investigation’s *interim* report, published in December 2019. In the *final* report, after further investigation, the CMA abandoned this claim. The final report describes the CMA’s analysis of *all* the billions of Google Ad Manager open auctions related to U.K. web traffic during the period between March 8 and March 14, 2020. This, according to the CMA, allowed it to observe any possible “hidden” fees, as well. The CMA concludes:

Our analysis found that, in transactions where both Google Ads and Ad Manager (AdX) are used, Google’s overall take rate is approximately 30% of advertisers’ spend. **This is broadly in line with (or slightly lower than) our aggregate market-wide fee estimate outlined above.** We also calculated the margin between the winning bid and the second highest bid in AdX for Google and non-Google DSPs.... **We found that Google’s average winning margin was similar to that of non-Google DSPs. Overall, this evidence does not indicate that Google is currently extracting significant hidden fees.** As noted below, however, it retains the ability and incentive to do so.¹²¹

This is a crucial finding that severely undermines the allegations that Google extracts excessive or “hidden” fees. It also undermines the claim that there are “missing funds accruing to Google.” While these conclusions do not eliminate the possibility that the industrywide price could itself be above competitive levels (and it remains to be seen whether the plaintiffs states in the Texas case will produce different evidence), they do mean that the best evidence currently available calls into question

¹¹⁶ Texas Complaint, *supra* note 1, at ¶¶ 61, 156, 253, 288.

¹¹⁷ *Id.* ¶ 157.

¹¹⁸ *Id.* ¶ 21.

¹¹⁹ Scott Morton & Dinielli, *supra* note 15, at 14 (“The CMA estimates Google’s take rate, or price, at 40%, which it deems a supra-competitive price for the services provided by the Google-controlled players in ad tech stack. A recent study by the Incorporated Society of British Advertisers (ISBA) found that publishers received 51% of the price, while the amount they could track going to intermediaries was 34%. The study could not find where the remaining 15% of the price went. As we will describe below, Google has such a dominant position across all elements of the ecosystem, it seems likely that these missing funds are accruing to Google at least in part, which would support the CMA’s findings.”).

¹²⁰ Geradin & Katsifis, “Trust Me, I’m Fair,” *supra* note 16 (“[L]ack of competition across the ad tech chain enables Google to exploit advertisers and publishers by charging hidden fees for ad intermediation on top of its disclosed commission.... Unfortunately, we conclude that Google’s latest switch does nothing to increase auction transparency. Worse, it seems to strengthen Google’s ability to extract hidden margins from its customers, while undermining the competitive pressure exercised by header bidding.”).

¹²¹ CMA Final Report, *supra* note 7, at 275 (emphasis added).

the charge that Google exploits a lack of interoperability by prioritizing its own products or that it engages in opaque pricing to conceal hidden charges of which its customers are unaware.

More fundamentally, absent evidence of Google deceiving advertisers and publishers to extract above-competitive margins, claims that its prices are “too high” or its revenue sharing “too low” are at odds with established antitrust law. U.S. antitrust law does not attempt to derive “proper” prices and impose these obligations on companies to ensure a “fair” outcome. Absent anticompetitive defects in the process, even monopolists are free to charge monopoly prices. The alternative would be for some agency—a court or a regulator—to regulate pricing and second guess every business decision made by dominant firms.

C. Cross-subsidies

At the same time, the *Roadmap* alleges that Google can “charge low prices at one end of the stack, to drive out competitors, while charging high prices at the other to counterbalance any losses.”¹²² But even if true, this would not be anticompetitive. It is a widely understood feature of platforms that they can shift prices from one side of a multisided market to another to maximize the platform’s total value. For example, a marketplace may make sellers bear the burden of fraud or mis-selling to give assurance to customers, and grow the consumer side of the platform market, just as a ridesharing app may discount rides to attract customers to build a large enough base to induce drivers onto the app.

This is a normal part of platform economics, which has long recognized that offering one side a low, zero, or negative price can be efficient and procompetitive.¹²³ As the U.S. Supreme Court held in *Ohio v. American Express*, an integrated competitive-effects analysis should look at the overall effect on output, not the effect on one side of the market; the relevant market must include both sides of the platform or the market would not exist at all.¹²⁴ There is no reason to think that this kind of behavior would generally be classed as “predatory pricing” in the absence of other behavior, such as raising prices after driving out competitors.¹²⁵

¹²² Scott Morton & Dinielli, *supra* note 15, at 20.

¹²³ See, e.g., Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. EUR. ECON. ASS’N 990 (2003); Bruno Jullien, *Price Skewness and Competition in Multi-Sided Markets*, IDEI Working Paper 504 (March 2008), available at <https://core.ac.uk/download/pdf/6375977.pdf>.

