

# Yale University

## *Thurman Arnold Project*

Digital Platform Theories of Harm

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### **Report on Google's Conduct in Advertising Technology**

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## I. Introduction

Traditional advertisements appear in newspapers and magazines, on television and the radio, and on daily commutes through highway billboards and public transportation signage. Digital ads, while similar, are powerful because they are tailored to suit individual interests and go with us everywhere: the bookshelf you thought about buying two days ago can follow you through your favorite newspaper, social media feed, and your cousin's recipe blog. Digital ads also display in internet search results, email inboxes, and video content, making them truly ubiquitous. Just as with a full-page magazine ad, publishers rely on the revenues generated by selling this ad space, and the advertiser relies on a portion of prospective customers clicking through to finally buy that bookshelf.

Like any market, digital advertising requires the matching of buyers (advertisers) and sellers (publishers), and the intermediaries facilitating such matches have more to gain every year: A PwC report estimated that revenues for internet advertising totaled \$57.9 billion for 2019 Q1 and Q2, up 17% over the same half-year period in 2018.<sup>1</sup> Google is the dominant player among these intermediaries, estimated to have netted 73% of US search ad spending<sup>2</sup> and 37% of total US digital ad spending<sup>3</sup> in 2019.

Such market concentration prompts reasonable questions about whether customers are losing out on some combination of price, quality, and innovation. This report will review the significant

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<sup>1</sup> PricewaterhouseCoopers for IAB (October 2019), *Internet Advertising Revenue Report: 2019 First Six Months Results*, p.2.

<sup>2</sup> Nicole Perrin, *Google Maintains Wide Lead in Net US Search Ad Revenues*, eMarketer (Nov. 18, 2019), <https://www.emarketer.com/content/google-maintains-wide-lead-in-net-us-search-ad-revenues> (last visited May 7, 2020).

<sup>3</sup> eMarketer Editors, *US Digital Ad Spending Will Surpass Traditional in 2019*, eMarketer (Feb. 19, 2019), <https://www.emarketer.com/content/us-digital-ad-spending-will-surpass-traditional-in-2019> (last visited May 7, 2020).

antitrust concerns surrounding Google’s place in the advertising technology (ad tech) market. **Section I** provides an overview of ad tech and Google’s role in it. **Section II** describes surface-level indicators, such as high margins, that suggest Google has the market power to profitably engage in anticompetitive behavior. **Section III** details conduct from Google with anticompetitive potential, including its use of tying to force consumers to use multiple Google products, the limitations it places on competitor interoperability, and how its dominance in online tracking unreasonably disadvantages competitors. **Section IV** outlines several consumer harms that may result from Google’s continued dominance in ad tech. **Section V** presents potential mitigating factors related to inefficiencies, privacy, and the realities of barriers to entry in this space. Finally, **Section VI** captures, at a high level, the legal framework and precedent under which an antitrust case against Google could be brought. Note that many estimates of market share used in this report are based on the UK’s Competition and Markets Authority’s 2019 interim report on digital advertising. While the UK is not the US, our markets for digital advertising are not dissimilar. The CMA gathered internal information from Google and Facebook to produce its market study; a similar approach would allow us to confirm market shares in the US.

#### **A. Overview of Ad Tech and Google’s Market Dominance**

The digital advertising ecosystem connects advertisers to consumers and enables publishers to monetize consumer attention. Publishers attract consumers to their sites with compelling content, and advertisers pay for that consumer attention. Although the digital advertising space can be subdivided in a variety of different ways, two distinctions are particularly important here. One key distinction is between “search” and “display” advertising markets. Search advertising primarily consists of text-based advertising linked to search engine keywords (i.e. advertisements

that look like search results), while display advertising generally refers to images, video, or interactive advertising placed on publisher websites.<sup>4</sup> Within display advertising, inventory is sold in two basic ways: direct and programmatic.<sup>5</sup> In a direct model, a publisher (e.g. the *New York Times*) sells its viewer impressions to an advertiser with whom it has a direct relationship, often through face-to-face negotiations. This allows advertisers to control which content their brand will appear alongside and gives in-demand publishers top dollar for their inventory.<sup>6</sup> In a programmatic model, publishers offer available inventory to advertisers in real time as a consumer loads the publisher's webpage.<sup>7</sup> The advertising technology market has developed within the programmatic supply chain to enable the delivery of these programmatic-sold ads. However, given that the publisher ad server controls ad serving across both programmatic and direct sold ads, competitive dynamics in the programmatic supply chain also have implications for delivery of direct sold inventory.

When the FTC considered Google's acquisition of DoubleClick in 2007, it viewed the ad tech market as a relevant market in itself, distinct from the broader search and display advertising markets.<sup>8</sup> Those basic distinctions— (1) between programmatic and direct-sold, (2) between

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<sup>4</sup> Statement of the Federal Trade Commission Concerning Google/DoubleClick 4, FTC File No. 071-0170, Dec. 11, 2007. Both the online advertising industry and its jargon have evolved somewhat since Google's acquisition of Doubleclick. Some industry players (including Google) now use "display" to refer to only static images, treating video as a separate channel. Mobile advertising, and even social media advertising, are now also sometimes treated separately from display. However, because there appears to be no clear consensus on the appropriate terminology, and because each of these advertising types are sold in similar ways for similar purposes, we continue to treat all of these categories under the label "display." For an overview of industry terminology, see Interactive Advertising Bureau, *Glossary of Terminology*, <https://www.iab.com/insights/glossary-of-terminology> (last visited May 8, 2020).

<sup>5</sup> Some practices may blur the distinction. For example, invite-only programmatic private marketplaces and programmatic direct exchanges afford publishers more control over the price of inventory sold. *See, e.g.*, Google, *Private Auctions*, <https://support.google.com/admanager/answer/2987915>. Further, publishers may also sell indirectly through platforms like YouTube under a revenue sharing model.

<sup>6</sup> *See, e.g.*, Interactive Advertising Bureau, *Glossary of Terminology*, <https://www.iab.com/insights/glossary-of-terminology> (last visited May 8, 2020); Ratko Vidakovic, *Display Ads: How Direct Buys and RTB Interact*, MarketingLand (March 4, 2013), <https://marketingland.com/display-ads-how-direct-buys-and-rtb-interact-34483>.

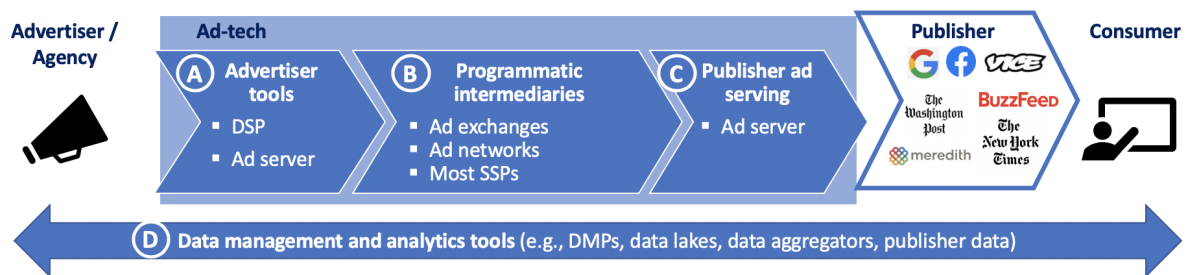
<sup>7</sup> *See, e.g.*, Ratko Vidakovic, *supra* note 6.

<sup>8</sup> Statement of the Federal Trade Commission Concerning Google/DoubleClick 4, FTC File No. 071-0170, Dec. 11, 2007.

display and search advertising,<sup>9</sup> and (3) between programmatic intermediaries and tools used by advertisers and publishers—continue to be useful today.

