UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION

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THE STATE OF ARKANSAS By Attorney General Leslie Rutledge	§ §	Civil Action No. 4:20cv957
THE STATE OF IDAHO By Attorney General Lawrence G. Wasden	§ §	**JURY TRIAL DEMANDED**
THE STATE OF INDIANA By Attorney General Curtis Hill	§ §	
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and	§	
STATE OF UTAH By Attorney General Sean D. Reyes	§ §	
Plaintiffs,	§	
vs.	§	
GOOGLE LLC,	§	
Defendant.	§	

COMPLAINT

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1. The States of Texas, Arkansas, Idaho, Indiana, Mississippi, Missouri, North Dakota, South Dakota, Utah, and the Commonwealth of Kentucky, by and through their Attorneys General (collectively, the "Plaintiff States"), bring this action against Google LLC ("Google") under federal and state antitrust laws and deceptive trade practices laws and allege as follows:

I. NATURE OF THE CASE

2. The halcyon days of Google's youth are a distant memory. Over twenty years ago, two college students founded a company that forever changed the way that people search the internet. Since then, Google has expanded its business far beyond search and dropped its famous "don't be evil" motto. Its business practices reflect that change. As internal Google documents reveal, Google sought to kill competition and has done so through an array of exclusionary tactics, including an unlawful agreement with Facebook, its largest potential competitive threat, to manipulate advertising auctions. The Supreme Court has warned that there are such things as antitrust evils. This litigation will establish that Google is guilty of such antitrust evils, and it seeks to ensure that Google won't be evil anymore.

3. Google is an advertising company that makes billions of dollars a year by using individuals' personal information to engage in targeted digital advertising. Google has extended its reach from search advertising to dominate the online advertising landscape for image-based web display ads. In its complexity, the market for display ads resembles the most complicated financial markets: publishers and advertisers trade display inventory through brokers and on electronic exchanges at lightning speed. As of 2020, Google is a company standing at the apex of power in media and advertising, generating over $161 billion annually with staggering profit margins, almost all of it from advertising.

4. Google's advertising apparatus extends to the new ad exchanges and brokers through which display ads trade. Indeed, nearly all of today's online publishers (be they large or small) depend on one company—Google—as their middleman to sell their online display ad space in "ad exchanges," i.e., the centralized electronic trading venues where display ads are bought and sold. Conversely, nearly every consumer goods company, e-commerce entity, and small business now depend on Google as their respective middleman for purchasing display ads from exchanges in order to market their goods and services to consumers. In addition to representing both the buyers and the sellers of online display advertising, Google also operates the largest exchange AdX. In this electronically traded market, Google is pitcher, batter, and umpire, all at the same time.

5. The scale of online display advertising markets in the United States is extraordinary. Google operates the largest electronic trading market in existence. Whereas financial exchanges such as the NYSE and NASDAQ match millions of trades to thousands of company symbols daily, Google's exchange processes about [redacted] online ad spaces each day. In Google's words, [redacted] At the same time, Google owns the largest buy-side and sell-side brokers. As one senior Google employee admitted, [redacted] Or more accurately, the analogy would be if [redacted] were a monopoly financial broker and owned the [redacted] which was a monopoly stock exchange.

6. Google, however, did not accrue its monopoly power through excellence in the marketplace or innovations in its services alone. Google's internal documents belie the public image of brainy Google engineers having fun at their sunny Mountain View campus while trying to make the world a better place. Rather, to cement its dominance across online display markets,

Google has repeatedly and brazenly violated antitrust and consumer protection laws. Its *modus operandi* is to monopolize and misrepresent. Google uses its powerful position on every side of the online display markets to unlawfully exclude competition. It also boldly claims that "we'll never sell your personal information to anyone," but its *entire* business model is targeted advertising—the purchase and sale of advertisements targeted to individual users based on their personal information. From its earliest days, Google's carefully curated public reputation of "don't be evil" has enabled it to act with wide latitude. That latitude is enhanced by the extreme opacity and complexity of digital advertising markets, which are at least as complex as the most sophisticated financial markets in the world.

7. The fundamental change for Google dates back to its 2008 acquisition of DoubleClick, the leading provider of the ad server tools that online publishers, including newspapers and other media companies, use to sell their graphical display advertising inventory on exchanges. As the new middleman between publishers and exchanges, Google quickly began to use its new position to exert leverage. For instance, Google started requiring publishers to license Google's ad server and to transact through Google's exchange in order to do business with the one million plus advertisers who used Google as their middleman for buying inventory. So Google was able to demand that it represent the buy-side, where it extracted one fee, as well as the sell-side, where it extracted a second fee, and it was also able to force transactions to clear in its exchange, where it extracted a third, even larger, fee.

8. Within a few short years of executing this unlawful tactic, Google successfully monopolized the publisher ad server market and grew its ad exchange to number one, despite having entered those two markets much later than the competition. With a newfound hold on publisher ad servers, Google then proceeded to further foreclose publishers' ability to trade in

exchanges. Google imposed a one-exchange-rule on publishers, barring them from routing inventory to more than one exchange at a time. At the same time, Google demanded that sellers route their ad space to Google's exchange because doing so would serve the sellers' best interest and maximize revenue. As internal documents reveal, however, Google's real scheme was to permit its exchange to [redacted]. One industry publication put it succinctly: "[t]he lack of competition was costing pub[s] cold hard cash."

9. In an attempt to reinject competition in the marketplace, publishers devised a new innovation called header bidding. Header bidding routed ad inventory to multiple neutral exchanges each time a user visited a web page in order to return the highest bid for the inventory. At first, header bidding bypassed Google's stranglehold. By 2016, about 70 percent of major online publishers in the United States had adopted the innovation. Advertisers also migrated to header bidding in droves because it helped them to optimize the purchase of inventory through the most cost-effective exchanges.

10. Google quickly realized that this innovation substantially threatened its exchange's ability to demand a very large—[redacted] percent—cut on all advertising transactions. Header bidding also undermined Google's ability to trade on inside and non-public information from one side of the market to advantage itself on the other—a practice that in other markets would be considered insider trading or front running. As a result, and as Google's internal communications make clear, Google viewed header bidding's promotion of genuine competition as a major threat. In Google's words, it was an [redacted]

11. Google responded to this threat of competition through a series of anticompetitive tactics. First, Google ceded ground and started to allow publishers using its ad server to route their

inventory to more than one exchange at a time. However, Google's program secretly let its own exchange win, even when another exchange submitted a higher bid. Google's codename for this program was [redacted]—a character name from Star Wars. And as one Google employee explained internally, Google deliberately designed the program to avoid competition and the program consequently hurt publishers. In Google's words, the [redacted] program [redacted] Next, Google tried to come up with other creative ways to shut out competition from exchanges in header bidding. During one internal debate, a Google employee proposed a [redacted]. A second employee captured Google's ultimate aim of destroying header bidding altogether, noting in response that [redacted] Google wanted to be more aggressive.

12. Google grew increasingly brazen in its efforts to undermine competition. In March 2017, Google's largest Big Tech rival, Facebook, announced that it would throw its weight behind header bidding. Like Google, Facebook brought millions of advertisers on board to reach the users on its social network. In light of Facebook's deep knowledge of its users, Facebook could use header bidding to operate an electronic marketplace for online ads in competition with Google. Facebook's marketplace for online ads is known as "Facebook Audience Network" or FAN. Google understood the severity of the threat to its position if Facebook were to enter the market and support header bidding. To diffuse this threat, Google made overtures to Facebook. Internal Facebook communications reveal that [redacted]. As one Facebook executive acknowledged, [redacted]

13. Any collaboration between two competitors of such magnitude should have set off the loudest alarm bells in terms of antitrust compliance. Apparently, it did not. Internally, Google documented that if it could not [redacted] Indeed, Facebook understood Google's rationale as a monopolist very well. An internal Facebook communication at the highest-level reveals that Facebook's header bidding announcement was part of a planned long-term strategy—an "[redacted]"—to draw Google in. Facebook decided to dangle the threat of competition in Google's face and then cut a deal to manipulate the auction.

14. In the end, Facebook curtailed its involvement with header bidding in return for Google giving Facebook information, speed, and other advantages in the [redacted] auctions that Google runs for publishers' mobile app advertising inventory each month in the United States. In these auctions, Facebook and Google compete head-to-head as bidders. Google's internal codename for this agreement, signed at the highest-level, was [redacted]—a twist on the character name from Star Wars. The parties agree on [redacted] for how often Facebook would [redacted] publishers' auctions—literally manipulating the auction with [redacted] for how often Facebook would bid and win.

15. Above and beyond its unlawful agreement with Facebook, Google employed a number of other anticompetitive tactics to shut down competition from header bidding. Google deceived exchanges into bidding through Google instead of header bidding, telling them it would stop front running their orders when in fact it would not. Google employees also deceived publishers, telling one major online publisher that it should cut off a rival exchange in header bidding because of a strain on its servers. After this misrepresentation was uncovered, Google employees discussed playing a trick—a [redacted]—on the industry to nonetheless get

publishers to cut off exchanges in header bidding. Google wanted to [redacted] Google then proceeded to cripple publishers' ability to use header bidding in a variety of ways.

16. Having reached its monopoly position, Google now uses its immense market power to extract a very high tax of [redacted] percent of the ad dollars otherwise flowing to the countless online publishers and content producers like online newspapers, cooking websites, and blogs who survive by selling advertisements on their websites and apps. These costs invariably are passed onto the advertisers themselves and then to American consumers. The monopoly tax Google imposes on American businesses—advertisers like clothing brands, restaurants, and realtors—is a tax that is ultimately borne by American consumers through higher prices and lower quality on the goods, services, and information those businesses provide. Every American suffers when Google imposes its monopoly pricing on the sale of targeted advertising.

17. From its earliest days, the internet's fundamental tenet has been its decentralization: there is no controlling node, no single point of failure, and no central authority granting permission to offer or access online content. Online advertising is uniquely positioned to provide content to users at a massive scale. However, the open internet is now threatened by a single company. Google has become the controlling node and the central authority for online advertising, which serves as the primary currency enabling a free and open internet.

18. Google's current dominance is merely a preview of its future plans. Google has an appetite for total dominance, and its latest ambition is to transform the free and open architecture of the internet. Google's plan is to create a walled garden around the internet in which it controls websites and mobile applications. Google calls its emerging venture the [redacted], a world in which publisher content is operated by Google. Internally, it refers to this model as [redacted]

[redacted]. Google's documented plan is to capture online publishers on the open internet and transform them into content creators generating revenue for Google on a completely closed platform—like YouTube content creators.

19. As a result of Google's anticompetitive conduct, including its unlawful agreement with Facebook, Google has violated and continues to violate Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1, 2. Plaintiff States bring this action to remove the veil of Google's secret practices and end Google's abuse of its monopoly power in online advertising markets. Plaintiff States seek to restore free and fair competition to these markets and to secure structural, behavioral, and monetary relief to prevent Google from ever again engaging in deceptive trade practices and abusing its monopoly power to foreclose competition and harm consumers.

II. PARTIES

20. Plaintiff States, by and through their respective Attorneys General, bring this action in their respective sovereign capacities and as *parens patriae* on behalf of the citizens, general welfare, and economy of their respective States under their statutory, equitable, or common law powers, and pursuant to Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15 & 26.

21. Google is a limited liability company organized and existing under the laws of the State of Delaware, with its principal place of business in Mountain View, California. Google is an online advertising technology company providing internet-related products, including various online advertising technologies, directly and through subsidiaries and business units it owns and controls. Google is owned by Alphabet Inc., a publicly traded company incorporated and existing under the laws of the State of Delaware and headquartered in Mountain View, California.

III. JURISDICTION

22. The Court has jurisdiction over this action under Sections 1 and 2 of the Sherman Act, 15 U.S.C. §§ 1 & 2; Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15c & 26; and under 28 U.S.C. §§ 1331 and 1337.

23. In addition to pleading violations of federal antitrust law, the Plaintiff States allege violations of state antitrust and consumer protection laws and seek civil penalties and equitable relief under those state laws. All claims under federal and state law are based upon a common nucleus of operative facts, and the entire action commenced by this Complaint constitutes a single case that would ordinarily be tried in one judicial proceeding.

24. This Court has jurisdiction over the non-federal claims under 28 U.S.C. § 1367(a), as well as under principles of pendent jurisdiction. Pendent jurisdiction will avoid unnecessary duplication and multiplicity of actions and should be exercised in the interests of judicial economy, convenience, and fairness.

25. This Court may exercise personal jurisdiction over Google because Google conducts business in this District. Google has established sufficient contacts in this District such that personal jurisdiction is appropriate. Google sells the products at issue throughout the United States and across state lines. Google is engaged in, and its activities substantially affect, interstate trade and commerce. Google provides a range of products and services that are marketed, distributed, and offered to consumers throughout the United States, in the Plaintiff States, across state lines, and internationally.

IV. VENUE

26. Venue is proper in this District under Section 12 of the Clayton Act, 15 U.S.C. § 22, and 28 U.S.C. § 1391. A substantial part of the events or omissions giving rise to the Plaintiff States' claims occurred in this District. Google transacts business and is found within this District.

V. INDUSTRY BACKGROUND

27. The internet revolutionized the way people consume content, and along with it, the types of advertisements that companies can purchase to reach consumers. Online image-based ads on the web called "display" ads, audio ads, and video ads in the online world have largely supplanted their traditional print, radio, and television counterparts. In addition, the internet ushered in completely new advertising formats, including targeted text-based ads on search engines, shareable ads on social media, and specialized ads inside mobile phone applications.