¹²⁴ See Joshua. D. Wright & John. M. Yun, *Burdens and Balancing in Multisided Markets: The First Principles Approach of Ohio v. American Express*, 54 REV. INDUSTRIAL ORGANIZATION 717 (2019); Manne, *In Defence of the Supreme Court’s ‘Single Market’ Definition in Ohio v American Express*, *supra* note 79.

¹²⁵ As described here, true pricing is theoretically possible but difficult in practice: “To successfully engage in predatory pricing means taking enormous and rising losses that grow for the ‘predatory’ firm as customers switch to it from its competitor. And once the rival firm has exited the market, if the predatory firm raises prices above average cost (i.e., to recoup its losses), there is no guarantee that a new competitor will not enter the market selling at the previously competitive price. And the competing firm can either shut down temporarily or, in some cases, just buy up the ‘predatory’ firm’s

But neither the Texas Complaint nor the *Roadmap* allege that Google's prices were predatory. On the contrary, their sole claim in this respect is that, after being acquired by Google, DoubleClick lowered its prices (by a factor of ten, according to the *Roadmap*¹²⁶), which it then maintained at these lower levels. This price reduction is facially *procompetitive*, however. It is unusual, to say the least, to describe a price reduction, with no subsequent price rises, as anticompetitive. If less-efficient competitors were unable to compete with these lower prices, that is competition in action. The law does not preclude nonpredatory low prices, nor even predatory prices without recoupment.¹²⁷ Sustained price reductions are one of the primary *goals* of antitrust.

Moreover, the source of the *Roadmap*'s claim that these price reductions were done "to drive out competitors" was, notably, a company that was not actually driven out of business by these price reductions. The source was an ad server, Smart, which claimed that Google's price reductions "made the provision of publisher ad server difficult to sustain as a standalone business. This was the main reason why Smart felt the need to expand into the provision of SSP services."¹²⁸ A competitor of Google's responding to price reductions by broadening its own offerings is, again, *procompetitive*, not anticompetitive.

D. Data gathering and integration

The Texas Complaint and the *Roadmap* describe several pro-privacy measures Google has adopted or plans to adopt as being detrimental to its competitors, including the decision to disable third-party cookies (which allow digital advertising companies to track users across the web to serve them relevant targeted ads) on the Chrome browser.¹²⁹ The Complaint argues that this shift benefits Google to the detriment of other ad tech companies, because (it says) Google, but not its competitors, has other data sources it can use to target ads at users.¹³⁰ In the same vein, the *Roadmap* points to Google's decision not to share with advertisers raw data that it compiles about users.¹³¹

The Complaint ignores regulatory causes of these changes altogether, and the *Roadmap* dismisses the suggestion that they may be driven by the European General Data Protection Regulation (GDPR), on the basis that "data sharing here in the U.S., where we have no privacy regulatory scheme akin

discounted goods to resell later." Sam Bowman, *Buck's "Third Way": A Different Road to the Same Destination*, TRUTH ON THE MARKET (Oct. 27, 2020), <https://truthonthemarket.com/2020/10/27/bucks-third-way-a-different-road-to-the-same-destination>.

¹²⁶ Scott Morton & Dinielli, *supra* note 15, at 20.

¹²⁷ See, e.g., *Barry Wright*, 724 F.2d at 234-35.

¹²⁸ CMA Interim Report, *supra* note 14, at Appendix H, ¶ 194.

¹²⁹ Texas Complaint, *supra* note 1, at ¶ 477.

¹³⁰ *Id.* at ¶¶ 473-476.

¹³¹ Scott Morton & Dinielli, *supra* note 15, at 28.

to that which is in place in Europe” has also been curtailed.¹³² Both forget data-privacy laws in U.S. states, such as the California Consumer Privacy Act (CCPA). And, even if that weren’t the case, the claim that GDPR would have no effect outside Europe ignores that companies may find it easier to comply with such laws by changing their practices globally, rather than on a country-by-country or state-by-state basis.¹³³ Many companies have done this: Microsoft, for example, announced in November 2019 that it would “honor California’s new privacy rights throughout the United States.”¹³⁴

Both also ignore the possibility that these provisions may be a response to demand from *users* of Google Chrome. Google may have good reasons to maintain a reputation for protecting user privacy, particularly because of the wide range of services it provides where user privacy is often of paramount importance to many users: Search, Maps, Gmail, YouTube, and Chrome itself.