Building on the FTC’s approach to Google’s acquisition of DoubleClick, we treat programmatic display advertising as four submarkets: (A) Advertiser tools (including advertiser ad servers and demand-side platforms (DSPs)), (B) Intermediation (including ad networks, ad exchanges, and most supply-side platforms (SSPs)), (C) Publisher ad serving (PAS), and (D) Data analytics and management tools.<sup>10</sup>

### Exhibit 1. Advertising Technology Market



Colloquially, advertiser tools are used by advertisers to buy ad slots; advertisers may specify targeting parameters and the total amount they wish to spend. PASs provide important services for publishers, including tracking users, reporting revenue metrics, and making the final decision on how to fill available inventory. Between these two poles sit the programmatic intermediaries, which enable advertisers to bid in real time on inventory and ultimately communicate to the PAS

<sup>9</sup> See Becker, Ingo F., Marc Linzmajer, and Florian von Wangenheim. 2017. “Cross-Industrial User Channel Preferences on the Path to Online Purchase: Homogeneous, Heterogeneous, or Mixed?” *Journal of Advertising* 46 (2): 248, 249. doi:10.1080/00913367.2017.1300076. This article notes that user behavior tends to be dominated by a single online advertising channel, rendering channels non-substitutable when used to target specific user groups.

<sup>10</sup> For a brief introduction to each of the listed products, see Interactive Advertising Bureau, *The Programmatic Supply Chain* (March 2016), <https://www.iab.com/wp-content/uploads/2016/03/Programmatic-Value-Layers-March-2016-FINALv2.pdf>.

which advertisement won a programmatic auction. Data management tools provide a bevy of different services at all steps of the process, including offering targeted information about users to help advertisers inform their bids and verifying that purchased inventory is actually filled with the correct advertisement.

Although the market structure the FTC considered in 2007 remains relevant, the competitive landscape has since undergone significant changes. First, the PAS space has become highly concentrated. After Google acquired DoubleClick, it cut prices charged to publishers by a factor of ten.<sup>11</sup> Faced with an inability to match Google on price, and in the face of other exclusionary conduct, many providers left the market altogether.<sup>12</sup> At present, Google may represent as much as a 90% market share of publishers' ad servers.<sup>13</sup>

Second, since taking the dominant position in the PAS market, Google has begun merging its supply-side intermediation products with its PAS offering. The composite product, "Google Ad Manager," combines Google's PAS with its SSP and ad exchange.<sup>14</sup> In the market for SSPs/exchanges, Google represents at least 40%, and perhaps as much as a 60% share.<sup>15</sup>

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<sup>11</sup> CMA Interim Report, Appx. H, ¶ 194.

<sup>12</sup> *Id.* at ¶ 192. See also Sarah Sluis, *OpenX Lays Off 100 Employees and Pivots to Video*, AdExchanger, Dec. 18, 2018; Ronan Shields, *Verizon Media to Shutter Oath Ad Server*, AdWeek, Mar. 4, 2019; Marty Swant, *Facebook Is Winding Down Its Atlas Ad Serving Platform*, AdWeek, Nov. 18, 2016.

<sup>13</sup> CMA Interim Report, Appx. C, ¶ 164. Although the CMA report offers market-share data for the United Kingdom, we proceed on the assumption that these shares are roughly similar to those in the United States. This assumption is supported by the limited information available regarding market share in the United States. See *infra* notes 11-13.

<sup>14</sup> Appendix H, Competition and Markets Authority, *Online Platforms and Digital Advertising: Market Study Interim Report, H2-H3*. At [https://assets.publishing.service.gov.uk/media/5dfa172240f0b6217b108351/Appendix\\_H2.pdf](https://assets.publishing.service.gov.uk/media/5dfa172240f0b6217b108351/Appendix_H2.pdf).

<sup>15</sup> CMA Interim Report, Appx. C, Table C.8. See also <https://www.datanyze.com/market-share/ad-exchanges--399/Datanyze%20Universe/doubleclick-market-share> (last visited May 10, 2020).

Google's dominance has grown on the demand side of the market as well. Today, Google is a key player across the ad tech supply chain in advertiser tools (Display & Video 360, Google Ads, Google Marketing Platform), programmatic intermediation (AdX), and PAS (Google Ad Manager). Estimating market share within advertiser tools is difficult because advertisers may use a variety of DSPs, but Google's offerings (Display & Video 360 and Google Ads) are the largest players in the market, and quite likely have a majority share.<sup>16</sup> The limited available data suggest that Google's market share is also significant in the programmatic intermediaries and PAS submarkets.<sup>17</sup>

### **B. Google's Business Model and Incentives in the Market**

Google's advertising revenue is a function of (a) total digital advertising dollars, (b) the ad tech take rate, and (c) Google's ad tech market share. As a profit-maximizing firm, Google is incentivized to maximize revenue across each of these levers. As such, Google may be incentivized to (a) raise advertiser prices to increase the total size of the digital advertising pie, (b) increase ad tech take rates to grow its margin, and (c) increase its own market share, including through disadvantaging ad tech competitors. Section II considers indicators of anticompetitive behavior in this market, in light of these incentives.

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<sup>16</sup> James Hercher, *The DSP Market Shakeup Starts to Settle in Latest Advertiser Perceptions Report*, AdExchanger (June 12, 2019), <https://www.adexchanger.com/online-advertising/the-dsp-market-shakeup-starts-to-settle-in-latest-advertiser-perceptions-report/> (last visited May 10, 2020); CMA Interim Report, fig.2.

<sup>17</sup> According to Advertiser Perceptions, Google has the highest "usage rate" among SSPs of 73%, followed by Amazon Publisher Services at 50%, AppNexus at 41%, OpenX at 29%, and Rubicon Project at 25%. According to Datanyze, Google AdX has a 52% market share within the AdExchange category, followed by AppNexus at 14% and Rubicon Project at 8%.

## II. Indicators of Anticompetitive Behavior and Market Power

A few facial characteristics of the ad tech ecosystem indicate, though by no means confirm, that anticompetitive behavior may be occurring below the surface. These include 1) Google’s recent string of acquisitions, 2) inflated take rates, and 3) lack of fee transparency. These surface-level characteristics suggest that a deeper analysis of competitive dynamics in ad tech is worthwhile.

### A. Google’s String of Acquisitions

Over the past two decades, Google has engaged in a pattern of vertical acquisitions across the ad tech stack (Exhibit 2). These acquisitions paved the way for Google to become a top three player across the ad tech supply chain. Though these acquisitions were not blocked by antitrust authorities, the pattern may be indicative of (1) a strategy of buying up small firms or new entrants to stifle competition from potential rivals or (2) a strategy of buying up firms with valuable data assets that deepen Google’s data moat.

**Exhibit 2.** Google’s Recent Acquisitions across the Ad Tech Stack

Year	Acquisition
2003	<u>Sprinks</u>
2003	Applied Semantics
2005	<u>dMarc Broadcasting</u>
2007	<u>Adscape Media</u>
2008	DoubleClick
2009	<u>Teracent</u>
2010	<u>AdMob</u>
2010	Invite Media
2011	<u>AdMeld</u>
2012	Wildfire
2012	Incentive Targeting
2013	<u>Autofuss</u>
2014	<u>Adometry</u>
2014	<u>mDialog</u>
2015	Red Hot Labs (i.e., Toro)
2016	<u>Famebit</u>

**Source:** CMA Report (P200); CB Insights “The Google Acquisition Tracker” (<https://www.cbinsights.com/research-google-acquisitions>)

**Note:** Episodic and Cuban Council acquisitions excluded as they do not fall under our market definition of advertising technology and were incorporated into non-ad-based Google products.



## B. Inflated Take Rates (Prices)

In the ad tech market, service providers monetize by charging a fee as a percent of transacted dollars. This take rate is equivalent to price, and increases in take rate are likely passed on to consumers as discussed in Section IV. There is general consensus among marketers and publishers that the “ad tech tax” is high, particularly in comparison to non-programmatic ad markets (e.g., non-programmatic linear TV, non-programmatic digital advertising). Estimates suggest that 35–55% of programmatic ad spending goes to ad tech players, with the amount depending on whether costs associated with agency trading desks are taken into account. This means publishers only capture 40–60% of total ad expenditure (Exhibit 3). High take rates may indicate anticompetitive behavior is driving up prices. However, high take rates could alternatively indicate that the fragmented ad tech market is inefficient.