28. For online publishers and advertisers alike, the different online advertising formats are not interchangeable. Online media companies that operate websites and mobile applications ("online publishers") are necessarily restricted in the types of ad formats they can sell. A news website, for example, can generally sell display ads alongside its news articles but cannot generally sell search or audio ads to monetize the same content. At the same time, advertisers on the other end of the transaction purchase one format or another to serve their different goals. For instance, advertisers purchase search ads to reach consumers actively looking to make a purchase, whereas they purchase display ads to increase brand awareness.

29. In addition to introducing new advertising formats, the internet changed how online publishers sell their advertising inventory. Online publishers sell their inventory to advertisers either directly or indirectly through ad marketplaces. The "direct" sales method refers to campaigns that the publisher itself sells directly to advertisers, including those campaigns sold by the publisher's internal sales staff and through the publisher's private auctions. For example, *USA Today*, as an online publisher, could negotiate directly with Disney, as an advertiser, to display Disney ads atop the *USA Today* homepage one million times in a particular month.

30. Publishers also use a specialized distribution channel to sell their ad inventory *indirectly* to advertisers. Large publishers usually sell some inventory directly, then sell their

remaining inventory indirectly. A publisher cannot always predict how many ad spaces it has available to sell directly to advertisers because it is dependent on the number of users who visit the publisher's website; selling inventory indirectly permits publishers to nonetheless sell their surplus impressions. Additionally, some publishers sell the entirety of their inventory indirectly. "Indirect" sales occur through centralized electronic trading venues called "ad exchanges" and through "networks" of publishers and advertisers. In lieu of direct sales, publishers can let ad exchanges auction their inventory in real time on their behalf and keep a portion of advertising proceeds in return.

31. Whether online publishers sell their display inventory directly or indirectly, the advertisements can target specific users in real time. When a user views a website or mobile app, advertisers purchase the individual spaces for ads ("impressions") targeted to *that* user. Google likes to claim that it will "never sell your personal information to anyone," but the online ad impressions Google sells to advertisers target individual users based on their personal information.

32. Finally, because publishers can target ads to specific users in real time, online publishers manage highly varied, or "heterogeneous," inventory. One might think that a website with three pages and three different ad slots per page would have a total of nine unique ad units to sell. But because online ads are targeted at individual users, the same site with 1,000,000 readers actually has 9,000,000 different ad units to sell: each of the website's impressions targeted to each unique reader. Consequently, an online publisher's inventory is akin to the inventory of seats at a baseball stadium: no two pieces of inventory are the exact same and each is valued by its particulars. In online advertising, this includes the particulars of each person viewing each ad.

A. Online Display Advertising Markets

33. Online publishers and advertisers depend on several different and distinct products to sell their display inventory. These products include (1) the ad server, which acts as the publisher's

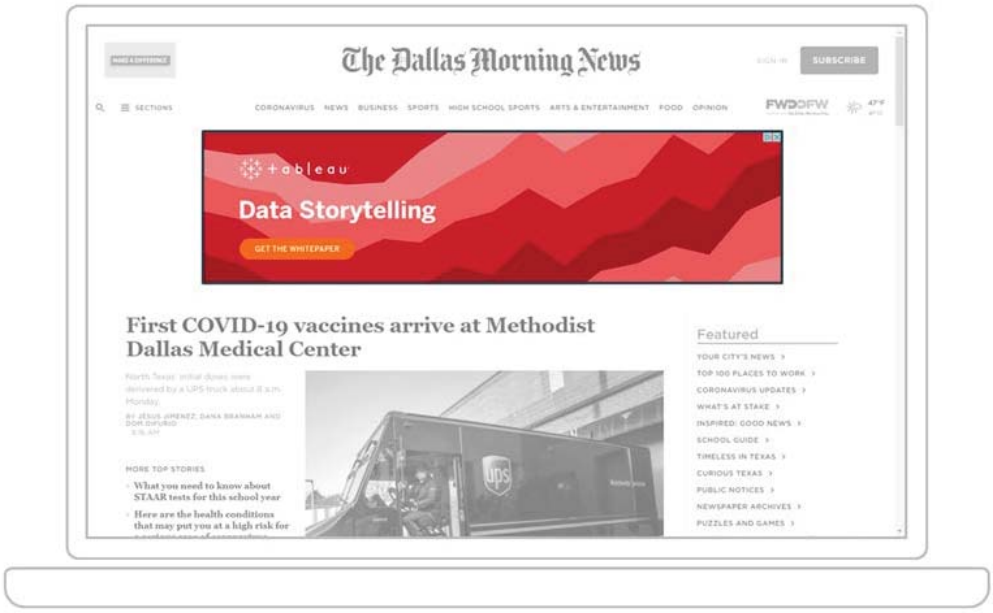
inventory management system and helps the publisher sell its inventory, (2) the marketplaces that match buyers and sellers of display ads (exchanges and networks, separately), and (3) the ad buying tools that advertisers must use as their middleman to buy display inventory from exchanges. These products conduct the complex tasks associated with pricing, clearing, executing, and settling billions of display impressions every month in the United States. Google possesses monopoly power in each of these distinct markets. Imagine if the financial markets are controlled by one monopoly company, say Goldman Sachs, and that company then owns the NYSE, which is the largest financial exchange, that then trades on that exchange to advantage itself, eliminate competition, and charge a monopoly tax on billions of daily transactions. That is the world of online display advertising today.

1. Publishers' Inventory Management Systems (Ad Servers)

34. Large publishers such as *CBS*, *Time*, *ESPN*, *Weather.com*, and NPR depend on a sophisticated inventory management system called an ad server to holistically manage their online display inventory. Ad servers keep track of publishers' heterogeneous ad inventory and help publishers sell that inventory both directly and indirectly through exchanges, with the stated goal of maximizing publishers' advertising revenue. Publishers typically use a single ad server to manage all of their display inventory; using multiple ad servers would substantially frustrate a

publisher's ability to effectively optimize management of their inventory and maximize revenue.

FIGURE 1: Display ad space on an online publisher's website



35. When using an ad server, online publishers necessarily relinquish some control over inventory management and revenue maximization. While a publisher can adjust some of the ways that its ad server manages and sells inventory, an ad server's features and limitations ultimately limit the publisher's control. Publishers also rely on the specialization of their ad server to help them navigate the complexities of electronic trading: ad server account analysts individually advise online publishers on how to adjust the ad server's parameters to increase revenue. Put simply, ad servers advance publishers' interests.

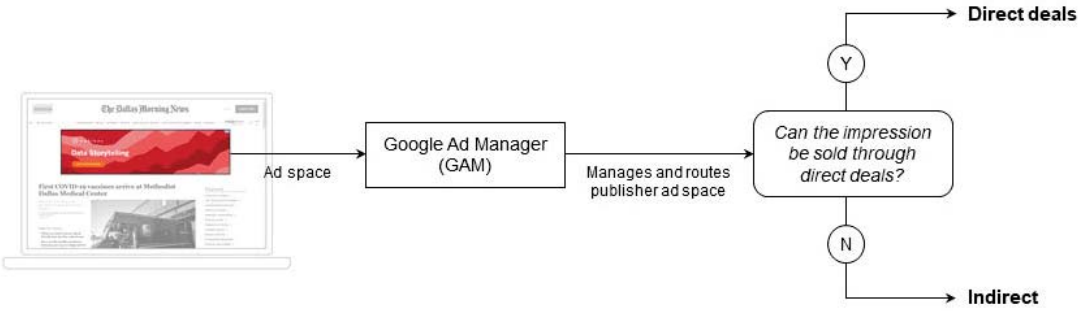
36. To holistically manage a publisher's online display inventory, the ad server performs three internal critical tasks related to selling ad space. First, the ad server identifies the users visiting the publisher's webpage in order to manage the publisher's inventory and maximize its yield. When a user visits a webpage, the ad server—on behalf of and with the permission of the

publisher—identifies the user through identification technology facilitated by the user's web browser (e.g., Chrome or Safari) and/or mobile device (e.g., Android or iOS). To keep track of individual users, the ad server assigns each user a unique user ID (e.g., 5g77yuu3bjNH). By essentially "tagging" users with a unique user ID, an ad server helps publishers, exchanges, and advertisers know the identity and characteristics of each particular user associated with a publisher's ad space. For example, an advertiser can correlate a user's pseudonymous ID (e.g., 5g77yuu3bjNH) with the user's identity (e.g., John Connor) and use that identity "link" to look up additional information about the user (e.g., John Connor lives in Los Angeles, drives Harley-Davidson motorcycles, and wears Oakley sunglasses). This, in turn, allows the advertiser to know the ad space targeted to that user is high value. User IDs are also used to cap the number of times a user is shown a particular ad to avoid oversaturating the user, so-called "frequency capping." Additionally, user IDs facilitate evaluation of ad campaigns' effectiveness because they allow publishers and advertisers to track whether a user took a subsequent action (e.g., clicking on an ad, signing up for a service, or purchasing a product). This "attribution" is critical for some ad campaign billing models, including cost-per-conversion models whereby advertisers are charged only when users take a specified action.

37. The second critical task ad servers perform is managing how publishers sell ad space *indirectly* through advertising marketplaces such as ad exchanges. Publisher ad servers connect with marketplaces to let publishers automatically route their inventory into multiple different marketplaces as the users load publishers' webpages. *The Dallas Morning News* currently routes their online advertising inventory to more than seven exchanges. As the middleman between a publisher and exchanges, the ad server controls how different exchanges, and even networks, can access and compete for a publisher's inventory.

38. The third critical task performed by ad servers is routing inventory correctly between a publisher's direct and indirect sales channels. As Google's internal documents show, only a tiny percentage of publishers' ad impressions are considered [redacted]. Indeed, publishers generally make almost all their revenue—[redacted] percent—from just a small percent—[redacted] percent—of their impressions. When a publisher like ESPN sells their most valuable inventory directly to an advertiser like Fanatics.com for premium prices, they rely on their ad server to allocate the impressions targeted to high-value users—e.g., sports fanatics who have a propensity for buying merchandise for their favorite sports team—to those direct deals. The ad server should then route the impressions that ESPN does not sell directly to advertisers onward to exchanges.

FIGURE 2: How the website's ad server manages and routes ad space



39. Because the ad server sits between a publisher and the publisher's indirect sales channel, ad server can obstruct competition between the multiple exchanges competing for publishers' impressions in multiple ways. For example, the ad server might interfere with a publisher's ability to share full information about its impressions with exchanges (e.g., the user IDs associated with each publisher impression). Alternatively, an ad server might block publishers from knowing how their inventory is performing in particular exchanges. Without this information,

a publisher cannot reward a better-performing exchange with more of its business. Transparency fuels competition between marketplaces to maximize value for publishers, and ultimately, for the consumer.

40. Despite the relative complexity of ad servers, prior to Google's entrance into the publisher ad server market, ad servers were "a commodity good." They charged publishers a low cost-per-impression rate or a monthly subscription price for the total number of ad impressions managed and served. However, Google's conduct has substantially changed the structure of this market.

41. Google completely controls the publisher ad server market for display inventory through its product called Google Ad Manager (GAM). Google originally acquired its publisher ad server in 2008 from DoubleClick. Today, GAM controls over 90 percent of this product market in the United States. Essentially every major website (e.g., *USA Today, ESPN, CBS, Time, Walmart, and Weather.com*) use GAM. As a result, GAM, as the middleman between publishers and exchanges, has the power to foreclose competition in the exchange market.

2. Electronic Marketplaces for Display Advertising: Exchanges and Networks

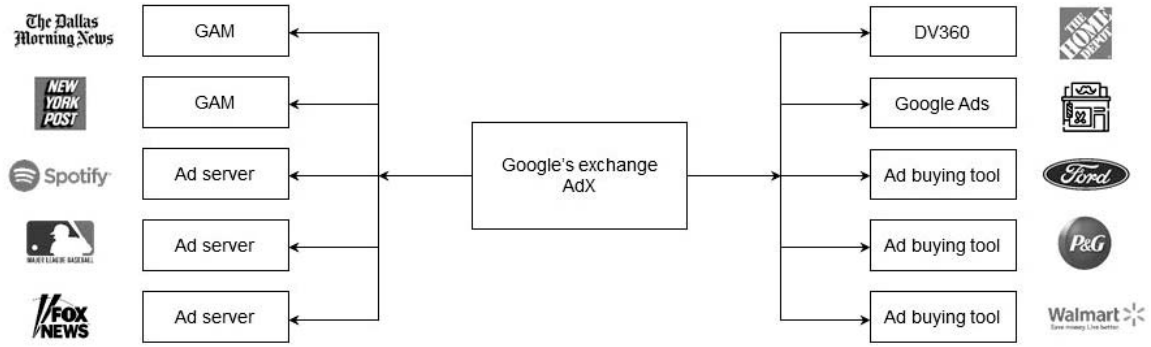
42. The vast majority of online publishers in the United States today sell at least some of their inventory to advertisers indirectly through advertising marketplaces: exchanges and networks. Large publishers like *CNN* and *The Wall Street Journal* mostly use ad exchanges, whereas smaller publishers like local newspapers and individual blogs mostly use ad networks.

i. Display Ad Exchanges

43. Ad exchanges for display ads are real time auction marketplaces that match multiple buyers and multiple sellers on an impression-by-impression basis. A publisher's ad server can route the publisher's inventory to such exchanges in real time as users load webpages. These exchanges then connect with advertisers through their respective middleman, the advertising

buying tools. In other words, the entities that have a "seat" to bid on exchanges are not the actual advertisers, like Ford or a local car dealership, but their respective agents. In addition, exchanges do not bear inventory risk. That is, they only connect publishers' inventory with an immediate willing buyer.

FIGURE 3: How an exchange transacts with online publishers and advertisers through ad servers and buying tools



44. Ad exchanges are mostly intended for very large online publishers. To sell in ad exchanges, online publishers must meet minimum impression or spend requirements. For example, Google's AdX exchange is only open to publishers that have 5 million page views or 10 million impressions per month. Such requirements put exchanges out of reach for many small online publishers, like many local newspapers or blogs.