Apple and Mozilla, neither of which has a significant online display advertising arm (and thus, have no incentive to block cookies simply to disadvantage display advertisers, as the Complaint alleges Google has done) have taken similar steps to increase user privacy. These are direct competitors of Google Chrome’s, and when Apple made blocking third-party cookies the default in its Safari browser, it was reported by one major outlet as “beating Google by two years to the privacy feature.”¹³⁵ Indeed, one of the reasons that Google delayed its disabling of third-party cookies was reportedly to implement technologies to “make it easier for advertisers to target certain demographics without laser-sighting down to specific people, ensure that the infrastructure many sites use for logins don’t break, and help provide some level of anonymous tracking so advertisers can know if their ads actually converted into sales.”¹³⁶

That Chrome’s competitors, neither of which has an incentive to hurt ad tech companies, have taken the same steps that the Complaint alleges Google is taking for anticompetitive reasons should be compelling evidence that Google, too, is responding to user demand and/or regulation. Under U.S. law, the fact that these are legitimate moves and benefit users interested in privacy—and, indeed, may be a response to competition in the browser market—undermines claims that Google has failed to maximize competition along other dimensions.

¹³² *Id.* at 28.

¹³³ As one study on the effects of GDPR (in this case, on app development) notes, “While 42.1 percent of EU-developed apps exit in the year following GDPR, the analogous figure averages between 37.7 and 50 percent in the other six countries, confirming the difficulty in finding an untreated part of the world.” Rebecca Janßen, Reinhold Kesler, Michael E. Kummer, & Joel Waldfogel, *GDPR and the Lost Generation of Innovative Apps*, NBER Working Paper 30028 (May 2022) at 19-20, available at <https://www.nber.org/papers/w30028>.

¹³⁴ Julie Brill, *Microsoft Will Honor California’s New Privacy Rights Throughout the United States*, MICROSOFT BLOG (Nov. 11, 2019), <https://blogs.microsoft.com/on-the-issues/2019/11/11/microsoft-california-privacy-rights>.

¹³⁵ Nick Statt, *Apple Updates Safari’s Anti-Tracking with Full Third-Party Cookie Blocking*, THE VERGE (Mar. 24, 2020), <https://www.theverge.com/2020/3/24/21192830/apple-safari-intelligent-tracking-privacy-full-third-party-cookie-blocking>.

¹³⁶ Dieter Bohn, *Google to “Phase Out” Third-Party Cookies in Chrome, but not for Two Years*, THE VERGE (Jan. 24, 2020), <https://www.theverge.com/2020/1/14/21064698/google-third-party-cookies-chrome-two-years-privacy-safari-firefox>.

The *Roadmap* also presents a hypothetical circumstance that amounts to an allegation that Google “captures” data from ads served to publishers to “expropriate” publishers’ investments in content that attracts a particular audience:

Some publishers have invested in content that attracts and retains a specific type of consumer, for example, readers of the *Wall Street Journal* or *Golf Digest*; this in turn allows them to support their business by selling valuable ads to advertisers looking for exposure to those audiences. Google has two ways to expropriate that value. First, rather than serve an ad on the *Wall Street Journal* at a high price, it can track the user who visited the *Wall Street Journal* and wait until she visits a site that sells space at low prices, for example, a local recipe blogger. Google can then sell *Wall Street Journal* users to advertisers in a way that does not benefit the *Wall Street Journal* at all and costs advertisers much less. A second strategy used by Google is to take the data describing these differentiated audiences and use it to create an imitation portfolio of consumers that mimic the characteristics of the publisher’s audience. For example, Google could create an audience of consumers similar to the people who read *Golf Digest*. Then Google sells access to this group of consumers when they visit inexpensive websites. Advertisers are happy to buy these ads because the consumers likely belong to the specialized audience of interest but are available at a much lower price. In these ways the unique audience assembled by the publisher is copied and expropriated.¹³⁷

It should be noted that the *Roadmap* does not conclude that Google engages in these practices, but merely describes strategies Google “can” undertake to “expropriate” publishers’ investments. The *Roadmap* concedes that advertisers would be “happy” under such hypotheticals, because they are buying effective ads at a “much lower price.” In the *Roadmap*’s example, the hypothetical recipe blogger is “happy” that it earned revenues from selling an impression and the advertiser is “happy” that it paid a lower price than it would have had the impression been sold to the *Wall Street Journal*. The *Wall Street Journal* may not be so “happy” that it did not serve that particular ad, but that display space did not sit empty; the hypothetical lost ad was replaced by another impression that was served. And it is neither Google’s nor antitrust law’s job to make specific publishers better off—nor to make publishers better off at the expense of advertisers—but to ensure that the market as a whole is competitive and acting in consumers’ interests.