**Exhibit 3.** “Ad Tech Tax” Estimates Across Sources

A. ANA / ACA		B. Warc	
Tech Tax	37%	Tech Tax	40%
Demand Side	22%	Data targeting & verification	25%
Execution	12%	DSP	10%
Targeting Data	9%	Exchange	5%
Other	1%		
Sell Side	15%		
Exchange/SSP	15%		
Agency Trading Desk*	15%	Agency trading desk	15%
Agency	6%	Agency	5%
Publisher	43%	Publisher	40%

Source: 1) Association of National Advertisers (ANA), Association of Canadian Advertisers (ACA), "Allocation of Programmatic Ad Fees in N. America"  
 2) Warc, "Global Ad Trends March 2018" based on Magna Global figures, March 29, 2018

Note: ANA/ACA excluded agency traded desks in its calculation and has publicly attributed the discrepancies between the two sources as resulting from this difference. Thus, we added agency trading desk fees to the ANA/ACA estimates for the sake of comparison.

### C. Lack of Fee Transparency

Advertisers and publishers generally lack precise information about fees charged at each step of the programmatic supply chain. This is exacerbated by the fact that the process of real-time bidding and ad serving is both convoluted and unobservable in real time.<sup>18</sup> Lack of transparency on take rates and bid-ask spreads inhibits advertisers and publishers from acting rationally, comparing across intermediaries, and negotiating effectively.

Even in the studies cited in Exhibit 3, which estimate the ad tech tax, participants faced great hurdles in acquiring transaction-level pricing data.<sup>19</sup> These studies found that many contracts did not give advertisers the data rights to analyze and audit their costs and fees across the supply chain.<sup>20</sup>

Further, the lack of transparency may enable ad tech players to charge hidden fees (taking an additional cut of transacted dollars by manipulating prices) or engage in arbitrage (buying ad inventory at one price to sell on a different exchange at a higher price).<sup>21</sup> According to a 2018 AdLightning survey, 59% of respondents reported the difficulty of tracking down bad actors in the supply chain as the #1 barrier to controlling ad quality.<sup>22</sup>

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<sup>18</sup> CMA Interim Report, p.201.

<sup>19</sup> Association of National Advertisers (ANA), Association of Canadian Advertisers (ACA), Ebiquty and Ad/Fin (May 2017), *Programmatic: Seeing through the Financial Fog*, <https://www.ana.net/miccontent/show/id/ii-programmatic-financial-fog>.

<sup>20</sup> Id.

<sup>21</sup> CMA Report, p.202.

<sup>22</sup> Ad Lightning, "The Ad Ops: Top 5 List for 2018," (June 5 2018), <https://www.adlightning.com/ad-quality-report>.

### **III. Potential Anticompetitive Conduct by Google**

Google has repeatedly engaged in behaviors that, intentionally or not, have the effect of cooling competition. The behaviors that have most reduced competition are product tying, technical self-preferencing and reduced interoperability, and constructing a data moat through its dominance in other markets.

#### **A. Product Tying**

As previously discussed, Google offers products serving each part of the ad tech market. While its presence across the funnel is not on its own anticompetitive, over time Google has tied its ad tech products to one another—and other Google offerings—in a way that reduces its customers’ willingness or ability to switch to rival products and therefore substantially lessens competition. Such tying behavior includes:

##### **1. Inventory Restrictions**

Google leverages its role as a publisher (e.g., owned-and-operated (O&O) inventory on search, Gmail,<sup>23</sup> YouTube) to gain a competitive advantage in ad tech and disadvantage ad tech competitors.

Google has market power as a publisher in both the digital video advertising and search advertising markets. Digital video, as the fastest growing advertising channel, is becoming a crucial lower funnel component of ad campaigns. YouTube is the largest platform by ad revenue

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<sup>23</sup> Though Gmail is not considered a key component of advertiser marketing campaigns, it is called out here given its importance to Google as a source of consumer data.

for non-premium, digital video,<sup>24</sup> transacting \$4.3B in net advertising revenue per annum in the US alone.<sup>25</sup> YouTube’s net revenue represents approximately 40% of the US market for short-form digital video.<sup>26</sup> Search advertising is an even more crucial part of advertiser marketing campaigns, given its role in search engine optimization strategy. In 2019, Google represented 73% of US search advertising revenues.<sup>27</sup>

Google uses its role as a publisher to disadvantage ad tech competitors through inventory restrictions, requiring that advertisers wishing to purchase Google’s O&O inventory do so through Google’s ad tech tools.

For example, beginning in 2016, Google restricted YouTube inventory to Google’s own bidding tools (e.g., DoubleClick Bid Manager, AdWords).<sup>28</sup> Advertisers would no longer be able to purchase YouTube inventory through Google AdX using a third-party DSP.<sup>29</sup> Given YouTube’s market dominance in digital video advertising, this action was impactful. In his May 2019 testimony for the Senate Judiciary Committee, competitor and AppNexus founder Brian O’Kelley cites Google’s YouTube inventory restriction as contributing to slowing revenue growth and loss of core clients. He stated, “Even WPP, our largest customer and largest investor,

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<sup>24</sup> According to a 2019 Pew Research study, 73% of US adults report accessing YouTube, making it the most widely used online platform: Andrew Perrin and Monica Anderson, *Share of US Adults Using Social Media, Including Facebook, is Mostly Unchanged since 2018*, PEW Research (April 10, 2019), <https://www.pewresearch.org/fact-tank/2019/04/10/share-of-u-s-adults-using-social-media-including-facebook-is-mostly-unchanged-since-2018/>.

<sup>25</sup> J Clement, *Net Advertising Revenues of YouTube in the United States from 2018* (April 6, 2020), <https://www.statista.com/statistics/289660/youtube-us-net-advertising-revenues/>.

<sup>26</sup> Magna Global Advertising Forecast, April 2020 (AVOD + Video Ad Networks). Does not account for publisher revenue accrued through YT.

<sup>27</sup> See Emarketer, *supra* note 2.

<sup>28</sup> Lara O’Reilly, *The Advertising Community is Seriously Annoyed about a Move Google Just Made*, Business Insider (August 7, 2015), <https://www.businessinsider.com/google-shuts-down-third-party-access-to-youtube-ads-via-the-doubleclick-ad-exchange-2015-8>.

<sup>29</sup> Digiday, *Is Google using YouTube to tighten its grip on ad tech?*, (January 5, 2015) <https://digiday.com/media/google-youtube-ad-tech/>.

had no choice but to start using Google’s technology. AppNexus growth slowed, and we were forced to lay off 100 employees in 2016.”<sup>30</sup>

Additionally, Google implemented changes in 2018 to restrict third-party ad servers from even tracking viewing activity on YouTube,<sup>31</sup> making Google-owned Display & Video 360 the only viable service for analyzing YouTube advertising data.<sup>32</sup> These actions effectively tie YouTube to Google Ads and Display & Video 360, making it impossible for advertisers to use competitors’ products to serve or analyze ads on one of the world’s most important publishing platforms.

Similarly, advertisers are not able to use third-party DSPs to purchase Google Search inventory, which is sold primarily through Google AdWords.<sup>33</sup>

Because YouTube and Google Search are crucial components of many ad campaigns, Google is able to use its “must-have” inventory to tether advertisers to its DSP. As noted by the CMA report, because advertisers typically use a single DSP per ad campaign, an advertiser who wants any of its ads to appear on YouTube or Google Search is likely to use Google’s DSP for the entire ad campaign.<sup>34</sup>

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<sup>30</sup> Brian O’Kelley, May 2019 Testimony for the Senate Judiciary Committee.