45. Google owns and operates the largest display advertising exchange in the United States, historically called the Google Ad Exchange or "AdX," for short. Google compares its ad exchange to financial exchanges like the NYSE and Nasdaq. However, AdX is not an open exchange like the NYSE.

46. Ad exchanges charge publishers a share of transaction value, which is currently 5 to 20 percent (or more) of the inventory's clearing price. Google's exchange charges publishers [redacted] percent of exchange clearing prices—double to quadruple the prices of its nearest exchange

competitors. For example, if Google's exchange sells $100,000 worth of a publisher's inventory, Google extracts at least $[redacted]. By contrast, [redacted], which results in substantially lower fees on the same $100,000 of inventory. [redacted]. Such dramatically different exchange prices reflects Google's market power.

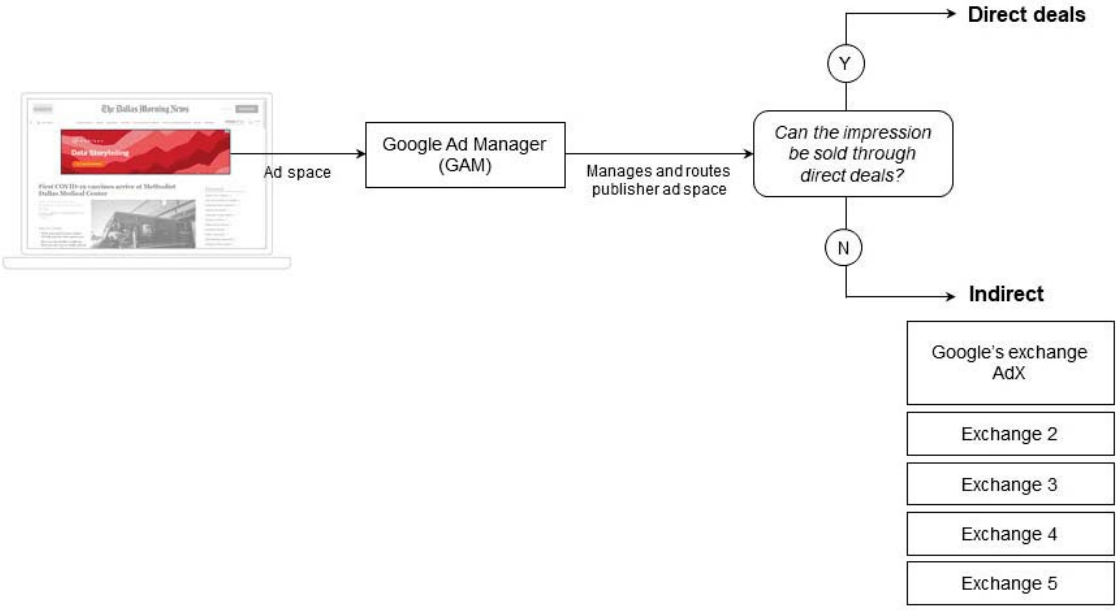
47. Google's exchange fees are also exponentially higher than a similar exchange fee on a stock exchange where, by contrast, fees are low and set by volume instead of transaction value. Imagine if the NYSE charged an individual a fee equivalent to a double-digit percentage of the value of the overall stock trade—e.g., $[redacted] as a transaction fee on a $100,000 stock trade. That is how much Google charges on transactions between an online publisher like *ESPN* and an advertiser like Fanatics.

48. Internally, Google concedes that [redacted]. As one Google employee frankly conceded, [redacted] like Google's AdX, but should instead be [redacted] As this litigation will make clear, Google can charge these fees because Google uses its monopoly over publishers' ad servers to unlawfully foreclose competition in the exchange market.

49. By controlling publishers' inventory through its ad server and simultaneously operating the largest advertising exchange, Google has inherent conflicts of interest between publishers' best interests and its own. Google charges a low cost for acting as publishers' sell-side intermediary but then makes substantially higher fees when selling those publishers' inventory in its exchange.

Google has a strong incentive to steer publishers' inventory towards its exchange where it can extract a transaction fee [redacted] the rate of its nearest exchange competitors.

FIGURE 4: How the ad server routes to many exchanges



ii. Ad Networks for Display and Ad Networks for Mobile In-App Inventory

50. Whereas large online publishers like *CBS* and *CNN* mostly sell their inventory through ad exchanges, small online publishers like local online newspapers and blogs mostly sell their web display inventory in marketplaces called "ad networks." Like ad exchanges, ad networks match publishers' inventory with advertisements from advertisers. However, unlike exchanges, networks do not require publishers to meet high monthly minimum impression and spend requirements. Networks also obscure prices within auctions, enabling them to capture undisclosed margins—buyers and sellers cannot know whether the network takes, for instance, 20 or 50 percent of matched trades. In addition, networks can carry inventory risk. That is, they can purchase impressions on their own behalf as opposed to on the direct behalf of a specific advertiser or

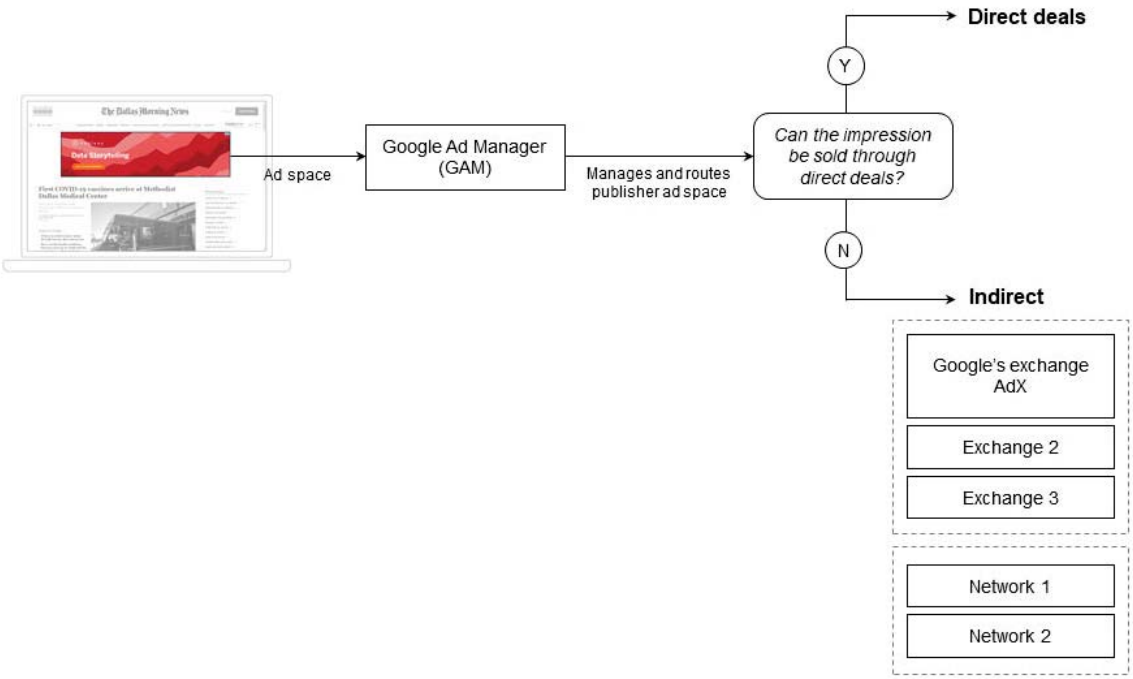
advertiser middleman on the buy-side. As a result, ad networks cater almost exclusively to the needs of small online publishers such as low-traffic websites, local newspaper websites, and the websites and apps of independent content creators.

51. In the network market, there are networks for publishers that sell display inventory, and separately, networks for mobile applications that sell in-app inventory. Google operates the leading display network, as well as the leading mobile app network. Google's display advertising network, which is known as the Google Display Network ("GDN"), is described by Google as [redacted] GDN operates as a closed marketplace accessible only by advertisers who use one of Google's products to buy publisher ad inventory. Here, Google charges small publishers and small advertisers an even higher fee than does Google's exchange. It charges from about [redacted] percent of each transaction between its small publishers and advertisers. Google also owns AdMob, the largest ad network that sells mobile app inventory on behalf of mobile app developers like [redacted] Google's closest competitor in the mobile app network market is Facebook's Audience Network, FAN, though Google internal documents suggest that [redacted]. Advertisers can use Facebook's website to purchase Facebook and Instagram ads, as well as mobile app inventory from third-party apps like Shazam or Huffington Post that sell their inventory in Facebook's mobile app network, FAN. In the market for mobile app networks competing to sell third-party app publishers' impressions to advertisers, Google and Facebook compete head-to-head.

52. In sum, essentially every major website, and almost every mobile app, sells their inventory in Google's exchange for display ads and its ad networks for display and mobile in-app ads. As a result, competition on the buy-side among the middlemen that serve advertisers depends

on access to Google's exchange and networks. Google is *the* bottleneck between publishers and advertisers.

FIGURE 5: How Google's ad server controls routing functions to competing exchanges and networks



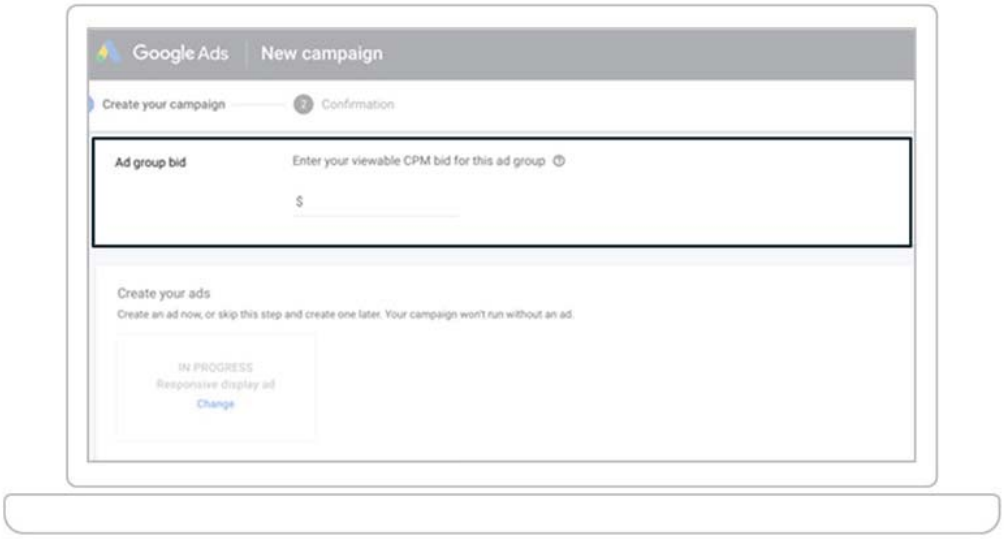
3. Ad Buying Tools for Large and Small Advertisers

53. Just as publishers rely on ad servers to sell their inventory in ad exchanges, advertisers use specialized middlemen, ad buying tools, to represent their own interests. Large advertisers use ad buying tools called demand-side platforms ("DSPs"), while small businesses use pared-down analogues. Google analogizes these buying tools to "brokerage houses" in financial markets, with small advertisers using a "fund manager to pick stocks for you" and large advertisers "using ETrade to pick stocks yourself."

54. Just as publishers typically use only a single ad server, small advertisers tend to use just one intermediary at a time to optimize buying across multiple exchanges and networks. Ad buying tools let advertisers set parameters integral to their purchasing decisions, including details about the users they wish to target and the maximum bids they are willing to submit and pay for particular types of display inventory. On an advertiser's behalf, an ad buying tool uses these parameters to automatically bid on ad space in exchanges and networks in an effort to acquire the space at the lowest cost. Some enterprise buying tools, including The Trade Desk, compete by minimizing conflicts of interest and representing only the advertiser's side of the transaction.

55. The ad buying tools made for small advertisers are rarely interchangeable with the ad buying tools designed for a large advertiser, known as a demand side platform ("DSP"). These two sets of ad buying tools differ in both the features that they offer and in their minimum spend requirements. The tools made for large advertisers offer complex bidding and trading options, which are not appropriate for the smaller advertisers that lack the same sophistication. In fact, because of the complexity of the tools made for large advertisers, the tools themselves are frequently not used or managed by the actual advertisers themselves (e.g. Ford), but by the advertisers' specialized ad buying team (e.g., an ad agency or the specialized division at an agency called the "trading desk"). Consequently, the different types of ad buying tools are also sold at different price levels. The DSP tools made for large advertisers usually require high minimum monthly spend commitments, sometimes of $10,000 or more, whereas the ad buying tools for small advertisers can require just a few dollars to get started. For example, Amazon's enterprise ad buying tool (i.e. DSP) for large advertisers requires a monthly commitment of over $35,000, while Google's buying tool for small advertisers, Google Ads, has a monthly minimum spend of zero dollars.