These hypotheticals again highlight the tensions discussed above between the different sides of a multisided market. Actions that make advertisers “happy” may come at the expense of publishers’ advertising revenues and actions that increase publishers’ revenues may increase costs to advertisers. One of the goals of a multisided market intermediary such as Google is to balance these competing interests to maximize total revenues flowing through the ad tech stack.

¹³⁷ Scott Morton & Dinielli, *supra* note 15, at 30.

The *Roadmap* concludes that, through its “entire family of products,” Google collects and analyzes substantial amounts of information about its users. It uses this information to maximize the “effectiveness,” “precision,” and “value” of the ads it intermediates.

First, Google offers an entire family of products—everything from Gmail and Google Maps to the Google Calendar, Google Chrome, Android mobile operating system and the search engine—that gather valuable personal data about its users. Second, the products across the ad stack further collect data on consumer activities that the company then integrates to maximize the effectiveness and precision of ad targeting and attribution and thereby the value of the ads.¹³⁸

Rather than “expropriating” publishers’ data, it would be reasonable to conclude that Google is adding value to the data provided by publishers, advertisers, and consumers to better target ads. For example, the *Wall Street Journal* may not know that a consumer recently did a Google Search for “running shoes.” By adding valuable information from Search, the consumer might be served a relevant running shoe ad on the *Wall Street Journal*’s site. This benefits the publisher who is paid for serving a valuable impression, the advertiser who sells a pair of shoes, and the consumer who obtains useful information and purchases the product she was seeking.

E. Accelerated Mobile Pages (AMP) and header bidding

The Texas Complaint, like the *Roadmap*, alleges that Google designed Accelerated Mobile Pages (AMP) “[t]o respond to the threat of header bidding... [by making it] essentially incompatible with JavaScript and header bidding. Google then used its power in the search market to effectively force publishers into using AMP.”¹³⁹ But this gets several key facts wrong. First, AMP is an open-source industry collaboration project and Google cannot unilaterally impose a design standard on it.¹⁴⁰ Second, a version of header bidding *can* work with AMP.¹⁴¹ Third, it is mistaken to assert that “non-AMP-formatted results often do not even show up on the first page of results, regardless of their relevance.”¹⁴² AMP has been a prerequisite only for inclusion in the top news story carousel, while other listings are ranked by relevance and speed.

Importantly, the argument ignores the main benefit of AMP to publishers and users: faster load times for mobile users who may be on slow connections. One of header bidding’s chief downsides is that it increases page-load latency. It is obvious why an HTML framework built to maximize load times would not be compatible with header bidding. Because AMP confers undisputed benefits on

¹³⁸ *Id.* at 20.

¹³⁹ Texas Complaint, *supra* note 1, at ¶¶ 407-408. See also, Scott Morton & Dinielli, *supra* note 15, at 26.

¹⁴⁰ See David Besbris, *Introducing the Accelerated Mobile Pages Project, for a Faster, Open Mobile Web*, GOOGLE (Oct. 7, 2015), <https://blog.google/products/search/introducing-accelerated-mobile-pages/>.

¹⁴¹ See Automated Team, *Header Bidding on AMP—A Complete Guide*, AUTOMATED (Jan. 10, 2020), <https://headerbidding.co/header-bidding-amp>.

¹⁴² Scott Morton & Dinielli, *supra* note 15, at 26.

users and publishers, Google and the other companies involved in the AMP project have no obligation to re-engineer AMP to be compatible with header bidding. Any conclusion otherwise would involve a court deciding that users should be forced to use a slower Internet so that websites can use header bidding.

F. Alleged barriers to entry in the open digital display ad market

Claims about Google’s alleged market power in display advertising rest on assumptions that the company enjoys the benefits of significant barriers to entry throughout the ad tech stack, thus enabling it to extract supercompetitive rents without fear of competition: “With these barriers in place,” it is claimed, “entry seems nearly futile.”¹⁴³

A key element in establishing a company’s durable market power—and thus, its ability to impose anticompetitive costs on its users—is the presence of entry barriers. Even a market with only a single company—a true monopoly—cannot *act* like a monopoly if entry into its market is easy; if it did profitably raise prices, new competitors would enter the market and undercut it.¹⁴⁴

As the *Roadmap* concedes, “[m]arket power is not permanent, of course. It can be undercut by, among other things, new entrants that offer better quality or lower prices.”¹⁴⁵ This notion of “contestability” is a fundamental part of assessing the competitiveness of markets under U.S. antitrust law.¹⁴⁶ In the absence of barriers to entry, it is well-established that assumptions of future competitive harm from ongoing conduct cannot be sustained.¹⁴⁷ Thus, the *Roadmap* bases much of its brief against Google on the presence of barriers to entry, “which heighten[] the prospect that Google can engage in conduct that harms competition without restraint from new entrants or potential new entrants.”¹⁴⁸ On the strength of these asserted barriers, the *Roadmap*’s authors interpret ambiguous conduct as anti-competitive.