<sup>31</sup> Google Ads Help, *Helping Advertisers Comply with GDPR*, <https://support.google.com/google-ads/answer/9028179?hl=en> (last visited May 10, 2020).

<sup>32</sup> Kelly Liyakasa, *YouTube to Suspend Third-Party Ad Serving in the EU*, AdExchanger (April 6, 2018), <https://www.adexchanger.com/ad-exchange-news/youtube-to-suspend-third-party-ad-serving-in-the-eu/> (last visited May 10, 2020).

<sup>33</sup> CMA Interim Report, p.207.

<sup>34</sup> CMA Interim Report, p.205.

## **2. Display & Video 360**

In 2018, Google merged its DSP functionality (DoubleClick Bid Manager) with its disparate campaign manager, studio, and audience tools, creating Display & Video 360 and automatically converting all DoubleClick accounts to Display & Video 360 accounts.<sup>35</sup> Although this allows customers who already used each of these services to access them through one portal, it also effectively ties all of these products together, increasing switching costs for advertisers and barriers to entry for competitors for a product that is already known to have high switching costs.

## **3. First Look**

First Look allows bidders through Google Ad Manager to access impressions that are otherwise reserved for publishers' direct campaigns. This feature gives bidders the chance to compete for “premium inventory”—ad space that a publisher would normally reserve for sponsorships or direct campaigns—so long as a floor price is met.<sup>36</sup> As with inventory restrictions for YouTube and Google Search, Google has tied access to First Look to Google Ad Manager, effectively shifting advertisers' purchases to its own exchange.

### **B. Technical Self-Preferencing and Limiting Competitor Interoperability**

Although Google maintains a significant presence throughout the open display tech stack, it wields overwhelming market power in the PAS market where it commands a share of up to 90%.<sup>37</sup> By all accounts, Google's PAS offering, Google Ad Manager, is indeed a superior

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<sup>35</sup> Display & Video 360 Help, *Introducing Display & Video 360*, <https://support.google.com/displayvideo/answer/9059464?hl=en> (last visited May 10, 2020).

<sup>36</sup> Google Ad Manager Help, *About First Look*, <https://support.google.com/admanager/answer/6300696?hl=en> (last visited May 10, 2020).

<sup>37</sup> CMA Interim Report, Appx. C, ¶ 159. In practice the share of publishers using Google Ad Manager may be even higher, as some fraction of the non-Google market share includes publishers that maintain a secondary PAS using Google Ad Manager to get access to Google's demand. See CMA Interim Report ¶ 5.182.

product,<sup>38</sup> but several additional factors also make it extremely difficult and costly for publishers to adopt a competing PAS.<sup>39</sup> Google’s dominance in this portion of the ad tech stack is particularly important because a PAS decides which advertisement will win the right to be displayed on a publisher’s webpage. Thus, if Google’s dominant PAS is designed to anticompetitively privilege Google’s intermediation offerings, this unfair advantage cannot be mitigated elsewhere in the tech stack.<sup>40</sup>

Evidence suggests that Google has indeed designed the codebase of Google Ad Manager to engage in self-preferencing with an eye toward foreclosing its rivals in the intermediation part of the ad tech stack. In recent years, three main design choices support this conclusion: (1) a since-discontinued “Last Look” feature, (2) “open bidding,” and (3) Google’s bid targeting data policy.

“Last Look” was a feature introduced to Google Ad Manager in 2014 that gave Google’s intermediation offerings a major advantage over its competitors. When a publisher needed to fill ad inventory, it would call Google Ad Manager to serve an ad. Google Ad Manager, rather than running a real-time auction among a variety of intermediation providers, would assign to each provider an estimated bid generated from historical data.<sup>41</sup> Google Ad Manager would then submit the highest estimated bid to AdX, and if AdX could bid one cent above that estimated

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<sup>38</sup> See CMA Interim Report ¶ 581.

<sup>39</sup> Switching PASs is difficult for several reasons. First, the market has seen several major exits in the years since Google acquired DoubleClick, leaving fewer full-featured competitors to which a publisher might switch. See, e.g., Sarah Sluis, *OpenX Lays Off 100 Employees and Pivots to Video*, AdExchanger, Dec. 18, 2018; Ronan Shields, *Verizon Media to Shutter Oath Ad Server*, AdWeek, Mar. 4, 2019; Marty Swant, *Facebook Is Winding Down Its Atlas Ad Serving Platform*, AdWeek, Nov. 18, 2016. Second, even positing strong competitors, switching PAS providers is a months-long process that carries significant implementation costs. See CMA Interim Report ¶ 5.183. Third, publishers are unable to take advantage of real-time bidding through AdX if they do not use Google Ad Manager. For the vast majority of publishers this barrier represents lost revenue. See Damien Geradin & Dimitrios Katsifis, *An EU Competition Law Analysis of Online Display Advertising in the Programmatic Age*, 15 EUROPEAN COMPETITION J. 55, 79 (2019).

<sup>40</sup> While this is a slight simplification, important caveats (e.g. header bidding) are addressed below.

<sup>41</sup> See Geradin & Katsifis, *supra* note 11, at 78.

bid, it would win the auction.<sup>42</sup> This effectively reduced the revenue publishers received, because Google’s intermediation tools only had to beat the *estimated* bids of other providers, even if those providers would have bid far higher given the chance. Last Look also tended to foreclose competition in the intermediation market because non-Google providers did not actually get a chance to bid on an impression offered through Google Ad Manager until Google’s AdX had already passed on the opportunity.<sup>43</sup> Google discontinued Last Look when it changed its auction structure in 2019.<sup>44</sup>

In the past year, Google has significantly revamped the structure of its open display auctions. In addition to removing Last Look, Google shifted to a first-price auction and instituted “Open Bidding.”<sup>45</sup> All of these changes were adopted in response to a technique known as “header bidding.” When Google implemented Last Look in 2014, publishers and competing intermediation providers developed header bidding as a workaround to force AdX to competitively bid against other exchanges on every impression.<sup>46</sup> Header bidding was largely successful at increasing publisher revenues and decreasing Google’s intermediation market share.<sup>47</sup> Consequently, Google began to take action aimed at undermining header bidding’s viability.<sup>48</sup> Collectively, these moves leverage Google’s dominance in the PAS market (as well as its dominance in search) to effectively shut intermediation competitors out of the market.

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<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> Sarah Sluis, *Google Switches to First-Price Auction*, AdExchanger, (Mar. 6, 2019), <https://www.adexchanger.com/online-advertising/google-switches-to-first-price-auction/>.

<sup>45</sup> Sarah Sluis, *Google’s First-Price Auction Switch Is Making header bidding Partners Win More*, AdExchanger, (Sep. 5, 2019), <https://www.adexchanger.com/ad-exchange-news/googles-first-price-auction-switch-is-making-header-bidding-partners-win-more/>.

<sup>46</sup> See Geradin & Katsifis, *supra* note 11, at 79.

<sup>47</sup> See *Understanding the Digital Advertising Ecosystem and the Impact of Data Privacy and Competition Policy: Hearing Before the S. Comm. On the Judiciary*, 116<sup>th</sup> Cong. 5 (2019) (statement of Brian O’Kelly, Founder and Former CEO, AppNexus, Inc.).

<sup>48</sup> *Id.*



The crux of Google’s response to header bidding is what it has termed “Open Bidding.” The primary downside to header bidding is that the more intermediation providers are invited to bid on an impression, the greater the chance the end user will experience an increase in latency in loading their webpage.<sup>49</sup> This occurs because the bidding happens client-side (as opposed to server-side), which means that the user’s computer is making calls to a variety of different servers and waiting for responses before finishing loading a given webpage.<sup>50</sup> One solution to this potential problem is to have the auction happen server-side, and Open Bidding is essentially Google’s implementation of that idea. Publishers using Google Ad Manager can now conduct a single simultaneous auction on their ad server that includes AdX as well as other intermediation providers that have agreed to participate in Open Bidding through Google.<sup>51</sup>

On its face this seems to be procompetitive, but Google’s seemingly open market comes with a catch: Google’s intermediation competitors pay a fee to Google for every impression they win through Open Bidding, making up 5–10% of the winning bid.<sup>52</sup> Because individual advertisers cannot participate directly in Open Bidding, they must either bid through Google’s advertiser tools or one of its intermediation competitors. However, because Google is presumably not charging itself a fee to bid in Ad Manager’s Open Bidding auctions, these auctions systematically make non-Google intermediation offerings less competitive in the intermediation market by raising their costs. In addition, because the code underlying Open Bidding is a black

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<sup>49</sup> See Geradin & Katsifis, *supra* note 11, at 81.