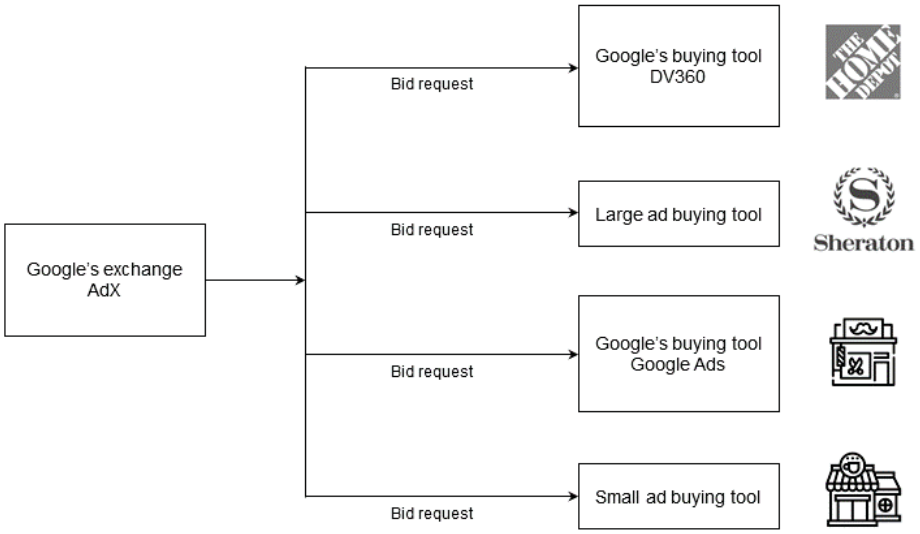
FIGURE 6: How small advertisers can use the Google Ads buying tool to set their bids



56. When a user visits a publisher's website, the ad server can route the publisher's available impressions to exchanges along with information about the impression, including the user ID, the parameters of the ad slot, and any rules about pricing. Each exchange then sends a "bid request" to the ad buying tools who have a "seat" to bid in the exchange and act as advertisers' middlemen. These bid requests also contain information about the impression at issue and they set how long advertisers have to respond with their "bid response," which is called a "timeout." Within this timeframe, which is typically a mere fraction of a second, each ad buying tool must unpack the information contained in the bid request, gather personal information about the user, determine the appropriate price to bid on behalf of an advertiser, and return the bid response to the exchange before time expires. After the set time, each exchange closes its auction, excludes late bids, and chooses a winner. The publisher's ad server then selects the winning advertisement associated with

the highest exchange bid and returns it on the user's page before the page has even finished loading. The user simply sees a display ad adjacent to the content they are reading. This real-time auction happens every minute of every day for millions of Americans browsing the internet.

FIGURE 7: How an exchange solicits bids from advertisers' buying tools



57. To compete effectively in an exchange's auction, ad buying tools must be able to identify the characteristics of the user associated with each impression (e.g., an impression targeted to John Connor or an impression targeted to users who like motorcycles) and return bids to exchanges before their timeout expires. An exchange as large as Google's can exclude competition between the bidders in its auction by giving a subset of bidders an information advantage (e.g., more robust information about the user) or a speed advantage (e.g., longer timeouts, which translates to more time to return bids).

58. Google operates the largest buy-side middlemen for advertisers, i.e., the ad buying tools for both small and large advertisers. Google's enterprise buying tool for large advertisers such as Toyota or Nestle is called DV360, which Google built from its acquisition of the DSP Invite Media. Google's ad buying tool for small advertisers is called "Google Ads" and it is designed for (what Google calls) the [redacted] DV360 charges advertisers a [redacted] percent commission to purchase inventory from exchanges, whereas Google Ads charges small advertisers a much higher and undisclosed [redacted] percent commission when purchasing inventory from Google's exchange.

59. Although Google executives considered [redacted] they ultimately chose instead to stack the deck in favor of Google by owning the exchange and giving preferred access to Google's buy-side middlemen. Google's exchange gives Google Ads and DV360 information and speed advantages when bidding on behalf of advertisers. Such preferred access helps explain why Google's ad buying tools win the overwhelming majority—over [redacted] percent—of the auctions hosted on Google's leading exchange.

60. Google's ad buying intermediaries, unlike fund managers and brokers in financial markets, also do not act in the best interests of their clients. Google subjects the smaller and less sophisticated advertisers to complicated arbitrages that are extraordinarily difficult to understand. Specifically, when bidding on behalf of those advertisers on Google's exchange, Google can manipulate or adjust their bids. Google also processes their bids through two auctions, keeps a spread between the two, and does not disclose to the advertiser the price that ad space actually cleared on Google's exchange. Google discloses this in fine print distributed across multiple separate documents. When Google ultimately explains why it "automatically" routes advertisers' bids across multiple markets, the language is misleading: "If you go butterfly hunting during the

height of summer, the bigger your butterfly net, the more butterflies you'll be able to catch." Google, however, does not clarify *who* it is hunting.

VI. THE RELEVANT MARKETS AND GOOGLE'S MARKET POWER

A. Publisher Inventory Management: Publisher Ad Servers

1. Publisher ad servers in the United States are a relevant antitrust market.

61. Publisher ad servers for web display inventory in the United States are a relevant antitrust product market. Publisher ad servers are inventory management systems that publishers use to holistically manage their online display advertising inventory—the image-based graphical ads alongside web content. They provide features such as: (1) reservation-based sales technology to support a publisher's direct sales efforts; (2) inventory forecasting technology to help a publisher determine what inventory will be available to sell; (3) a user interface through which a publisher's sales team can input directly sold campaign requirements; (4) co-management of direct and indirect sales channels; (5) report generation of ad inventory performance; (6) invoicing capabilities for a publisher's direct campaigns; and (7) yield management technology.

62. Most publishers single home and use one ad server to holistically manage all their web display inventory. When a publisher sells more than one type of inventory (e.g., web display, in-app, or video), then they may use one ad server product for their display inventory and a second ad server for their in-app or video inventory or an ad server that manages more than one format. Were a publisher to use multiple ad servers for the same format, they would have to resolve conflicts between ad servers, thereby defeating the point of an ad server's inventory management functions.

63. Publisher ad servers are unique. They are not interchangeable with exchange, network, or ad buying tools for large or small advertisers. Those tools do not similarly manage a publisher's

direct sales channel or offer the reporting, invoicing, or forecasting functions that publishers need to holistically manage inventory and optimize yield.

64. Google, when seeking to acquire DoubleClick, made explicit representations to the Federal Trade Commission regarding the non-interchangeability of ad servers and advertising marketplaces. Google described any suggestion that ad servers and ad networks are interchangeable as [redacted] Specifically, with regard to its ad server, then called "DFP," and its display ad network, which Google referred to as "AdSense," Google stated: [redacted] In other words, Google already acknowledges that while other publisher ad servers are substitutes for Google's ad server, ad networks and other advertising marketplaces are not.

65. The customers of publisher ad servers are large publishers who need to manage both direct and indirect sales channels, including for example, online publishers such as *CBS*, Spotify, *Time*, *ESPN*, Major League Baseball, Walmart, *Weather.com*, *The New York Times*, *The Wall Street Journal*, eBay, *NBC*, Pandora, Trip Advisor, NPR, *Buzzfeed*, and many more.

66. With respect to the publisher display ad server product market, the relevant geographic market is the United States. Publisher ad servers available in other countries are not a reasonable substitute for ad servers available in the United States. Therefore, the United States is the relevant geographic market.

2. Google has monopoly power in the publisher ad server market.

67. Google has monopoly power in the publisher display ad server market in the United States. Google's monopoly power in this market is confirmed by its high market share. More than 90 percent of large publishers use Google's publisher ad server, Google Ad Manager ("GAM" f/k/a "DFP"), according to published reports. Google internal documents also measured that GAM served the vast majority—[redacted] percent—of all online display ad impressions in the United States in the third quarter of 2018.

68. Google's own documents confirm that it has held a consistent monopoly position in the publisher ad server market for display inventory for at least a decade. By 2012, just four years after Google acquired DoubleClick, Google estimated that [redacted] percent of large online publishers in the United States used Google's ad server. Since then, Google's closest competitors have either exited the market entirely or have been relegated to negligible market shares.

69. Google's monopoly power in the publisher ad serving market is further confirmed by direct evidence. Google has charged supra-competitive fees and degraded quality in the publisher ad server market, defying the existence of any competitive restraints whatsoever. For example, as part of managing publishers' indirect sales channels, publisher ad servers can charge publishers a fee for routing their inventory to exchanges and networks. When deciding how much to charge publishers for routing their inventory to non-Google exchanges, Google [redacted] and did not consider competitive constraints such as what the market would bear. On top of this, Google's ad server charges a [redacted] percent fee of gross transactions for routing publishers' inventory to ad networks. When publishers route their inventory to exchanges and networks using the competing product called header bidding, publishers pay no fee whatsoever for routing to exchanges. Google's monopoly power over ad servers is also exhibited by the manner in which Google can

and does degrade the quality of its publisher ad server. The examples here are numerous and discussed throughout this Complaint. One example is Google's prohibition on publishers setting different price floors for different ad exchanges and ad buying tools, which depressed publishers' ability to maximize inventory yield. Despite widespread publisher dissatisfaction over the price and quality of Google's ad server, Google has not suffered any loss to its ad serving market dominance.

70. Google's market power in the publisher ad server market is also protected by significant barriers to entry. One barrier to entry is switching costs. Switching online ad servers is risky and resource intensive. Some publishers have inventory on hundreds of thousands, or even hundreds of millions, of webpages, which makes switching ad servers exceedingly expensive, difficult, and time consuming. Moreover, the switching process also entails significant revenue risk; any glitch during the transition can disrupt delivery of advertiser campaigns on the publisher's website, which would jeopardize the publisher's ability to collect advertising revenue. Industry experts compare a change in ad servers to "switching engines in mid-flight." Google's internal documents [redacted]. In addition to high switching costs, Google imposes additional barriers to entry in the ad server market through anticompetitive conduct.

B. Display Ad Exchanges

1. Display ad exchanges in the United States are a relevant antitrust market.

71. The market for web display advertising exchanges in the United States is a relevant antitrust product market. These exchanges are marketplaces that auction multiple publishers' display inventory to multiple end-advertisers through advertisers' middlemen on an impression-by-impression basis and in real time. On the sell side, exchanges generally interface with publishers through publishers' ad servers such as Google's ad server. On the buy side, they interface with advertisers through ad buying tools, including ad buying tools for large advertisers,

such as DV360 and The Trade Desk, ad buying tools for small advertisers, such as Google Ads, and sometimes, even networks.

72. Ad exchanges are not interchangeable with publisher ad servers, ad networks, or ad buying tools. Publishers cannot sell their display ad inventory on an impression-by-impression basis and in a real-time marketplace to end-advertisers using publisher ad servers, networks, or ad buying tools. Moreover, unlike ad networks, ad exchanges are designed to integrate with multiple ad buying tools so that advertisers can optimize trading across exchanges; networks are more restricted. Reflecting the fact that exchanges and networks offer different feature sets, exchanges require publishers to commit to a large monthly volume of impressions or revenue, whereas networks typically do not. Publishers that use Google's ad server to sell their display ad inventory through ad marketplaces primarily sell their inventory in exchanges, not networks. As an example, one major online publisher in the United States sold over 80 percent of their indirect display inventory to exchanges, not networks.

73. Ad exchanges are also not interchangeable with the direct sales channel, for publishers and advertisers. For publishers, selling inventory directly requires that they develop expertise around managing, selling, and serving campaigns, which requires a specialized skill set and is expensive to do. For advertisers, buying inventory directly from publishers also requires an additional skill set and ongoing investment. For direct deals, publishers and advertisers must typically hire and maintain internal staff to manage these one-to-one relationships. As a result, the direct sales channel tends to be reserved for high-value publisher-advertiser transactions. For instance, an online publisher like *The Wall Street Journal* would not directly transact with the advertiser Ford if the monthly value of the transactions was not at least several thousand dollars.

They would, however, gladly transact with Ford indirectly through an ad exchange even if the total value of monthly transactions was minimal, even a few dollars.

74. With respect to display ad exchanges, the relevant geographic market is the United States. Display ad exchanges available in other countries are not a reasonable substitute for display ad exchanges available in the United States. Therefore, the United States is a relevant geographic market.

2. Google has monopoly power in the display ad exchange market.

75. Google has monopoly power in the United States in the display ad exchange market. Google's leading exchange, historically called AdX, transacts over [redacted] percent of all display ad inventory sold on ad exchanges in the United States, based on an analysis of data from November 2018 to October 2019. Despite an early competitive landscape, Google's display ad exchange has been the top exchange in the United States since at least 2013. Additionally, analysis of more recent publisher and exchange data shows that Google's share of the ad exchange market has substantially increased above [redacted] percent since Google's introduction of Unified Pricing rules in late 2019. Finally, for online publishers reaching high-value users, Google's exchange transacts an even greater share of publishers' exchange impressions. For example, Google's exchange transacts over [redacted] percent of one major online publisher's exchange impressions, even though the publisher routes and sells its impressions in at least six other exchanges.

76. The closest competitors to Google's exchange include exchanges from Rubicon, AppNexus, and Index Exchange, and those exchanges transact a much smaller share of publishers' exchange impressions. While a review of major online publishers' exchange records demonstrates that Google's exchange routinely transacts over [redacted] percent of indirect impressions that flow through exchanges, Google's closest exchange competitors typically transact only [redacted] percent of the same publishers' exchange impressions.

77. Direct evidence further illustrates Google's monopoly power in the display ad exchange market. Google's exchange has the power to control prices. It charges supra-competitive prices, which are around [redacted] percent of every trade. Google's closest exchange competitors charge [redacted] than the prices of Google's exchange. For example, Index Exchange charges [redacted] percent, Rubicon charges [redacted] percent, and AppNexus has charged between [redacted] percent.

78. Google's insulation from price pressure in the exchange market also demonstrates the substantial market power of its exchange. Google's internal documents in 2018 observed that [redacted] But Google did not reduce its take rate. In fact, comparing 2017 to 2019, Google's exchange take rate actually increased (from [redacted] percent for third-party buyers buying through AdX in 2017 to [redacted] percent in 2019).

79. The market power of Google's exchange is also evidenced by the fact that it has not lost market share when its exchange competitors drop their prices. For example, [redacted].