¹⁴³ *Id.* at 17.

¹⁴⁴ See William J. Baumol, *Contestable Markets: An Uprising in the Theory of Industry Structure*, 72 AM. ECON. REV. 1, 14 (1982) (“In the limit, when entry and exit are completely free, efficient incumbent monopolists and oligopolists may in fact be able to prevent entry. But they can do so only by behaving virtuously, that is, by offering to consumers the benefits which competition would otherwise bring. For every deviation from good behavior instantly makes them vulnerable to hit-and-run entry.”).

¹⁴⁵ Scott Morton & Dinielli, *supra* note 15, at 15.

¹⁴⁶ See, generally, WILLIAM J. BAUMOL, JOHN C. PANZAR, & ROBERT D. WILLIG, *CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE* (1982).

¹⁴⁷ *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001) (“Because a firm cannot possess monopoly power in a market unless that market is also protected by significant barriers to entry... it follows that a firm cannot threaten to achieve monopoly power in a market unless that market is, or will be, similarly protected.”).

¹⁴⁸ Scott Morton & Dinielli, *supra* note 15, at 15.

According to the *Roadmap*, “the CMA’s findings reveal a number of significant barriers to entry into the digital advertising market.”¹⁴⁹ But most of its assertions in this regard are flawed, either because the CMA did not, in fact, make “findings” in the ways it suggests, or else because it reaches incorrect conclusions that certain conduct constitutes a barrier.¹⁵⁰ The Texas Complaint’s assertions of similar barriers to entry are likewise problematic.¹⁵¹

I. Consumer location information

Although the Texas Complaint does not discuss it as an explicit barrier to entry,¹⁵² one of the *Omidyar Roadmap*’s key assertions about barriers to entry relates to Google’s access to user-location data. It asserts that:

The CMA concluded that Google has nearly insurmountable advantages in access to location data, due to the location information it receives from the Android operating system, Google search, and other applications.... An entrant into the ad tech stack requires information about the consumer to target an ad effectively. Because Google accounts for nearly the entirety of the mobile search sector in the UK—97%—and controls many of the known sources of location data, such an entrant faces a large barrier to entry.¹⁵³

But the CMA does not, in fact, “conclude[] that Google has nearly insurmountable advantages in access to location data,” either in the CMA Interim Report to which the *Roadmap* refers, nor in the CMA Final Report. The CMA never makes any claim of “insurmountable advantage.” Indeed, it does not use the word “insurmountable” at all, except to note that “rival platforms did *not* suggest that accessing consumer data was an insurmountable barrier to entry.”¹⁵⁴ Rather, to support this

¹⁴⁹ *Id.*

¹⁵⁰ See CMA Final Report, *supra* note 7, at 252–55 for a discussion of barriers to entry.

¹⁵¹ See Texas Complaint, *supra* note 1, at ¶ 127:

In addition to these barriers, Google’s own anticompetitive conduct imposes additional barriers to entry and expansion. As addressed below in Section VII.A, from 2010 to present, Google has tied its ad server to its ad exchange, requiring publishers to use Google’s ad server in order to receive live, competitive bids from Google’s ad exchange. This tie effectively forces almost every large publisher to use Google’s ad server. And because it is difficult-to-impossible for a publisher to use multiple ad servers simultaneously, requiring publishers to use Google’s ad server effectively prohibits them from using a competitor’s ad server. Google’s anticompetitive conduct creates an unnatural and nearly insurmountable barrier to entry.

¹⁵² An earlier version of the Texas Complaint did make assertions regarding Google’s abuse of monopoly power through the “use [of] its data advantages to trade on inside information” (Texas Second Amended Complaint at ¶ 311), by which the state plaintiffs may mean (or have meant) to encompass location data, among other things.

¹⁵³ Scott Morton & Dinielli, *supra* note 15, at 15.

¹⁵⁴ CMA Interim Report, *supra* note 14, at 189 (emphasis added).

claim, the *Roadmap* cites to a portion of the CMA Interim Report recounting a *suggestion* made by Microsoft regarding the “critical” value of location data in providing relevant advertising.¹⁵⁵

Moreover, that portion of the CMA Interim Report, as well as the suggestion made by Microsoft, is about *search* advertising, not display advertising. While the CMA does not characterize this data in the way the *Roadmap* claims, it does allege that “Google has exclusive access to a large amount of user data that can be used for targeted advertising and for measuring advertising outcomes, collected through its consumer-facing services. Data collected on its search platform is particularly valuable for targeting purposes in open display as it reveals users’ purchasing intent.”¹⁵⁶

While location data may *also* be valuable for display advertising in a comparable way, it is not clear that the GPS-level data that is so valuable in providing mobile-search ad listings is particularly useful for display advertising, which may be just as well-targeted by less granular city- or county-level location data.