<sup>50</sup> *Id.*

<sup>51</sup> Vishal Kumar, *Introducing Open Bidding, A New Way to Monetize*, (Mar. 22, 2018), <https://www.blog.google/products/admob/introducing-open-bidding-new-way-to-wkuf/>

<sup>52</sup> CMA Interim Report, Appx. H ¶ 219.

box to participants, Google has the ability to favor its own intermediation offerings in harder-to-detect ways. It might, for example, have Google Ad Manager “pass unique information to AdX regarding the audience that will be exposed to the ad, allowing it to solicit higher bids from advertisers than connected exchanges with ‘less’ insight.”<sup>53</sup>

Of course, if Open Bidding were merely one avenue among many by which Google’s intermediation competitors could reach publishers using Google Ad Manager, we would simply expect publishers and intermediation competitors to continue relying on client-side header bidding, where neither party needs to pay additional rent to Google. However, in addition to introducing Open Bidding, Google has leveraged its market dominance in search in PAS to punish sites that continue to engage in client-side header bidding. One way that Google punishes the use of header bidding has been to make its own products *less* interoperable with each other. Google used to supply publishers using its PAS with data on the bids AdX received for given inventory, which allowed publishers to compare their returns from different exchanges and optimize yield as part of a header bidding strategy.<sup>54</sup> With the advent of Open Bidding, Google has altered the way it provides bid data, making it impossible for publishers to compare the relative performance of header bidding partners with Google’s Open Bidding system.<sup>55</sup> Because “no rational publisher can be expected to rely on a solution whose relative performance cannot be measured,” this shift will pressure publishers to simply rely on Open Bidding.<sup>56</sup>

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<sup>53</sup> Geradin & Katsifis, *supra* note 11, at 82.

<sup>54</sup> See Gavin Dunway, *Unified Auction Brings High Anxiety to GAM City*, AdMonsters, <https://www.admonsters.com/high-anxiety-gam-unified-auction/>.

<sup>55</sup> 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. Competition J. (forthcoming 2020) (manuscript at 22-23) (available at <https://www.tandfonline.com/doi/pdf/10.1080/17441056.2019.1706413>).

<sup>56</sup> *Id.* at 31-32.

Beyond limiting publisher access to data, Google’s primary tool in forcing Open Bidding adoption has been Accelerated Mobile Pages (AMP). AMP is a Google-led open-source project to create a web development framework aimed at speeding up load times for mobile webpages.<sup>57</sup> Although the project has been contentious for a variety of reasons, most relevant here is that the technical design of AMP renders websites built on the framework incompatible with client-side header bidding.<sup>58</sup> What’s more, Google has effectively mandated that websites adopt the AMP framework by dropping the PageRank of sites that are not in compliance, essentially rendering offending sites invisible in Google searches.<sup>59</sup> As a consequence, it has become far more difficult for publishers to utilize traditional header bidding of the sort that threatened Google’s market dominance. By coercing publishers and intermediation competitors to shift to Google Ad Manager’s Open Bidding system, Google allows Ad Manager to systematically self-preference its own intermediation offerings and render its rivals noncompetitive.

Google’s effective control of the AMP standard also allows it to directly preference its ad intermediation offerings. Because AMP pages are cached on Google-owned Content Delivery Networks, Google has total control over what data is available to publishers.<sup>60</sup> Although some analytics data is available to publishers, other (particularly behavioral) data is not available, even

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<sup>57</sup> Danny Crichton, *Answering its Critics, Google Loosens Reins on AMP Project*, TechCrunch, Sep. 18, 2018.

<sup>58</sup> Mike Chowla, *How to Improve AMP Monetization With a Wrapper*, PubMatic, Oct. 10, 2018, <https://pubmatic.com/blog/improve-amp-monetization/>.

<sup>59</sup> Danny Crichton; *supra* note 27.

<sup>60</sup> While the standard technically allows for content to be stored on non-Google CDNs, and indeed CDN providers Cloudflare and Bing support the standard, which CDN serves an AMP page to a user is determined by the relevant platform. Consequently, all AMP pages reached through Google search are cached on Google servers. Given Google’s near monopoly in search, the vast majority of AMP page views will be served by Google’s CDN. See Australian Competition and Consumer Commission, *Digital Platforms Inquiry – Final Report 237* (2019), <https://www.accc.gov.au/system/files/Digital%20platforms%20inquiry%20-%20final%20report.pdf>.

though Google is capable of collecting such information.<sup>61</sup> This information can be highly valuable for targeting, and thus optimally monetizing, advertising inventory, and although there is no public information confirming the practice, some competition regulators have suggested that Google collects more data than it shares with publishers.<sup>62</sup> If such a practice does occur, Google would be harming competition by leveraging its monopoly in search, through enforcing adoption of AMP, to ensure that competing intermediation providers and even content owners themselves do not have access to key targeting data that drives value for advertisers. Without Google's ability to enforce adoption of AMP, this data would be in the hands of publishers, who could share the data with a variety of intermediation providers to promote competition for their inventory.<sup>63</sup>

### **C. Leveraging Google's Data Flywheel to Disadvantage Competitors**

Google also has market power in the ad tech submarket for data analytics and management tools, and may use this market power to limit competition in other submarkets of the ad tech ecosystem.

Google has unmatched access to consumer data through both its O&O sites and advertising tools. A 2016 study by Princeton researchers found that, at the time, Google had a tracking presence on 75% of the top one million sites, as measured by web traffic; Facebook, its closest competitor, only had a tracking presence on 25% of sites.<sup>64</sup> Google builds on this third-party tracking data by

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<sup>61</sup> *Id.* at 243.

<sup>62</sup> *Id.*

<sup>63</sup> For a brief explanation of attribution and tracking issues with AMP, and why it makes little sense for Google to adopt such an approach unless it is attempting to avoid sharing relevant data, see News Corp Australia, *Submission to the Australian Competition and Consumer Commission* (March 2019) <https://www.accc.gov.au/system/files/News%20Corp%20Australia%20%28March%202019%29.pdf>.

<sup>64</sup> Steven Englehardt and Arvind Narayanan, Princeton University, Princeton Web Census, <https://webtransparency.cs.princeton.edu/webcensus/> (last visited May 10, 2020).

connecting it to YouTube viewership, geo-location through Google Maps and Android phones, Chrome browsing history, and other information it alone has access to. Google’s device graph, built on unique log-in data, can identify and track users across devices. As such, Google is uniquely positioned to track consumers across a significant portion of the internet, regardless of device used, and to create comprehensive consumer profiles.

Google’s ad tech contracts with publishers require publishers to gain consumer consent to enable Google to collect data on and track consumers through the publisher sites.<sup>65</sup> Further, Google may be able to leverage data from one advertising tool to improve the performance of its other advertising tools (e.g., using AdX auction data to improve its DSP bidding strategy). This data moat gives Google a serious advantage in delivering targeted advertising and measuring ad performance.