80. Google's market power in the exchange market is also protected by a barrier to entry. New entrants must achieve sufficient scale and network effects to attract publishers and advertisers to use their exchange. In addition, Google's anticompetitive conduct has created artificial barriers to entry. One significant Google-created barrier arises due to Google's publisher ad server preferentially routing trading to Google's exchange through a host of anticompetitive conduct addressed below. Google creates another barrier to entry by exclusively and preferentially routing

the bids of advertisers using DV360 and Google Ads to its ad exchange through a host of other anticompetitive conduct discussed below.

C. Display Ad Networks

1. Display ad networks in the United States are relevant antitrust market.

81. The market for display ad networks in the United States is a relevant antitrust product market. Display ad networks are marketplaces that match small publishers' ad inventory with advertisers without providing impression-by-impression price transparency to the sell or buy sides of the transaction. Networks obscure prices within auctions, enabling them to capture undisclosed margins—buyers and sellers cannot know whether the network takes, for instance, 20 or 50 percent of matched trades. In addition, networks can carry inventory risk. That is, they can purchase impressions on their own behalf as opposed to on the direct behalf of a specific advertiser or advertiser middleman.

82. Ad networks are not interchangeable with publisher ad servers, exchanges, or ad buying tools. While networks, like exchanges, are marketplaces for advertising inventory, they are not interchangeable with exchange marketplaces because they operate in a different manner and serve a different type of publisher. Networks do not offer the same type of impression-by-impression price transparency to publishers and advertisers that exchanges do. Display ad networks also typically serve much smaller publishers that do not have sufficient traffic to sell their inventory through exchanges. Networks require little to no upfront spending by publishers, and publishers can join networks to sell their inventory even if they do not have much inventory to sell. For example, AdSense publishers on the Google Display Network do not have monthly page view or impression requirements. These types of publishers typically include local newspapers, niche websites, blogs, and more.

83. With respect to display ad networks, the relevant geographic market is the United States. Display ad networks available in other countries are not a reasonable substitute for display ad networks available in the United States. Therefore, the United States is a relevant geographic market.

2. Google has monopoly power in the display ad network market.

84. Google has monopoly power in the display ad network market in the United States. Google describes its ad network, the Google Display Network ("GDN"), as [redacted] Google's network reaches more user impressions and websites than any other display network, including over 2 million small online publishers globally. Google has immense scale amongst the long tail of small online publishers.

85. Direct evidence confirms the monopoly power of Google's display ad network. GDN charges very high double-digit [redacted] percent commission on advertising transactions, which, according to public sources, is [redacted] the "standard rate" elsewhere in the industry. Internally, Google acknowledges that its fees are very high and that Google can demand high fees because of its market power. For example, in one internal 2016 conversation, Google executives commented that Google's ad networks make [redacted] by retaining a [redacted] percent commission while also noting that they [redacted] explained one Google employee when addressing the lack of viable competing ad networks available to its customers.

86. The market power of Google's display ad network is protected by barriers to entry. Google imposes a significant barrier to entry by using its publisher ad server to preferentially route trading to its display ad network through a host of anticompetitive conduct addressed below. Google also generates a further barrier when its ad buying tool Google Ads preferentially routes trading to its GDN ad network through a host of anticompetitive conduct discussed below. Finally,

ad networks need scale on both the supply and demand sides; natural network effects make it difficult for any new networks to enter and achieve scale.

D. Display Ad Buying Tools for Large and Small Advertisers

1. Display ad buying tools for small advertisers in the United States is a relevant antitrust market.

87. The market for display ad buying tools for small advertisers in the United States is a relevant antitrust market. These tools provide an interface that smaller advertisers such as real estate agents, plumbers, builders, doctors, and car dealerships can use to bid on and purchase the display ad inventory trading on ad exchanges and in ad networks. In this respect, these tools allow advertisers to optimize for their own interests, including purchasing quality display ad inventory for the lowest prices.

88. Ad buying tools for small advertisers are not interchangeable with ad buying tools for large advertisers, which are sometimes called demand-side platforms (or "DSPs"). The two sets of tools serve different types of advertisers, exhibit different pricing and entry levels, and offer different feature sets.

89. Ad buying tools for small advertisers are also not interchangeable with ad servers, ad networks, or ad exchanges. Exchanges, servers, and networks do not provide small advertisers with a buying interface to bid on and purchase ad inventory in exchanges or networks.

90. The relevant geographic market for display ad buying tools for small advertisers is the United States. Display ad buying tools for small advertisers available in other countries are not a reasonable substitute for the tools available in the United States. Therefore, the United States is a relevant geographic market.

2. Display ad buying tools for large advertisers in the United States is a relevant antitrust market.

91. The market for display ad buying tools for large advertisers in the United States is a relevant antitrust market. These tools provide an interface that large advertisers, such as Ford Motor Company, use to bid on and purchase display ad inventory on ad exchanges and in ad networks. In this respect, they are the buy-side counterpart to publisher ad servers, allowing large advertisers to optimize for their own interests, such as buying display ad inventory for the lowest price.

92. The enterprise ad buying tools for large advertisers are not interchangeable with the ad buying tools made for small advertisers. The tools for small advertisers do not meet the transparency, optimization, sophistication, or bidding needs of large advertisers.

93. The relevant geographic market for display ad buying tools for large advertisers is the United States. Display ad buying tools for large advertisers available in other countries are not a reasonable substitute for the tools available in the United States. Therefore, the United States is a relevant geographic market.

3. Google has monopoly power in the ad buying tool market for small advertisers.

94. Google's ad buying tool "Google Ads" has monopoly power in the United States in the ad buying tool market for small advertisers. Buying tools for small advertisers serve startups and local businesses such as real estate agents, doctors, dentists, restaurants, automotive repair shops, craftsmen, electricians, hair salons, architects, and landscapers. Google's records reveal that advertisers using Google Ads purchase [redacted] percent or more of the impressions in Google's exchange, the largest exchange, and over [redacted] percent of the impressions on Google's display network, GDN.

95. The market power of Google Ads is also evidenced by the fact that Google's exchange charges supra-competitive fees for exclusive access to Google Ads advertisers. Google's documents confirm as much, describing [redacted]. The ability to extract such rents, dependent on Google Ads exclusivity, demonstrates Google Ads' monopoly power. Running sequential auctions allows Google to extract additional non-transparent margins, which is not disclosed to advertisers.

96. Google Ads also has market power over the small advertisers it serves because most rely on a single ad buying tool for a given advertising format (e.g., display ads) and have switching costs. Using multiple ad buying tools imposes additional costs on advertisers because of the additional time, effort, training, and expense needed to manage campaigns across tools; Google Ads also does not let small advertisers completely export the data they need to easily switch to another tool. As a result, while very large advertisers might be able to absorb the costs of using more than one tool at a time, small advertisers almost always use just one ad buying tool at a time.

97. Google's market power with Google Ads is protected by four critical barriers to entry. First, Google Ads charges opaque fees and does not let advertisers readily audit the ad inventory Google purchases on their behalf, both of which act as a barrier to entry because they impede advertisers from switching to a low-cost provider. Second, Google's practice of withholding YouTube video inventory from rival ad buying tools locks small advertisers who use one tool at a time into Google's ad buying tool. In addition, other providers of 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. Finally, advertisers use ad buying tools to keep track of the

users they have targeted with ads, the users that have made purchases, and the users that they want to keep targeting with more ads. Google Ads limited advertisers from accessing and taking this data with them to another tool. As a result, advertisers are locked in and have high switching costs. If they switch to a different ad buying tool provider, they must forgo the valuable data and intelligence in their Google Ads ad buying tool and start over again.

VII. ANTICOMPETITIVE CONDUCT

98. Google unlawfully forecloses competition in the market for publisher ad servers, in the market for ad buying tools for large advertisers, in the market for ad buying tools for small advertisers, and in the separate markets for ad exchanges and ad networks. Google excludes competition by engaging in conduct unlawful under settled antitrust precedent, including through unlawful tying arrangements, a pattern and practice of exclusionary conduct targeting actual and potential rivals, and even a market allocation and price fixing agreement with Facebook, its largest potential competitive threat.

A. Google forces publishers to license Google's ad server and trade in Google's ad exchange.

99. Prior to Google's anticompetitive conduct, the markets for ad exchanges and publisher ad servers were competitive. When Google originally entered the ad exchange market in 2009, publishers and advertisers had been trading in exchanges for some time. Google was late to enter the ad exchange market and faced significant competition from large and well-funded players like Microsoft and Yahoo!. In 2009, the Yahoo! exchange alone, for example, processed nine billion ad impressions daily. After its launch in 2009, Google's exchange transacted fewer than [redacted] daily impressions. At the time, Google also faced significant competition in the publisher ad server market. Google acquired its publisher ad server from DoubleClick in 2008 but faced

competition from 24/7 Real Media (owned by WPP PLC), aQuantive (owned by Microsoft), and ValueClick (publicly traded).

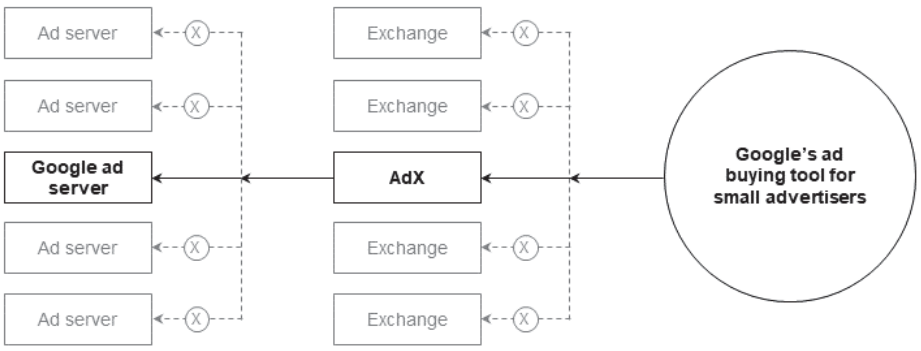
100. Google, however, quickly began pursuing a strategy to foreclose competition in both markets. At the time, Google operated an ad buying tool for small advertisers and had market power in this market. Nearly [redacted] advertisers—including restaurants, clothing stores, doctors, and electricians, across the country—used its ad buying tool for small advertisers to bid on display ad space. Immediately after acquiring a publisher ad server and launching its exchange in 2009, Google made it so the small advertisers bidding through Google Ads had to transact in both Google's ad network and Google's ad exchange. Google also made it so that the large publishers wanting to receive bids from the many advertisers who used Google's ad buying tool had to trade in Google's exchange and license Google's ad server. Google demanded that it represent the buy-side, where it extracted one fee, as well as the sell-side, where it extracted a second fee, and force transactions to clear in Google's exchange, where Google extracted a third fee.

101. For at least a decade, Google has had market power in the United States as an ad buying tool for small advertisers. Google originally called its product for small advertisers AdWords, rather than Google Ads. In 2009, 250,000 small- to medium-sized advertisers in the United States used its ad buying tool to purchase search and display ads. Since then, the number of advertisers using its tool to purchase display inventory on exchanges has rapidly increased. In 2013, the number of advertisers using Google Ads doubled to two million. Today, millions of small- to medium-sized businesses use Google Ads to bid on and purchase display ad space trading in Google's AdX exchange and those advertisers do not have alternative tools to use.

102. Part of the reason that Google was able to gain a monopoly in the market for ad buying tools for small advertisers was because Google had a monopoly in the display ad network market and the search advertising markets. Advertisers had to use Google Ads to purchase ad space through Google's ad network, GDN, which was the leader in reach (unique visitors) among competitors in 2009. Small advertisers also had to use Google Ads to purchase Google Search inventory, a market in which Google had a monopoly since 2005. As background, the FTC investigated Google's practice of withholding its Search advertising inventory from rival advertiser buying tools, and Google voluntarily amended its withholding conduct in 2013. However, by that time, the damage was done. By 2013, Google has successfully pushed competition out of the market.

103. Google Ads also had market power over its small advertisers because those advertisers almost always use one tool at a time when bidding for ad space. When deciding which ad buying tool to use, most advertisers chose Google's because it was the only way to purchase search ads and display ads on Google's leading display network GDN.

FIGURE 8: Google's buying tool for small advertisers only bids to Google's ad exchange and ad server



104. Google monopolized the exchange and ad server markets by forcing publishers to license Google's ad server and trade in Google's exchange in order to receive bids from the one

million advertisers using Google's buying tool, Google Ads. First, Google automatically routed small advertisers' GDN bids to Google's exchange. Additionally, Google only routed small advertisers' bids to Google's new exchange and refused to route advertisers' bids to non-Google exchanges, even though those exchanges might have been selling identical ad space for lower prices. Next, Google programmed its exchange to return real-time bids *only* to those publishers using Google's new publisher ad server. [redacted]

105. In doing so, Google acted against the best interests of the small advertisers bidding through Google Ads. If Google were serving the interests of the small businesses using Google Ads, Google would have routed their bids to the exchanges that offered the lowest prices for the identical goods, just as competing ad buying tools did. In a competitive market, advertisers prefer to buy across multiple exchanges in order to reach the largest possible pool of supply at the best possible prices, thereby enabling and fostering exchange competition.

106. Internal Google documents show that Google imposed these bid routing restrictions for the purpose of foreclosing competition. In a Display Strategy document from August 2012, Google noted that they [redacted]

107. Because publishers are interested in exchanges returning real-time bids for their inventory, Google effectively required publishers to use its publisher ad server in order to work with its exchange. Publishers also only use a single ad server at a time to manage inventory, which meant they had to either forgo the use of any competing ad server or forgo access to the enormous

pool of advertisers bidding through Google Ads. From the first days of Google's AdX exchange, advertisers bidding through Google Ads made up the vast majority of purchases in Google's exchange: around [redacted] of total transactions by revenue within a year of AdX's launch, [redacted] percent of total transactions a few years later, and about [redacted] of all transactions today.