Consider the *Roadmap*’s illustrative example:

A digital ad for a brick-and-mortar running store in Des Moines is of little use to a runner looking to test out new shoes in Omaha, and, if shown to the Omaha runner, is unlikely to prompt a click, much less a purchase, from the Des Moines store.¹⁵⁷

This is certainly correct. But GPS or even cell-tower location data is not necessary to determine in which *city* a user is located. Publicly available databases of IP address locations can provide this information, and they are readily and often freely available to all competitors. It is difficult to imagine that display advertising uses location data at any greater level of granularity except in unusual circumstances; it simply would not be particularly useful or effective.¹⁵⁸

Furthermore, to the extent that location data (like other consumer data) may be useful for display advertising, the most significant issue affecting its availability to advertisers is not Google’s presence in the ad tech stack; it is privacy regulations that limit the collection, use, and sharing of such data.¹⁵⁹

¹⁵⁵ *Id.*, at ¶ 3.71 (“Microsoft suggested that accessing at-scale location data from user devices is a critical input to providing relevant, localized results. It indicated its belief that Google has unique advantages in this area, due to the location data that it receives from the Android operating system and the location data it receives when users access Google Search or other apps like Google Maps/Waze.”).

¹⁵⁶ CMA Final Report, *supra* note 7, at ¶ 5.268.

¹⁵⁷ Scott Morton & Dinielli, *supra* note 15, at 15.

¹⁵⁸ To be sure, location data can be helpful in assessing the efficacy of advertising by, for example, enabling an advertiser to better evaluate whether an advertisement led users to go to the advertiser’s physical location. But this function hardly seems necessary to a well-functioning market, and other sources of such information (e.g., questionnaires) are available.

¹⁵⁹ *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation)*, OJ L 119, 4.5, 2016; See, e.g., Bert Peeters, *Processing of Location Data: Navigating the EU Data*

These privacy regulations, such as the GDPR, limit the ability of digital firms to sell or otherwise pass user data to third-party advertisers. What seems like unequal treatment, in this regard, is really a case of privacy regulation in action.

These laws may have the indirect effect of favoring larger digital conglomerates that can collect user data through one service and use it to target ads in another. In this sense, it could be true that Google has informational advantages over rivals, though in a critically different way than that alleged by the *Roadmap*. But it can hardly be considered anticompetitive if the source of such advantage is legal constraints on information sharing. Indeed, an empirical study by economists Avi Goldfarb and Catherine Tucker found that (pre-GDPR) privacy regulation in the EU “restricted advertisers’ ability to collect data on Web users in order to target ad campaigns. We find that, on average, **display advertising became far less effective at changing stated purchase intent after the EU laws were enacted**, relative to display advertising in other countries.”¹⁶⁰ Along similar lines, Nils Wernerfelt and his co-authors show that access to data from different sources significantly improves ad targeting.¹⁶¹ In turn, this may give a competitive advantage to firms that operate several successful web services and applications.

As Israeli competition law scholars Michal Gal and Oshrit Aviv found with respect to the GDPR, privacy regulations can function as a barrier to entry in several further ways.¹⁶² These include creating new economies of scale associated with regulatory compliance, increased litigation risk, and uncertainty around interpretation of the rules. Because they serve to make reputation more central, they also can lead users to become more likely to entrust their data to incumbents but not to unknown, new entrants.¹⁶³

Protection Framework, CiTIP BLOG (Feb. 4, 2021), <https://www.law.kuleuven.be/citip/blog/processing-of-location-data-navigating-the-eu-data-protection-framework>. (“The general understanding seems to be that, while European law does not qualify location data as a ‘special category’ of data under article 9 of the GDPR, location data should for all intents and purposes be treated with the utmost of care.”).

¹⁶⁰ Avi Goldfarb & Catherine Tucker, *Privacy Regulation and Online Advertising*, 57 MGMT. SCI. 57, 57 (2011).

¹⁶¹ Nils Wernerfelt, Anna Tuchman, Bradley Shapiro, & Robert Moakler, *Estimating the Value of Offsite Data to Advertisers on Meta*, University of Chicago, Becker Friedman Institute for Economics Working Paper No. 114 (August 22, 2022) at 1, available at <https://ssrn.com/abstract=4198438> (“Taken together, our results suggest a substantial benefit of offsite data across a wide range of advertisers, an important input into policy in this space.”).