Google limits the use of this data to its own advertising tools, making it difficult for smaller intermediaries to compete and perpetuating Google’s market power.<sup>66</sup> Recent data restrictions include limiting advertiser access to DoubleClick user IDs, limiting advertiser access to contextual category information, and limiting data export from Google’s DFP.<sup>67</sup> Notably, Google’s comprehensive consumer profiles are made available solely through Display & Video 360’s “affinity audience targeting” feature and only inventory purchased through Google Ad

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<sup>65</sup> CMA Interim Report, p.224

<sup>66</sup> CMA Interim Report, p.205

<sup>67</sup> CMA Interim Report, p.213; James Hercher, *Industry Shrugs as Google Announces Plans to Restrict Contextual Data*, AdExchanger (November 14, 2019), <https://www.adexchanger.com/online-advertising/industry-shrugs-as-googles-announces-plans-to-restrict-contextual-data/> (last visited May 10, 2020).

Manager can be delivered to affinity-based lists of consumers.<sup>68</sup> Google may also limit data sharing with third-party analytics and measurement tools.

Google has used its market power across the entire internet ecosystem to build valuable and comprehensive consumer profiles, and has subsequently tied use of that data to its own ad tech products. This behavior is characteristic of an attempt to leverage market power in one market (data and analytics) to disadvantage competitors in a different but related market (e.g., PAS, advertiser tools, programmatic intermediaries).

We note that Google's recent policy changes pertaining to Google Chrome may further solidify Google's data moat, in spite of its ambitions to protect consumer privacy. In the midst of international demands for greater consumer privacy protections, Google announced in January 2019 that it would phase out the use of third-party cookies in Chrome over the next two years.<sup>69</sup> In the interim, Chrome has limited insecure use of third-party cookies, which enable advertisers to track users across websites, even without a direct relationship with the user. This decision follows even more dramatic third-party cookie restrictions by competing browsers, Apple's Safari and Mozilla Firefox.

These cookie restrictions may inadvertently further entrench Google's dominance in advertising technology. Though the policy will limit ad tech intermediaries' use of third-party data, Google will still have valuable first-party data from O&O sites. Further, it is unclear the extent to which

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<sup>68</sup> Google Ads Help, *About Audience Targeting*, <https://support.google.com/google-ads/answer/2497941?hl=en> (last visited May 10, 2020).

<sup>69</sup> Chromium Blog, *Building a more private web: A path towards making third party cookies obsolete* (January 14, 2020), [https://blog.chromium.org/2020/01/building-more-private-web-path-towards.html?mod=article\\_inline](https://blog.chromium.org/2020/01/building-more-private-web-path-towards.html?mod=article_inline).

Google would be able to (a) continue accessing first-party data through agreements with publishers, (b) continue to track users across sites using non-cookie mechanisms (e.g., browser history), and (c) integrate this data to improve its ad tech offerings.

Policies in the interest of protecting consumer privacy may disproportionately harm smaller ad tech intermediaries who rely on the sharing of consumer data to compete with Google's data flywheel. As such, it is important that privacy and competition concerns are addressed in tandem.

#### **IV. Consumer Harms**

In this market, the “ad tech tax” is a harm that trickles down to consumers not only directly, but also through both publishers and advertisers. Due to a lack of transparency in the system between when an advertiser submits an ad and when that ad is displayed on a publisher’s site, it is possible for intermediaries to capture value with neither the advertiser nor the publisher knowing. If the publisher’s intermediaries and the advertiser’s intermediaries were separated, this value capturing would be reduced and more apparent. However, because Google is vertically integrated and commonly functions as both a buyer for the advertiser and a seller for the publisher, it can capture more value without either party clearly knowing how much. In such a case, advertisers pay higher rates and publishers enjoy lower ad revenue. It is estimated that Google captures 54–61% of the payment by an advertiser.<sup>70</sup>

This behavior harms consumers through increased prices, decreased quality due to decreased choice, and decreased innovation.

##### **A. Increased Price**

Economic theory tells us that when firms maximize profit, they choose a price where marginal revenue equals marginal cost. Because an online ad is paid for by advertisers when a user clicks on the ad, it is a marginal cost to the firm selling that product. As marginal cost increases, a firm must necessarily increase its price to the consumer to cover that increased cost. If Google charges supracompetitive prices to advertisers, consumers of products that use online ads are

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<sup>70</sup> CMA Interim Report, p.57



harmed because those advertisers must pass these cost increases through to consumers by way of higher prices.

At the same time, Google can use its monopsonist position to pay publishers less for placing ads on their websites than those publishers would receive in a competitive market. Because publishers also optimally set prices where marginal revenue equals marginal cost, they must increase non-online ad revenue streams. One logical place this could come from would be increased subscription prices. Thus, consumers of media outlets would also be harmed through increased prices.

Another component to increased prices is less straightforward, but is based on the importance of personal data in this market. At present, consumers use platforms like Google for free, paying with their attention and their data. By interacting with the platform in various ways (including through search, maps, or YouTube), they provide data Google records and consolidates under a unique identifier. This informs Google's decisions on advertising to this user, and the more data the company has, the more valuable any given profile becomes to advertisers. In a competitive market, a user could choose not to forgo so much of their data—or at least not do so for free. In this case, consumers would pay negative prices, i.e. receive money or other forms of compensation for their attention and data. However, because no alternative exists, consumers must either forgo all benefits from interacting with Google or shoulder all costs associated with freely giving away their data.

## **B. Decreased Quality**

Continuing the logic from above, since advertisers under the current model pay supracompetitive prices for online advertising, some products are no longer profitable and will be discontinued.

This translates to reduced quality for consumers due to a reduction in product choice.

On the other end of the transaction, publishers are paid lower rates for their inventory. Some publishers, like newspapers, rely on ad revenue to provide their services to their customers. Like the loss of innovation on the advertiser's side, we see an analogous effect on the publisher's side: With the lower costs associated with selling space on a website, some business models are no longer viable. The sub-competitive pricing will push these firms out of the market, leaving consumers with a limited set of businesses as opposed to the full potential set they would enjoy in a competitive market.

## **C. Decreased Innovation**

Further, the lack of competitive alternatives in the market leads to reduced innovation through new entry. High barriers to entry may reduce the willingness of new developers and investors to enter the market with new, disruptive technology. Instead, they are more likely to develop software that works in conjunction with the existing technology. The lack of competitors in turn reduces the incentives of incumbents to innovate and improve upon their own technology. The harms are felt by consumers who miss out on superior products.

## V. Mitigating Factors

Much of Google's market power and anticompetitive behavior is tied to its dominance at every point in the ad tech chain, but there is a case to be made that the consolidation of these various intermediaries allows advertisers to realize significant efficiencies.

### A. Cookie Matching and Latency

One such efficiency is due to the need for cookie matching. When a consumer visits a page, they are assigned a cookie ID by each firm in the ad tech chain. To determine which ad to serve to what user, each firm in the chain must first compare cookie IDs across their various platforms to create a profile of a single user.

There are a few challenges with this cookie matching. First, cookie matching requires substantial communication and comparison between actors in the ad tech stack. Especially given the size of the market and the number of intermediaries, the process can be a heavy lift. Second, this method of cookie matching is prone to error, with only 60% of cookies matched correctly.<sup>71</sup> Third, because all these processes happen in real time, if firms have to also compare and identify cookie tags for individual users, ads—and therefore websites—experience latency, negatively impacting the user experience.<sup>72</sup> The process, aside from being an additional transaction for firms, also may pose data privacy and security concerns if many firms are communicating consumer data in real time each time a user navigates to a new webpage.<sup>73</sup> Consolidation of the ad tech stack allows Google to assign a cookie ID to a user and resolves many of these challenges. This is especially

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<sup>71</sup> Rashmita Behera, *What is Cookie Syncing? And What Challenges do Publishers Face?*, AdPushup (April 23, 2019), <https://www.adpushup.com/blog/cookie-syncing/>.