108. A news article in *The Wall Street Journal* explained Google's conduct as follows: "Using Google's DoubleClick for Publishers is the only way to get full access to Google's AdX exchange, publishers say. For many years, Google's AdX was the only ad exchange that had access to this fire hose of ad dollars."

109. Google's conduct successfully foreclosed competition in the publisher ad server and exchange markets. When Google acquired the DoubleClick ad server in 2008, Google's share of this market was around 48 to 57 percent, and Google faced significant competition in both the ad server and ad exchange markets. In the ad server market, Google has now effectively foreclosed publisher ad server competition from companies that included 24/7 Real Media, aQuantive, and ValueClick. As internal Google documents show, by coupling its ad server with its market power on the buy side, Google prevented customers from switching to competing ad servers and quickly cornered the rest of the market. By 2011, Google's ad server was used by approximately [redacted] percent of publishers in the United States, and by 2019, Google's share of the market increased to over [redacted] percent of large publishers.

110. Google maintained its monopoly power over ad servers and its stranglehold in the ad exchange market by continuing the same exclusionary conduct. In 2016, Google started technically routing the bids belonging to small advertisers using Google's buying tool to non-Google exchanges, but Google significantly and intentionally restrained the routing of bids to non-Google

exchanges. Google's exchange continued to only return live bids to publishers using Google's ad server. Google did not want to *actually* undo its AdWords—exchange—ad server tie.

111. Google similarly requires publishers seeking access to large advertisers' bids to trade in Google's exchange (and pay Google's exchange fees) and to license Google's ad server (and pay Google's ad server license fees). Google's strategies here are numerous and discussed throughout this Complaint. For instance, Google uses mandatory price floors (discussed below in paragraphs 231-235) and other auction manipulations like the [redacted] program (discussed below in paragraphs 132-138) to force publishers to transact with DV360 advertisers in Google's exchange. Uniform price floors are not competition on the merits. For reasons discussed further below, uniform price floors force publishers to trade with DV360 advertisers in Google's exchange. On top of using Unified Price floors, Google created another program called [redacted]. Finally, Google makes many of the features in DV360 (e.g., affinity audiences targeting) unavailable to advertisers if they participate in exchanges other than Google's, which results in many advertisers using Google's exchange even though they would not do so in a competitive market. Because Google's exchange then only routes live bids to publishers using Google's publisher ad server, publishers are effectively forced to use Google's publisher ad server to receive bids from DV360 advertisers. This conduct permits Google to maintain its monopoly power in the publisher ad server market and exclude competition in the exchange market. Google has specifically discussed this [redacted] effect internally.

B. Google uses its control over publishers' inventory to block exchange competition.

112. In addition to foreclosing exchange competition by forcing publishers to transact in Google's exchange, Google used its control over publishers' inventory and its status as publishers' agent to foreclose exchange competition through a pattern of anticompetitive conduct. Google

restricted publishers from selling their inventory in more than one exchange at a time, started routing publishers' inventory to Google's exchange, and blocked publishers from accessing and sharing information about their heterogeneous inventory with exchanges. In doing so, Google foreclosed exchange competition and dramatically increased the cost of transacting on ad exchanges, enabling Google's exchange to charge very high fees that even Google could not justify internally. Internally, Google admitted that an exchange *should* be more of [redacted] and not [redacted] as it is for Google. Google's anticompetitive conduct, however, ensured that publishers and advertisers could not benefit from any such [redacted].

1. Google blocks publishers from sending their inventory to more than one marketplace at a time.

113. Competition between exchanges promotes price competition. To circumvent this, Google impeded real-time competition between marketplaces by forcing publishers (sellers) to route their ad space to a single exchange, one at a time, rather than all at once. The industry referred to this practice as waterfalling.

114. Starting in 2009, advertising exchanges, including Google's ad exchange, were designed to compete with one another by submitting real-time bids for publishers' inventory. Ad exchanges could consider publishers' impressions and return live bids for publishers to consider, accept, or ignore, all in real time.

115. Just as exchanges want to simultaneously compete for publishers' inventory, publishers want to route their ad space into multiple exchanges to benefit from access to greater advertiser demand. One exchange might have an advertiser willing to bid a $2 dollar CPM (cost per thousand) for a publisher's impression, but another exchange might have a different advertiser offering a higher price of $3 dollars.

116. In addition, publishers wanted to drive competition between exchanges so that the exchanges would compete on price and quality. Competition between exchanges forces exchanges to compete on quality and price, regardless of whether they operate in financial markets or openly traded online display ads. The sellers and buyers in an exchange often measure an exchange's efficiency using the tightness of the bid-ask spread—the difference between the bid (the amount for which buyers are willing to sell the instrument) and the ask (the amount for which sellers are willing to sell the instrument). Competition between electronic exchanges leads to pressure on exchange prices and results in efficiency gains through smaller bid-ask spreads.

117. Google, however, foreclosed exchange competition in this manner from 2009 and through 2016. Google used its new control over publishers' inventory through its publisher ad server, and Google's control of that market, to impose on publishers a one-exchange-rule: route inventory to only one exchange at a time. In doing so, Google impeded competition *between* exchanges.

2. Google gives itself preferential treatment by routing publisher inventory to its own ad exchange and blocks competition from other exchanges.

118. In addition to blocking real-time competition between exchanges, Google's ad server foreclosed exchange competition by preferentially routing publishers' inventory to Google's new exchange through a process it called "dynamic allocation." At a high level, dynamic allocation granted Google's exchange a superior right of first refusal on all of a publisher's impressions made available to exchanges. Google blocked other exchanges from competing against its exchange for the same inventory on the same footing.

119. Google's adoption of dynamic allocation in 2010 ended DoubleClick's neutrality as a seller's agent. DoubleClick operated a publisher ad server but did not have an operational

exchange. In the period immediately before Google purchased DoubleClick, the DoubleClick publisher ad server routed publishers' impressions to exchanges and networks in a neutral manner.

120. Dynamic allocation also let Google's exchange clear publishers' inventory for depressed prices. Google's ad server let Google's exchange compete for publishers' impressions by returning live bids while requiring non-Google exchanges to compete for the same impressions with static non-live bids. Usually, an exchange's static bid was set to equal the overall price the exchange historically paid for publishers' impressions. Google's ad server passed the rival's static bid to Google's exchange and permitted Google's exchange to purchase the impression by paying at least one penny more. In other words, Google used its control over publishers' inventory to let its exchange view a publisher's valuable impressions—like a box seat at a baseball game—and purchase that impression for just a penny more than the average price that a non-Google exchange paid for any old impression—just like the average price for any seat in the stadium.

121. With waterfalling and dynamic allocation, Google's ad server delivered a one-two punch to other exchanges. Google used waterfalling to block other exchanges from competing simultaneously for impressions. 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. Publishers were deprived of competitive bids and competing exchanges were left with the low-value impressions passed over by Google's exchange.

122. Once Google routed publishers' impressions to Google's exchange, Google further harmed publishers by foreclosing competition between the bidders in its exchange auction. Google considered, but ultimately [redacted] Instead, Google chose to have a rigged exchange that benefit the Google ad buying tools bidding in the auctions. In other words, it would [redacted]

[redacted] As a result, Google's ad buying tools Google Ads and DV360 win over [redacted] percent of Google exchange auctions.

123. Google's publisher ad server, like financial trading intermediaries, was supposed to act in the best interests of its customers by maximizing publishers' revenue and inventory yield. Consequently, Google concealed the nature of its conduct to publishers and falsely told them that dynamic allocation was good for them and helped them make more money. It "maximizes revenue," Google advertised. In fact, dynamic allocation did not maximize publishers' yield.

124. Google knew that dynamic allocation prevented competition among exchanges and did not maximize publisher revenue. Google internally discussed [redacted]. In Google's words, online publishers could [redacted] In fact, according to one Google study, competition between exchanges increased publishers' clearing prices by an average of 40 percent. One industry publication put it succinctly, "[t]he lack of competition was costing pub[s] cold hard cash."

3. Google restricts information to foreclose competition and advantage itself.

125. Google further foreclosed competition by blocking publishers' ability to access information about their heterogenous inventory and share that information with exchanges. Google's ad server manages publishers' heterogenous inventory and maximizes inventory yield. However, the ad server is what also identifies the readers and visitors associated with online publishers' inventory, assigning publishers' users IDs. In 2009, Google's ad server started hashing or encrypting publishers' ad server user IDs and giving publishers and advertisers different IDs for the same user. Thus, Google strategically prevents the user from being easily identified with one critical caveat: Google is able to use that very same information for its own trade decisions. In stark contrast to representations made to the Federal Trade Commission and Congress, Google

trades on what was previously insider information. At a high level, the encryption of publishers' user IDs forecloses competition for publishers' inventory from non-Google exchanges and ad buying tools.

126. Publishers, and the exchanges that sell inventory on their behalf, need to know the identity of users associated with publishers' impressions in order to sell those impressions for competitive prices. User IDs permit publishers and their exchanges to understand the value of inventory, cap the number of times that users see the same ad, and effectively target and track online advertising campaigns. When exchanges cannot identify users in auctions (e.g., through cookies), the prices of impressions on exchanges can fall by about 50 percent, according to one Google study.

127. In 2009, Google's ad server started restricting publishers' ability to access and share the user IDs that Google's new ad server associated with publishers' impressions. Google accomplished this by hashing or encrypting the user IDs differently for each publisher using Google's ad server (e.g., John Connor = user QWERT12345) and each advertiser bidding through Google's ad buying tools (e.g., John Connor = user YUIOP67890). As a result, publishers and advertisers could not easily know that two different user IDs actually belonged to the same user.

128. While Google blocked publishers from accessing and sharing the user IDs with exchanges and networks, Google shared the same raw IDs with Google's network and exchange, as well as Google's advertising middlemen, DV360 and Google Ads. Thus for Google's network, exchange, and ad buying tools, John Connor is always HJKLM54321. In other words, publishers and advertisers could not easily know that two different user IDs actually belonged to the same user, unless they used Google's ad buying tools and exchange.

129. To be clear, this meant that Google blocked consumers from obtaining any privacy benefits associated with encrypted user IDs from Google's network, Google's exchange, or advertisers using Google's ad buying tools. At the same time, Google withholds from consumers that consent to ID sharing the benefits they would gain if publishers were permitted to maximize competition for their inventory. The higher advertising revenue that publishers make from exchanges help publishers offer consumers better quality content and lower priced content access.

i. Information asymmetry causes advertisers to trade on non-Google exchanges at their own risk.

130. By blocking publishers' ability to access and share their ad server user IDs, Google's exchange always has better information about publishers' heterogenous inventory. As a result, advertisers that bid through an ad buying tool or exchange other than Google's could not efficiently know if they are bidding on *valuable* impressions, cap the frequency that consumers see the same ads, target audiences, or avoid bidding against themselves in second-priced exchanges. Publishers and advertisers could transact in Google's exchange using Google's ad buying tools and avoid all the harms that Google artificially created. In essence, by scrambling the DoubleClick ad server user IDs, Google created a "heads I win, tails you lose" scenario.

ii. Google forecloses competition by using inside information to win auctions.

131. Google then started using its exclusive access to publishers' raw ad server user IDs to develop a number of internal non-transparent auction programs designed to exclude competition in both the exchange and ad buying tool markets. The programs ensure that publishers' impressions, especially the high value ones, transact through Google. At a high level, the programs exclude competition by manipulating advertisers' bids and auction price floors.

132. Google's [redacted], which was based in New York, designed one such program to exclude competition called Reserve Price Optimization (RPO). The RPO program uses [redacted]. Competing exchanges cannot similarly [redacted].

133. Google's [redacted] team launched another program called [redacted]. Google forecloses competition in the exchange market by [redacted]

134. Google's [redacted] team designed an additional program to exclude competition. Developed in 2013, [redacted]. The [redacted] program helped advertisers bidding through Google's ad buying tool win publishers' valuable impressions in Google's exchange. The [redacted] program is designed so that it is not transparent to publishers.

135. To illustrate how [redacted] works, suppose an advertiser using the Google Ads bids a $10 CPM for *USA Today's* ad impression targeted to John Connor. Because the program has access to the historical bid data belonging to Google Ads advertisers, the [redacted] program can determine that the advertiser would not bid high enough for its bid to clear in Google's exchange. In such a situation, the advertiser's bid would have normally cleared in a non-Google exchange. The [redacted] program uses that information—what that advertiser historically bid for John Connor—to manipulate the advertiser's bid without their knowledge prior to routing it to the exchange. In doing so, [redacted] ensures that the advertiser bidding through Google Ads nonetheless wins *USA Today's* impression targeted to John Connor in Google's exchange. [redacted] excludes competition from advertisers using non-Google buyer tools to bid into Google's exchange.

136. According to internal Google documents, prior to the [redacted] program's introduction, advertisers bidding through competitors' ad buying tools were actually beating the advertisers bidding through Google's ad buying tool. Google's idea with the [redacted] program was to trade on inside information to help Google to reverse this trend. The program permitted Google to radically influence the amount of trading that executes through Google Ads and in Google's

exchange. Google looked back at the [redacted] program's success as follows: [redacted]

In just the first year of launch, the [redacted] program alone swelled trading in Google's exchange enough to increase annual revenue by $[redacted] million.

Screenshot of [redacted], the namesake of Project [redacted] on Google's exchange.

[redacted]

137. Google's [redacted] team developed other programs, such as [redacted] that use inside information on quality or price to privilege Google's exchange over rival exchanges. All of these complex programs are designed by Google's quantitative analysts to serve a simple purpose: use Google's information and access advantage in ways that no other exchange can replicate. The programs create inefficiencies in the allocation of impressions and reduce competitors' ability to compete on price. In competitive markets of publisher ad servers and exchanges, Google would not be able to maintain these advantages. Competitors would offer similar features and Google's benefit would erode over time.