¹⁶² Michal S. Gal & Oshrit Aviv, *The Competitive Effects of the GDPR*, 16 J. COMPETITION & ECON. 349 (May 18, 2020). See also James Campbell, Avi Goldfarb, & Catherine Tucker, *Privacy Regulation and Market Structure*, 24 J. ECON. & MGMT. STRATEGY 47, 68 (2015) (“[A] potential risk in privacy regulation is the entrenchment of the existing incumbent firms and a consequent reduction in the incentives to invest in quality. These incentives are stronger when firms have little consumer-facing price flexibility, as is the case in online media.”).

¹⁶³ Gal & Aviv, *id.* at 16.

2. Attribution measurement

“Attribution” refers to the method by which advertisers can see which ad led a user to an action, such as visiting a website or making a purchase.¹⁶⁴ The *Roadmap* alleges that Google can design attribution to mislead advertisers by, for example, favoring search ads over display ads.¹⁶⁵ This would lead to more of the advertiser’s money going to Google instead of (in part) to a publisher, and (assuming, as the *Roadmap* implies, that this makes ad campaigns less effective¹⁶⁶) can harm advertisers by misleading them into choosing a less-effective advertising channel.

The *Roadmap* provides no evidence this is taking place. What it describes is more a complaint about the nature of search advertising in general: that companies will sometimes end up paying for ads in lieu of identical *organic* search results for their pages. That is an argument to be had elsewhere, but there are clear reasons why it may be in an advertiser’s interest to advertise even in these situations. Paid search ads may give them greater control over how a link is displayed to a user (for example, with text the advertiser has chosen, rather than text that the search engine has retrieved) or guarantee a prominent listing for searches where the advertiser’s URL listing is not always guaranteed to be on top.

Apart from the broader objection to the nature of search advertising, the *Roadmap*’s authors also object to Google setting an attribution default in its DSP. But advertisers can choose from several different attribution models, not just the default one that the *Roadmap* objects to, which attributes to search ads the “last click.” Other options include “last non-direct click,” which “ignores direct traffic and attributes 100% of the conversion value to the last channel that the customer clicked through from before buying or converting”; “last Google Ads click”; “First interaction”; and others that give attribution weights according to where and when the customer saw or used the ads during their purchase or conversion “journey.”¹⁶⁷ These are precisely the kinds of models that the *Roadmap*’s

¹⁶⁴ See, e.g., Cheok Lup, *Explaining Marketing Attribution Models [Scenario Example]*, TINKEREDGE (Nov. 12, 2015), <https://www.tinkeredge.com/blog/web-analytics/explaining-marketing-attribution-models>. (“On Day #1: User wants to purchase a coffee table for his new house, and perform a keyword search on Google. He clicks on one of the organic listings on Google Search Engine Result Page (SERP) to land onto Overstock.com. On Day # 2: He continues his search for his coffee table, and clicks on one of the PPC ads on Google SERP to land onto Overstock.com again. He subscribes to the email newsletter this time. On Day #3: He receives an eDM [electronic direct mail] from Overstock.com with a promotional offer of 30% discount sale, and clicks the “Buy Now” button from the eDM to enter the website. Unable to resist the discount offer, he decides to make a purchase of the furniture from the website.”). Attribution metrics determine which channel gets credit for the ultimate sale.

¹⁶⁵ Scott Morton & Dinielli, *supra* note 15, at 29

¹⁶⁶ “Furthermore, the default makes the advertiser believe that search ads are very effective relative to display ads, so the advertiser has no reason to change the default.” *Id.*

¹⁶⁷ See *About the Default MCF Attribution Models: Learn How Each MCF Model Assigns Conversion Credit*, GOOGLE ANALYTICS HELP (last visited Nov. 1, 2022), *Attribution Models*, GOOGLE, <https://support.google.com/analytics/answer/1665189?hl=en>. For the Google Analytics 4 version of these attribution models currently being implemented, see [GA4] *About Attribution and Attribution Modeling*, GOOGLE ANALYTICS HELP (last visited Nov. 1, 2022),

authors implicitly believe are more appropriate for campaigns heavy on display advertising. Advertisers can also create their own custom models, and Google has published guides for advertisers to help them choose among the different models.¹⁶⁸

The *Roadmap*'s objection is thus reduced to being about the choice by Google to use the "last click" attribution model as the *default*. But *some* model has to be the default, and "last click" is also the default on, for example, Microsoft Advertising.¹⁶⁹ Indeed, according to digital-ad-intermediary company, Outbrain (one of Google's competitors), it is the most common attribution default across the industry.¹⁷⁰ For the *Roadmap*'s objection to carry any weight, a case based on this claim would need to demonstrate that it was unusual for Google to use "last click" as the default attribution. Even then, given the ease with which advertisers can change the attribution model, the charge would be thin.