<sup>72</sup> *Id.*

<sup>73</sup> IAB, *The Programmatic Supply Chain: Deconstructing the Anatomy of a Programmatic CPM* 5-6, (2016).

difficult now that browsers such as Firefox and Google Chrome have moved away from allowing third-party cookies on their sites.<sup>74</sup>

It is important to understand that cookie matching is not a problem unique to Google, nor can it only be solved by a monopolist. So long as a single company controls various parts of the ad tech chain, it lacks an incentive to participate in standardizing cookie naming. But if any one firm's participation along the chain were limited, firms across the entire ad tech stack are more likely to create a naming convention that makes matching across firms accurate and efficient. Companies are already attempting to find ways to standardize identifiers linked to unique users, some even choosing to not rely on cookies,<sup>75</sup> but Google's lack of engagement reduces the likelihood of success. If, as Google suggests, cookie matching can only be done efficiently under a monopoly market structure, they should be regulated just like other government-sanctioned monopolies.

The problem of latency is a challenge for any ad tech actor. But it is especially problematic if latency causes DSPs to lose bids. Because auctions happen in real time, DSPs have a limited time to decide whether to pass or bid. If communication between the servers is slow, the bid can miss the time cutoff and be lost, even if it would have been the winning bid otherwise.

Consolidation solves this problem because Google can place DSPs and SSPs close together to decrease lag times and potential losses.

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<sup>74</sup> Seb Joseph, *With Third-Party Cookies on the Way Out, Shared IDs Face an Existential Crisis*, Digiday (January 30, 2020), <https://digiday.com/marketing/third-party-cookies-way-shared-ids-face-existential-crisis/>.

<sup>75</sup> Maciej Zawadziński and Michael Sweeney, *Identity in Ad Tech: Meet the Various ID Solutions*, Clearcode, <https://clearcode.cc/blog/adtech-id-solutions/> (last visited May 10, 2020).

## **B. Consolidation**

Vertically integrated firms may be better able to serve advertisers in the ad tech scheme. First, they are a convenient one-stop shop for advertisers who do not have the resources, or understanding of the complex ad tech space, to shop for different companies at each stage of the process. This is especially appealing to smaller advertisers.<sup>76</sup> Google provides a unique and valuable product for smaller businesses who appreciate the convenience of an integrated platform.

Second, Google has access to large swaths of consumer data that would be useful to advertisers interested in targeting their ads to certain demographics. This data allows users to receive personally relevant ads and helps advertisers reach sections of the market that would most value their products. This data collection is also imperative in measuring the effectiveness of a given marketing campaign: Without an understanding of various users, it is difficult to track how an impression influenced consumer behavior, but this information is vital for advertisers' marketing strategies.

## **C. Data Security**

Consolidation of user data in one firm may allow for greater security of that data, as it is not transmitted across numerous servers. It also facilitates compliance with consumer data privacy regulation, such as GDPR, because Google can verify consent from its users before using their data without needing to rely on intermediaries also receiving consent before proceeding.

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<sup>76</sup> Large advertisers seem to multi-house, preferring to use different companies at the various levels of the ad tech chain either for efficiency reasons or because they do not want to rely too heavily on one company for their entire online advertising. Thus, it appears there is already competition for Google to capture larger advertisers who are willing to use/are using competing services.

Consumer privacy arguments can fall under two umbrellas, either claiming data is more secure by virtue of being stored on one server that can be heavily protected, or claiming data remains private because Google does not need to constantly communicate with external servers. If monopoly is the only way to achieve secure data, then, as stated above, Google ought to be regulated as a government-sanctioned monopolist. However, if the efficiency claimed is the consumer privacy, then Google is not really protecting consumer privacy. After all, an ad is still being sold, meaning consumer data is still being shared and it is only a difference in magnitude: is the data being shared once when selling an ad, or is it being shared multiple times between various servers along the ad tech stack? The additional instances do not reduce privacy, since the data will still ultimately be sold. Further, as explained in the CMA Report, there are concerns that Google and other large players have used the GDPR as an excuse to restrict information sharing with smaller firms, even in instances permitted under European law, to consolidate their market power.

## VI. Legal Claims

Google's unilateral anticompetitive conduct may be actionable under § 2 of the Sherman Act, or § 3 of the Clayton Act. Although several prior cases are instructive, the DC Circuit's decision in *United States v. Microsoft Corporation* offers particularly compelling precedent for the illegality of using vertical market power, product bundling, and interoperability limitations to dominate technology markets with demand-side economies of scale.<sup>77</sup>

For a § 2 claim under the Sherman Act, the government must show that Google (1) has monopoly power in its market, and (2) has maintained or acquired it through anticompetitive conduct.<sup>78</sup> However, the government need not show that Google's anticompetitive behavior specifically and directly led to its market position.<sup>79</sup> If anticompetitive harm is proven, that harm must be greater than any procompetitive benefits the defendant can show. The Clayton Act's § 3 is more stringent than § 2 of the Sherman Act with respect to tying. Although there is no single formulation of its requirements, courts have required identification of tying and tied products, power in the tying product market, the ability to coerce purchaser acceptance of the tied product, anticompetitive effects in the tied market, and interstate commerce.<sup>80</sup> We will discuss several avenues by which Google's behavior falls under these statutes in turn.

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<sup>77</sup> 253 F.3d 34 (D.C. Cir. 2001).

<sup>78</sup> For a full and detailed discussion of § 2 legal standards and supporting case law, see *Fed. Trade Comm'n v. Qualcomm Inc.*, 411 F. Supp. 3d 658, 682–83 (N.D. Cal. 2019).

<sup>79</sup> See *Qualcomm* at 696–97; *United States v. Microsoft Corp.*, 253 F.3d 34, 79 (D.C. Cir. 2001).

<sup>80</sup> See *E & L Consulting, Ltd. v. Doman Indus. Ltd.*, 472 F.3d 23, 31 (2d Cir. 2006).

## A. Tying

Several behaviors described in this document may constitute tying under § 3 of the Clayton Act,<sup>81</sup> including Google’s decision to restrict access to O&O inventory, bundle distinct services as a single product, and strongarm publishers into adopting its AMP standard. In each instance, Google offers one product in a market where it has market power, but only on the condition that the buyer also use a different Google product<sup>82</sup>—this is the essence of anticompetitive tying.<sup>83</sup>

As a publisher, Google owns and operates some of the most desirable advertising supply on the internet.<sup>84</sup> If advertisers want to access this supply, they are forced to use Google’s advertiser tools (Google Ads or Display & Video 360), which prevents rivals from competing with Google’s offerings. Rather, competitors can at most hope to convince customers that it is worthwhile to use their services *in addition to* maintaining an account with Google. This means that rival providers of publisher tools must convince advertisers to “multihome” if they are ever going to challenge Google. This is similar to claims the FTC has detailed in the case it is currently bringing against SureScripts, a health information technology company whose market power in the e-prescribing market is unparalleled. As we will also see below, Google’s conduct further parallels SureScripts because Google systematically works to raise the cost of multihoming for its advertiser clients.<sup>85</sup>

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<sup>81</sup> 15 U.S.C. § 14.

<sup>82</sup> See *supra* Section III(A)-(B) for a discussion of Google’s tying of O&O inventory, bundling of its PAS with its ad exchange product, and coercive approach to AMP.

<sup>83</sup> See *N. Pac. Ry. Co. v. United States*, 356 U.S. 1, 5-6 (1958); see also *Ill. Tool Works Inc. v. Indep. Ink, Inc.*, 547 U.S. 28, 42 (2006) (noting that market power must be shown to prove anticompetitive conduct).

<sup>84</sup> See *supra* Section I(A) for a discussion of YouTube’s unique status among video advertising sites.

<sup>85</sup> See *Fed. Trade Comm’n v. Surescripts, LLC*, 424 F. Supp. 3d 92, 95 (D.D.C. 2020) for a discussion of this aspect of the FTC’s complaint.



Google’s O&O behavior is also reminiscent of Microsoft’s behavior in *United States v. Microsoft Corporation*.<sup>86</sup> There, Microsoft’s exclusive contracts constituted illegal monopoly maintenance by cutting off “the most valuable distribution channel for a browser besides OEM pre-installation.”<sup>87</sup> Google likewise forecloses key distribution channels by requiring advertisers to purchase O&O inventory using Google tools. This foreclosure is even easier for Google than it was for Microsoft, because Google already owns many of the most valuable distribution channels for digital advertising—in particular, YouTube and Google Search. While Microsoft had to convince other parties to sign its exclusive contracts, Google can achieve the same result unilaterally with exclusive dealing between its own product lines.