138. he preceding [redacted] programs represent an illustrative but incomplete sample of the sophisticated auction programs that Google uses to exclude competition in the exchange and ad

buying tool markets. These programs account for substantial additional Google revenue obtained at the direct expense of harm to competition. [redacted] In short, Google quants use Google's monopoly power to manipulate the auctions through algorithms that modify the exchange architecture in order to extract hundreds of millions of dollars in additional revenue and harm consumers by foreclosing competition.

139. By interfering with publishers' user IDs, Google acted inconsistent with the representations it made at the time of the DoubleClick acquisition to both the U.S. Federal Trade Commission ("FTC") and to the U.S. Congress. To Congress, Google stated that DoubleClick "data is owned by the customers, publishers and advertisers, and DoubleClick or Google cannot do anything with it." To the FTC, Google represented that "customer and competitor information that DoubleClick collects currently belongs to publishers, not DoubleClick" and that "[r]estrictions in DoubleClick's contracts with its customers, which those customers insisted on, protect that information from disclosure." Google then "committed to the sanctity of those contracts." In essence, DoubleClick contracts rendered publishers' data confidential and non-public, which prohibited Google from using such data to act against publishers' interests.

iii. Google uses privacy concerns to advantage itself.

140. Google's entire business model is to collect comprehensive data about every user in the service of brokering targeted ad sales. It then uses privacy concerns as an excuse to advantage itself over its competitors. For example, Google's stated reason for cutting off publishers' user IDs is protecting users' privacy, but Google does not protect users' privacy when doing so harms Google. Google encrypts publisher ad server user IDs but uses the same user ID information for Google's benefit, thus preventing consumers from obtaining the privacy benefits associated with

encrypted from Google itself. The planned elimination of third-party cookies from Google's dominant browser, Chrome, is also justified on privacy grounds, but the effect is to increase information asymmetries between Google and its competitors.

141. Google also has violated users' privacy in other egregious ways when doing so is convenient for Google. For instance, shortly after Facebook acquired WhatsApp, in 2015, Facebook signed an exclusive agreement with Google, granting Google access to millions of Americans' end-to-end encrypted WhatsApp messages, photos, videos, and audio files. As Google discussed internally, WhatsApp [redacted] They did not know that Google [redacted] As internal documents reveal, upon signing the agreement, Facebook and Google started [redacted], without letting users know. Rather than being concerned about this fundamental breach of privacy, Google internally was [redacted]. In an internal document discussing the deal, Google discussed [redacted]

[redacted] In other words, Google is more concerned about bad publicity than about users' privacy.

142. Google has also actively worked with Big Tech competitors to undermine government efforts to enhance users' privacy. For example, in preparation for a closed-door meeting on August 6, 2019 between the five Big Tech companies—Google, Facebook, Apple, Amazon, and Microsoft—Google [redacted] Google was particularly interested in coordinating with other Big Tech companies to delay privacy regulation because of its impact to Google's advertising business. Google presents a public image of caring about privacy, but behind the scenes Google coordinates closely with the Big Tech companies to lobby the government to delay or destroy measures that would actually protect users' privacy.

143. Google actively coordinates with its competitors when it comes to privacy. In the same meeting memo, Google wrote that meeting objectives included discussing [redacted] Google then expressed [redacted] said Google, referring to Facebook. Google also sought to [redacted]—against Google and other Big Tech companies. Of course, effective competition is concerned about both price and quality, and the fact that Google coordinates with its competitors on the quality metric of privacy—one might call it privacy

fixing—underscores Google's selective promotion of privacy concerns only when doing so facilitates its efforts to exclude competition.

4. Google prevents competing exchanges from accessing publishers' high value inventory and reaps the benefits for itself.

144. Google foreclosed exchange competition for publishers' valuable impressions through a program called Enhanced Dynamic Allocation ("EDA"). Historically, publishers sold their best impressions to advertisers directly for premium prices. With EDA, Google's ad server let Google's exchange compete for and purchase valuable impressions that the ad server previously allocated to publishers' premium direct deals. At the same time, the ad server did not allow other exchanges to compete for the same inventory.

145. Before EDA, when a publisher sold their inventory through direct deals for premium prices, Google's ad server sold an advertiser a tranche of impressions which met the advertiser's specifications. Following EDA, Google determined whether an impression should be sold at auction or be used toward meeting the reservation goal of a direct campaign based on the value of the impression.

146. With EDA, Google's publisher ad server let only Google's exchange compete for and purchase the valuable impressions the ad server previously allocated to direct deals. Using its control over publishers' inventory through publishers' ad servers, Google did not allow other exchanges compete for the same inventory.

147. In a review of revenue and impressions on AdX in the United States, Google found that the vast majority—[redacted] percent—of web publishers' ad revenue is generated from a much smaller percent—just [redacted] percent—of impressions. Google refers to this internally as [redacted] Competition in the exchange market depends on being able to trade volume and

valuable impressions. EDA made it so only Google's exchange could trade publishers' valuable goods.

148. At the same time, EDA permitted Google's exchange to purchase publishers' impressions while shielding itself from price competition. Specifically, Google's ad server permitted Google's exchange to purchase these impressions for one penny more than the price floor instituted by Google, known as the reserve price. Google's exchange paid a hypothetical price calculated by Google, instead of the market price.

149. EDA also excluded competition from publisher direct sales. Google's ad server let its own exchange cherry pick the valuable impressions, and then funnel lower value impressions to publishers' direct deals. Advertisers who paid high prices for premium inventory through direct deals unknowingly received publishers' lower quality inventory in return. Over time, as a consequence of this behavior, the value of direct sold inventory declined and advertisers re-allocated spending towards Google's exchanges where they must pay Google exchange fees.

150. Similar to Google's strategy with dynamic allocation, Google invited publishers to enable EDA under a false pretense. Wearing the publisher ad server hat, Google falsely told publishers that EDA "maximizes yield." Internally, however, Google understood that the program was a scheme to let Google's exchange simply [redacted] In fact, cherry-picking the best impressions under EDA helped Google make an additional [redacted] per year.

151. To make matters worse, publishers could not easily know that Google was cherry-picking impressions because Google hashed user IDs. By scrambling the IDs differently for publishers and advertisers, publishers could not easily work with advertisers to confirm that

advertisers were receiving the valuable impressions (e.g., a user with a high net worth) as opposed to the low value ones (e.g., the 10-year-old child with no purchasing power).

152. In summary, Google's conduct—waterfalling and dynamic allocation, the encryption of IDs for users that consent to ID sharing, and enhanced dynamic allocation—were all schemes to exclude competition. Without being able to compete for publishers' impressions or receive full information about their inventory, exchanges could not compete on quality (volume) and price (take rates). As a result, even large and powerful companies like Yahoo! and Microsoft exited the market. By blocking competition outright, Google is able to charge [redacted] percent commission on transactions, which is two to four times higher than the price charged by competing exchanges.

C. A new industry innovation called "header bidding" promotes exchange competition; Google wants to kill it.

153. In 2014, publishers rapidly adopted a new innovation called "header bidding" ("HB") that permitted them to route inventory to multiple exchanges. Publishers, advertisers, and exchanges quickly adopted the method to facilitate exchange competition. Google, however, did not welcome the competition. Instead, Google schemed about how to quash header bidding. First, Google introduced an alternative that secretly routed publishers' inventory back to Google's exchange, even though another exchange had returned a higher bid. In time, Google's goal became to destroy header bidding entirely. In a meeting held on October 13, 2016, Google employees discussed [redacted].

[redacted],

1. Header bidding facilitates competition among ad exchanges.

154. Header bidding was a creative piece of code that publishers could insert into the header section of their webpages to facilitate competition between exchanges. When a user visited a page,

the code enabled publishers to direct a user's browser to solicit real-time bids from multiple exchanges, before Google's ad server could prevent them from doing so. Instead of being subject to the whims of Google's ad server, header bidding shifted routing from the ad server to the browser. Publishers then sent the highest exchange bid in header bidding into their Google ad server. In short, header bidding created a technical workaround for publishers to circumvent Google's efforts to foreclose competition in the exchange market.

155. Some of the biggest Tech companies, like Amazon, participated in header bidding, and, by 2015, publishers and advertisers were rapidly adopting the innovation. By 2016, approximately 70 percent of major publishers in the United States were routing their inventory to multiple, sometimes as many as twenty exchanges, using header bidding.

156. Publishers and advertisers adopted the protocol because they came to realize what Google already knew. Waterfalling, dynamic allocation, and enhanced dynamic allocation did not actually maximize publishers' yield. Instead, as Google discussed behind closed doors, [redacted] In fact, it was incredibly good for publishers. With header bidding, publishers saw their ad revenue jump overnight simply because exchanges could compete. One Google employee noted how [redacted]

157. Header bidding was also a positive development for advertisers and consumers. For advertisers, header bidding allowed them to transact through an exchange of their choosing, including those that charged less than Google's very high [redacted] percent fees. Internally, Google conceded its fees were supra-competitive and not [redacted]

158. The fees that advertisers saved, as well as the increased revenue that publishers made, also benefitted consumers. With more ad revenue, publishers produce more content and better subsidized content access. Lower take rates also reduced deadweight costs that advertisers ultimately pass on to consumers. Consumers benefit through better quality or lower priced goods and services.

159. Based on a review of Google's internal documents, Google wanted to quash the innovation of header bidding for three reasons: to avoid price competition, to permit Google to continue to trade on inside information, and to foreclose competition against its publisher ad server monopoly.

160. First, Google wanted to eliminate header bidding because Google wanted to protect its exchange margins from competition. As Google discussed internally, [redacted] Such a dramatic reduction to Google's exchange margins toward competitive rates was an obvious threat posed by header bidding competition.

161. Second, Google wanted to destroy header bidding because the innovation threatened Google's practice of trading on inside information. Secretly, Google's ad server shared competing bids on publishers' inventory with DV360 and Google Ads. This allowed Google's ad buying middlemen to use that information to optimize their own bidding strategy. This is similar to a form of insider trading where Google is the only bidder that returns a bid knowing what others were simultaneously bidding. As Google discussed the predicament internally, header bidding caused

Google to [redacted] into the [redacted] which are [redacted]

162. Finally, Google wanted to eliminate header bidding to foreclose any competition with its publisher ad server monopoly. The companies involved with header bidding would have a foothold on a key function of Google's ad server: routing a publishers' inventory to exchanges. With that, a major header bidding player like Amazon or Facebook was well-positioned to eventually compete directly with Google's monopoly ad server. Without control over publishers' inventory, Google would lose the ability to block exchange competition and tilt trading to Google.

163. Google discussed how competition was a problem and deliberated over what to do about it. Rather than compete with other exchanges on price or quality, Google did everything in its power to [redacted]

2. Google creates an alternative to header bidding that secretly stacks the deck in Google's favor.

164. Google tried to eliminate competition from exchanges in header bidding by creating a header bidding alternative that secretly stacked the deck in Google's favor. Eventually Google's ad server let publishers route their inventory to more than one exchange at a time with a new program that Google externally called Exchange Bidding, later renamed Open Bidding. However, Google secretly devised the program in a way to foreclose exchange competition, and codenamed the program [redacted] Google measured the program's success, not by financial targets or output increases, [redacted].

165. Google devised exchange bidding to exclude competition from exchanges in four ways. First, Google diminished the ability of non-Google exchanges to return competitive bids by further lowering their ability to identify users associated with publishers' ad space in auctions. Header bidding let each exchange access a cookie on the user's page, which permitted each exchange to

recapture some information about the user's identity. Google's new program prohibited exchanges from directly accessing the user's page. As a result, they identified users in auctions even less often, causing them to bid and win less often.

166. Second, Google foreclosed exchange competition by charging publishers an additional 5 to 10 percent penalty fee for selling inventory in a non-Google exchange. The fee made advertisers' bids through rival exchanges less competitive than advertisers' bids through Google's exchange because Google's exchange did not pay the additional fee. As Google understood it, this gave Google's exchange a [redacted] when competing against competing exchanges.

167. Third, when publishers chose to route their ad space from their Google ad server directly to multiple exchanges at the same time, Google's new program required them to route their space through Google's exchange, even if publishers did not want to do so.

168. Fourth, Google designed open bidding to provide Google's exchange a special [redacted] which Google kept secret. Google made it so Google's AdX exchange won publishers' inventory even over another exchange's much higher bid. [redacted]: [redacted], [redacted].

[redacted]

169. Internally, Google employees grappled with the fact that Google was falsely telling publishers that Google's header bidding alternative enabled competition and improved yield, but in reality, Google had created a program that advantaged Google at the expense of publishers. As one senior Google employee put it, [redacted]

170. Despite the risk of Google's deceptive moves, Google was eager to get rid of header bidding and force publishers back into the control of Google's ad server. This was an effort that Google executives described as the [redacted] Google feared that its injuries from header bidding could be more than just a flesh wound.

D. Facebook helps Google kill header bidding with an unlawful agreement.

171. Google unlawfully excluded competition from header bidding by getting its largest Big Tech rival, Facebook, to stop supporting the technology. After months of signaling, then drawn out negotiations, the two giants reached an illegal agreement. [redacted]

[redacted]

172. In March of 2017, Facebook publicly announced it would support header bidding. By doing so, Facebook would enable web and mobile app publishers and advertisers to bypass the fees associated with transacting through Google's ad server. When bidding into Google's ad server, networks, such as Facebook's network (FAN), had to bid into exchanges and pay exchange fees. Google's exchange fee was about [redacted] percent of the value of the transaction. Because header bidding cost nothing, Facebook would let web publishers, mobile app publishers, and advertisers save on these fees altogether.