3. 'Opaque' pricing

Both the Texas Complaint and the *Roadmap* allege that Google's "opaque pricing" constitutes a barrier to entry by impeding "advertisers from switching to a lower-cost for higher-quality" buying tool.¹⁷¹ As the *Roadmap* puts it, a "new or potential new PAS or DSP cannot credibly claim to be able to undercut the Google products on price if the publishers and advertisers cannot tell how much Google actually is charging."¹⁷² The Texas Complaint further alleges that "Google compounds its exclusionary auction manipulations by purposefully keeping its auction mechanics, terms, and pricing, opaque and 'nontransparent.' This makes it nearly impossible for publishers and advertisers to discover Google's misrepresentations, and even harder for rivals to neutralize or offset."¹⁷³ Both the Texas Complaint and the *Roadmap* also suggest that competition is undermined when publishers and advertisers do not know the fee structure of the intermediaries they are using.

But it is not unusual for businesses' costs and prices to be private to their competitors, and it is not a barrier to competition. Grocery stores do not need to know how much it cost a farmer to grow an

<https://support.google.com/analytics/answer/10596866>. Google even created a guide called "Beyond Last Click Attribution" to help advertisers select the most appropriate model. See *Beyond Last Click Attribution: Official Guide to Attribution Modeling in Google Ads*, GOOGLE ADS HELP (last visited Nov. 1, 2022), <https://support.google.com/google-ads/answer/7003286>.

¹⁶⁸ See Joan Arensman & Wilfred Yeung, *Move Beyond Last Click Attribution in AdWords*, GOOGLE BLOG (May 10, 2016), <https://adwords.googleblog.com/2016/05/move-beyond-last-click-attribution.html>.

¹⁶⁹ *How Does Conversion Tracking Work?*, MICROSOFT ADVERTISING (n.d.) <https://help.ads.microsoft.com/#apex/ads/en/56710/2>.

¹⁷⁰ Nir Elharar, *How to Choose the Right Marketing Attribution Model for Your Content*, OUTBRAIN (Apr. 8, 2019), <https://www.outbrain.com/blog/marketing-attribution-model-content>.

¹⁷¹ Texas Complaint, *supra* note 1, at ¶ 195.

¹⁷² Scott Morton & Dinielli, *supra* note 15, at 17

¹⁷³ Texas Complaint, *supra* note 1, at ¶ 351.

orange or how much their rivals are paying for transportation, unless they are attempting to anti-competitively coordinate their prices; they just need to work to make their *own* costs as low as possible and to reduce their prices to consumers by as much as possible. Similarly efficient firms are perfectly able to offer competitive prices simply by making the best offer based on their own fundamentals; only less-efficient firms will struggle (as they should).

Along these lines, for competition to work effectively in display advertising, Google's competitors do not need to know what Google is charging; they need to offer a price and product that is more attractive overall to potential customers than Google's is. Similarly, a publisher does not need to know how much an advertiser bid to place an ad, nor does the advertiser need to know how much the publisher received to serve the ad. The advertiser's competition concern is whether an effective ad can be served at a lower price from a different intermediary and the publisher's competition concern is whether it can earn greater revenues from a different intermediary. One should not be surprised that Google does not reveal information on which competing intermediaries can free ride. Indeed, this is widely considered to be one of the hallmarks of vigorous competition.

Conclusion

As we have argued, many of the most significant claims made against Google's ad tech products are based on a misunderstanding of U.S. antitrust law, or of the details of the ad tech market itself. Although we cannot be sure how the *Texas, et al. v. Google* case will develop once the allegations in the Complaint are fleshed out into full arguments, many of its initial claims and assumptions are wrongheaded. Based on the information currently available, if the court rules in favor of these, the result will be to condemn procompetitive conduct and potentially to impose costly, inefficient remedies that function as a drag on innovation.

Legislators, too, who may be concerned about Google's conduct and tempted to impose regulatory requirements on it and other tech companies should bear in minds the risk of the Nirvana fallacy, in which real-life conduct is compared against a hypothetical "competition maximizing" benchmark, and anything that falls short is deemed problematic and in need of intervention.¹⁷⁴ That approach would pervert the incentives of businesses to innovate and compete, and would make an unobtainable "perfect" that exists only in the minds of some economists and lawyers the enemy of a "good" that exists in the market right now.

¹⁷⁴ See Demsetz, *supra* note 81.