Tying is also a serious concern where Google has bundled two distinct products together and rebranded the integrated entity as a single product: first merging its PAS with its SSP to create Google Ad Manager, and then merging its Advertiser Ad Server with its DSP to create Display & Video 360. In the case of Google Ad Manager, Google’s PAS, which enjoyed as much as a 90% market share, was the tying product while Google’s SSP, with only a 40–60% share, was the tied product.<sup>88</sup> Similarly, with Display & Video 360, the Advertiser Ad Server was the tying product while the DSP was the tied product.

Finally, effectively mandating that sites adopt AMP (which is incompatible with header bidding, a market structure that allows for direct competition with Google Ads) by harming a site’s Google search rankings if it does not adopt is just as anticompetitive as Microsoft’s withholding

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<sup>86</sup> 253 F.3d 34 (D.C. Cir. 2001).

<sup>87</sup> Amanda Cohen, *Surveying the Microsoft Antitrust Universe*, 19 *Berkeley Tech. L.J.* 333, 342 (2004).

<sup>88</sup> Although market share is only a proxy for market power, *see Eastman Kodak Co. v. Image Tech. Servs.*, 504 U.S. 451, 464 (1992), high switching costs in the PAS market suggests that market share is likely indicative of market power, *see supra* note 30.

updates to its software from companies that didn't include Internet Explorer as the default internet browser. By doing this, Google is effectively conditioning use of its product in the online search market, where it holds significant market power, with use of its product in the digital advertising market.

### **B. Raising Rivals' Costs**

Google's operation of its "Open Bidding" program may be actionable under § 2 of the Sherman Act on a theory of raising rivals' costs. Google is particularly well-positioned to raise rivals' costs, since its vertically integrated structure and market dominance allow it to do so without impacting its own cost structure.<sup>89</sup> Because of Google's market dominance in search, many publishers are forced to adopt the Google-backed AMP standard. Because that standard is incompatible with traditional header bidding, publishers are strongly incentivized to turn to Google's Open Bidding product to conduct a real-time auction between different intermediation providers.<sup>90</sup> Intermediation providers who want to participate in Open Bidding, however, must pay an additional fee to Google for the privilege, whereas under header bidding they competed on equal footing with Google without paying any fee. As mentioned in Section III, because Google presumably does not charge its own demand-side bidding tools for access, Open Bidding effectively imposes a tax on all non-Google intermediate providers, limiting their ability to bid competitively on programmatic supply.

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<sup>89</sup> See David T. Scheffman & Richard S. Higgins, *Twenty Years of Raising Rivals' Costs: History, Assessment, and Future*, 12 Geo. Mason L. Rev. 371, 376 (2003).

<sup>90</sup> For further discussion of why this is the case, see *supra* Section III(b).

Google’s behavior is similar to Qualcomm’s anticompetitive licensing practices.<sup>91</sup> While Qualcomm used its monopoly power represented by essential patents to enforce a surcharge on cell phone manufacturers regardless of whether they used Qualcomm’s chipsets or a rival’s product, Google is leveraging its monopoly power in search and PAS to enforce a surcharge on rival intermediation providers.<sup>92</sup> Although Google is in theory providing its rivals with a service—access to open bidding—because that service used to be free in the form of header bidding, Google is in practice collecting a fee regardless of whether or not its “service” offers any actual benefit to rival intermediation providers.

### **C. Refusal to Deal**

Because of the multiple roles Google plays in the advertising market, its tying behavior with respect to advertising space on YouTube and Google Search also constitutes a refusal to deal with digital ad competitors on behalf of its content platforms. The Supreme Court has found that there are cases where “a refusal to cooperate with rivals can constitute anticompetitive conduct and violate § 2.”<sup>93</sup> One way that courts have analyzed whether a refusal to cooperate is anticompetitive or not is to look at past voluntary behavior from the company. If a company voluntarily cooperated with competitors in the past, this was presumably because it is profitable for them to do so. In the case of Google, YouTube previously filled its advertising space on the open market, presumably because it maximizes profit by having the ability to sell to the highest and best bidder available, regardless of the intermediary ad platforms they use. Google’s decision to unilaterally terminate this cooperation is indicative of “a willingness to forsake short-

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<sup>91</sup> See *FTC v. Qualcomm*, 411 F.Supp.3d 658, 792 (N.D.C.A. 2019).

<sup>92</sup> *Id.*

<sup>93</sup> *Verizon Commc'ns Inc. v. Law Offices of Curtis V. Trinko, LLP*, 540 U.S. 398, 411 (2004). *Accord. Fed. Trade Comm'n v. Qualcomm Inc.*, 411 F. Supp. 3d 658, 758 (N.D. Cal. 2019).

term profits to achieve an anticompetitive end.”<sup>94</sup> It thus supports the interpretation that in this case, Google’s refusal to deal constitutes anticompetitive conduct in violation of § 2.

It is possible that Google can justify its change in policy on business efficiency reasons. However, if Google’s intention was not to increase efficiency for YouTube but rather to harm ad tech competitors, its conduct presents a problem.<sup>95</sup>

In addition to looking at past voluntary conduct, two additional factors can help determine antitrust liability.<sup>96</sup> First, in the case where past, voluntary cooperation has ended, one can consider if willingness to deal is restored even where the other party is willing to pay retail price. In Google’s case, the original cooperation involved other parties paying retail price, so this prong is clearly met (other ad tech companies paid full market price for advertising space on YouTube). Finally, one can determine whether a product denied to a competitor is otherwise sold freely at retail. This aspect does not apply in Google’s case, as its advertising inventory is not a retail good but part of the business-to-business market.

Whether refusal to deal is anticompetitive can also be analyzed by considering the “effect on consumers, competitors, and competition.”<sup>97</sup> Where the effect is harmful, that is an indication that the actions were indeed anticompetitive; this tends to be the case when there are not sufficient alternative means of distribution, as here, where YouTube represents a disproportionate amount of the short-form video advertising market. As discussed above, Google’s behavior has had harmful effects on each of these parties and has diminished competition in the ad tech space more broadly.

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<sup>94</sup> *Trinko*, 540 U.S. at 409.

<sup>95</sup> See, e.g., *Lorain Journal Co. v. United States*, 342 U.S. 143, 148-49 (1951), involving a newspaper which refused to deal with advertisers who used a rival’s service.

<sup>96</sup> *MetroNet Services Corp. v. Qwest Corp.*, 383 F.3d 1124, 1131 (9th Cir. 2004). Accord. *Qualcomm* at 759. These factors were first considered in *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985).

<sup>97</sup> *Drinkwine v. Federated Publications, Inc.*, 780 F.2d 735, 739-40 (9th Cir. 1985).

## **VII. Conclusion**

As described in this report, Google has amassed the market power to reduce competition and harm both advertisers and publishers. Indeed, in many parts of the ad tech stack Google's products are, for all intents and purposes, the only option available. Google's ability to charge monopoly or near-monopoly prices to advertisers and publishers means that end consumers likely pay higher prices for products that use digital advertising and enjoy reduced choice and innovation from both publishers and retailers.

Although Google gained market power through innovations that improved its users' experience, it also has a long history of acquisitions that unfairly concentrated the market in its favor. It further consolidated its power by limiting competitor interoperability for both publisher and advertiser platforms and by leveraging its popularity in internet browsers, smartphone operating systems, email, and other services to collect data on consumers that create barriers to entry practically any competitor would find impossible to scale.

Economic principles tell us Google will continue to behave anticompetitively if given the opportunity, enhancing its profits at the expense of consumers. It is the role of regulators to protect consumers through remedies for Google's past anticompetitive conduct and by barring such conduct in the future.