173. Google feared that Facebook's support of header bidding would crack Google's publisher ad server monopoly and unlock exchange competition. [redacted]. In a company deck, he outlined the [redacted] for 2017, writing, [redacted]

174. The wider industry also thought that Facebook was prepared to challenge Google's monopoly. The same day as Facebook's March 2017 header bidding announcement, industry publication AdAge wrote that Facebook was poised to execute a "digital advertising coup against rival Google and its DoubleClick empire." A Business Insider headline the same day read, "Facebook Made an Unprecedented move to Partner With Ad Tech Companies – Including Amazon – to Take on Google."

175. [redacted]. Facebook was helping publishers and advertisers match two to three times more users in auctions and increase third-party publishers' revenue by 10-30 percent, according to Facebook metrics posted in Facebook's public blog. [redacted].

176. Such cost efficiencies for publishers and advertisers were not welcome news to Google. Even before Facebook's March 2017 announcement, Google was concerned about large entrants supporting header bidding. Internal Google documents show that Google's mandate at this time was to stop its competitors [redacted]. In an October 5, 2016 presentation to senior Google executives, [redacted] One slide in this presentation asserted that Google's [redacted] was to [redacted]

177. Conversely, internal Facebook communications indicate that Facebook's March 2017 announcement was mainly intended [redacted]. [redacted]. Evidently, Facebook was merely executing a planned long-term strategy—"[redacted]. Facebook wanted to draw Google in.

178. Facebook's maneuvers were successful. Google made the first move. According to internal Facebook communications, Google tried to bring Facebook to the negotiating table as

early as [redacted]. In one email, a Facebook employee noted that [redacted]

179. Within months of Facebook's official header bidding announcement, Google and Facebook began formal negotiations. According to an internal Google November 2017 presentation discussing a [redacted] Google stated their endgame was to [redacted]

180. Facebook clearly understood Google's motivations. In an email dated [redacted], [redacted] Facebook knew that Google's intent was to cut a deal with Facebook to get Facebook to [redacted].

181. At this time, and extending into 2018, Google and Facebook were engaged in high stakes brinksmanship. A truce between the two advertising giants was by no means guaranteed. In an August 9, 2018 internal Google presentation, one slide laid out that if Google could not [redacted] Google was interested in using Facebook to [redacted].

182. Facebook was highly interested in a successful outcome to these negotiations between horizontal competitors. As internal Facebook documents reveal, Facebook [redacted] Facebook did not want to play [redacted].

183. The companies' efforts to avoid competition were successful. The ultimate outcome of the negotiations was a September 2018 Google-Facebook agreement that Google internally code-named [redacted]—a twist on a character name from Star Wars. [redacted], [redacted] [redacted]. [redacted]

184. Facebook chose to cut a deal with Google. Facebook significantly curtailed its header bidding initiatives and would bid through Google's ad server instead. In return, Google agreed to give Facebook a leg up in its auctions. [redacted]

185. Facebook agreed to shift from routing bids through header bidding to routing bids through Google's ad server in exchange for special auction access. Traditionally, when bidding into Google's ad server through Open Bidding, networks for web inventory like FAN had to bid into exchanges and pay exchange fees. With the [redacted] agreement, Google made Facebook a large-scale concession and [redacted]. [redacted] Publishers and

advertisers measure the efficiency of trading through buy-sell spreads. [redacted] that Google imposes on some marketplaces like FAN puts those marketplaces at an advantage when competing against the marketplaces with higher fees.

186. Google also provided Facebook with a [redacted]. Google subjects other marketplaces competing for publishers' inventory in Open Bidding to 160 millisecond timeouts. Competitors have actively complained that [redacted] is not enough time to recognize users in auctions and return bids before they are excluded. By comparison, Google [redacted]. The longer timeouts granted by Google were presumably designed to aid FAN win more auctions to abide by the spirit of the [redacted] agreement.

187. Google further induced Facebook to help Google foreclose competition from header bidding—"[redacted]—by letting Facebook have [redacted], though Google prohibits other exchanges and networks in Open Bidding from having the same [redacted]. In fact, Google's policies with competing marketplaces in this regard are so strict that Google has prohibited marketplaces from [redacted]. The inability to [redacted] constrains marketplaces' ability to operate and compete, explained rivals. One advertising competitor compared Google's business term to a [redacted]

188. On top of [redacted] Google further induced Facebook to help it shut down competition from header bidding by [redacted]s. Other networks have asked Google for the same information, but Google has withheld the same information.

189. In the [redacted] agreement, Google also promised to use [redacted] to help Facebook recognize the identity of users in publishers' auctions. The parties agreed to [redacted] commitments, meaning the percent of users Facebook could identify in auctions over the percent of bid requests received. Google promised Facebook an [redacted] in auctions for mobile inventory and a [redacted] in auctions for web inventory (excluding Safari). Bidders in advertising auctions generally only bid when they recognize the identity of the user. As a result, the [redacted] allow Facebook to bid and win more often in auctions.

190. Indeed, since signing the agreement, Google and Facebook have been working closely in an ongoing manner to help Facebook [redacted]. For example, Google and Facebook have [redacted]. They also coordinated with each other to harm publishers through the adoption of Unified Pricing rules, discussed in paragraphs 231-235 below. The companies also have been working together to [redacted]. For instance, according to an April 2, 2019 discussion between Facebook employees, [redacted] Facebook employees noted, however, that [redacted]

[redacted]. By helping Facebook to [redacted], Google helps Facebook's network FAN to bid and win more often.

191. In entering the agreement, Facebook was wary that Google would use information about Facebook's bids to manipulate the auction. As a result, Facebook was explicit in [redacted]. Dan Rose, Facebook Vice President of Partnerships, explained in an email to Mark Zuckerberg, that Facebook had [redacted] Facebook was big enough to extract a concession from Google, whereas no other auction participant has the scale to demand the same. [redacted]. [redacted].

Screenshot of contractual terms that [redacted]:

[redacted]

192. Google and Facebook also agreed to manipulate publisher auctions in Facebook's favor through [redacted]. The agreement outlines that Facebook will use [redacted] [redacted]. The parties also agreed that Facebook is to [redacted]. Unbeknownst to other market participants, no matter how high others might bid in those auctions, Facebook is to [redacted]. Starting in the fourth year of the agreement, Google also [redacted].

193. In addition to sufficiently incentivizing Facebook to [redacted], and cede the market for publisher ad servers to Google, the [redacted] agreement fixes prices and allocates markets between Google and Facebook as competing bidders in the auctions for publishers' web display and in-app advertising inventory. Google and Facebook operate the largest ad networks for display and in-app mobile inventory in the United States (i.e. GDN, AdMob, and FAN). In this regard, the companies compete head-to-head in publishers' ad auctions

to purchase inventory for, ultimately, their small advertisers. Google internally discussed this [redacted]

194. By providing Facebook with what Google called [redacted] Google further manipulated auctions. Google already manipulates publishers' ad auctions by giving Google bidders information and speed advantages. In 2019, these advantages helped them to win the overwhelming majority of publishers' ad auctions, hosted by Google: about [redacted] percent of Google AdMob auctions for U.S. mobile app inventory, and about [redacted] percent of Google ad server auctions for mobile inventory. Now Google offered Facebook information advantages, speed advantages, and other prioritizations, to the detriment of other auction participants. The agreement allocated a portion of publishers' auction wins to Facebook, subverting the free operation of supply and demand. Furthermore, [redacted] were designed to meet a [redacted] that spans several years. Facebook is locked in and cannot change its mind and switch back to header bidding to compete against Google.

195. As one would expect with a market allocation agreement, Google and Facebook do not disclose [redacted] to other bidders in the same publisher auctions. In fact, Google publicly misrepresents that all bidders in publishers' auctions compete on an equal footing. "All participants in the unified auction, including Authorized Buyers and third-party yield partners, compete equally for each impression on a net basis," Google says. This, of course, is false.

196. Given the scope and extensive nature of cooperation between the two companies, Google and Facebook were highly aware that their agreement could trigger antitrust violations. The two companies discussed, negotiated, and memorialized how they would cooperate with one another [redacted]

[redacted] agreement permits the parties to terminate the agreement for [redacted]. If neither party executed those termination options, the agreement permits termination [redacted]. The agreement also requires the parties to [redacted] relating to their illegal agreement in its answer to this Complaint. The word [redacted] is mentioned no fewer than twenty times throughout the [redacted] agreement.

Screenshot of the [redacted] agreement specifying [redacted]:

[redacted]

E. Google forces market participants to re-route trading through Google.

197. In its effort to kill header bidding, Google went further than colluding with its largest competitor. Google worked tirelessly to stop the innovation of header bidding entirely. Google deceived exchanges to use Google's ad server instead of header bidding based on false promises. When publishers chose to use header bidding, Google employees sometimes deceived publishers, alsely telling one major online publisher that it should cut off a rival exchange in header bidding because of a strain on servers. After the exchange uncovered Google's act, Google employees discussed playing a [redacted] on the industry and [redacted]

[redacted] Google also crippled publishers' ability to measure the efficiency of exchanges in header bidding, limited publishers' use of exchanges in header bidding, and punished publishers and advertisers that used header bidding in Google search rankings—a market where Google controls 88 percent of the market.

1. Google trades ahead of bid orders to foreclose exchange competition.

198. Google first excluded competition from header bidding by trading ahead of the bid orders submitted by header bidding exchanges. A publisher like *USA Today* would route their inventory to multiple exchanges through header bidding, then route the winning exchange bid into their Google ad server. Google, however, refused to compete with other exchanges in header bidding, then used its ad server to let Google's exchange displace the winning header bidding exchange bid by paying one penny more. Industry participants called this Google's "Last Look." Other industries call similar conduct by intermediaries "insider trading" and "front running."

199. With Last Look, and Google's absolute monopoly in the ad server market, Google successfully foreclosed competition. Google's exchange cherry picked the best impressions, leaving rival exchanges the low value impressions it picked over. According to a confidential Google study, Last Look also [redacted], protecting Google's market power in both. According to Google's internal documents, Last Look ensured that header bidding exchanges always lose to Google's exchange. The main exception was when a publisher set a higher floor for Google's exchange, a feature that Google later removed from publishers' control.

2. Google deceives exchanges to forgo header bidding.

200. Google unlawfully excluded competition in the exchange market by tricking exchanges to migrate from header bidding to exchange bidding. In March 2017, Google stated that its exchange would no longer trade ahead of other exchanges that bid through Google's exchange

bidding program. Some market participants cheered Google for giving up its "Last Look auction advantage." However, internal documents reveal that Google simply traded one version of Last Look for another version of the same conduct by using a new technique that allowed Google to continue to jump ahead of rival exchange bids.

201. Specifically, Google deploys a bid optimization scheme based on predictive modeling that [redacted] With this new bid optimization, Google abandoned Last Look as that term was understood. However, Google re-engineered the ability to trade ahead of rivals to ensure that [redacted]. Truly giving up Last Look would have cost Google too much: DV360's revenue would have dropped by [redacted] percent, and Google Ads' revenue would fall by over [redacted] percent.

202. Google deceived exchanges to switch from header bidding to exchange bidding on the false hope that Google's exchange would give up trading ahead of their orders. Google also forecloses others in the market from competing against Google's exchange with similar bid optimization schemes because Google's ad server prohibits publishers from sharing identical user IDs with competing exchanges and ad buying intermediaries.

3. Google deceives publishers to disable exchanges in header bidding.

203. Internal communications between Google employees reveal how Google engaged in deception to undermine header bidding. For example, [redacted]. However, a senior Google employee worried its misrepresentations would make it difficult [redacted] Another employee conceded it gave Google a

[redacted] Google employees agreed that, in the future, they should not directly lie to publishers, but instead find ways to convince publishers to act against their interest and remove header bidding on their own.

[redacted]

4. Google cripples publishers' ability to measure the success of exchanges in header bidding.

204. Beginning in 2018, Google's ad server started redacting various data fields from the consolidated auction records that it shares with publishers. The redactions make it nearly impossible for publishers to compare the performance of exchanges in header bidding with the performance of exchanges going through Google's ad server. Consequently, Google renders the entire reason publishers use header bidding unobservable and unmeasurable: to increase yield through head-to-head exchange competition.

5. Google obstructs publishes' use of header bidding through caps.

205. Google also throttles publishers' use of header bidding by capping the number of permissible "line items"—a technical ad server line of code that publishers need to use in order to run header bidding auctions. Many publishers requested that Google increase the number of permissible line items so that they could properly use header bidding. Internally, Google discussed [redacted] Google consistently rejected the publishers' request for more line items or only provided the publisher with temporary limited increases. As one employee explained to others, [redacted] OpenX, a competing ad server, permitted publishers to manage header bidding via a single line item, rather than multiple. Instead of increasing line items to enhance publishers' yield, or innovating to provide a single line item solution like OpenX, Google used its veto power to undermine its own clients.

6. Google uses its search monopoly to punish publishers that use header bidding.

206. Google eventually started using its monopoly power in the search market to strongarm publishers and advertisers to stop using header bidding and re-route trading through Google's ad server. Header bidding is only possible if publishers can insert JavaScript code into the header section of their webpages. To respond to the threat of header bidding, Google created Accelerated Mobile Pages ("AMP"), a framework for developing mobile web pages, and made AMP essentially incompatible with JavaScript and header bidding.

207. Although Google claims that AMP was developed as an open-source collaboration, AMP is actually a Google-controlled initiative. Google originally registered and still owns AMP's domain, ampproject.org. In addition, until the end of 2018, Google controlled all AMP decision-making. AMP relied on a governance model called "Benevolent Dictator For Life" that vested

ultimate decision-making authority in a single Google engineer. Since then, Google has transferred control of AMP to a foundation, but the transfer was superficial. Google controls the foundation's board and debates internally [redacted].

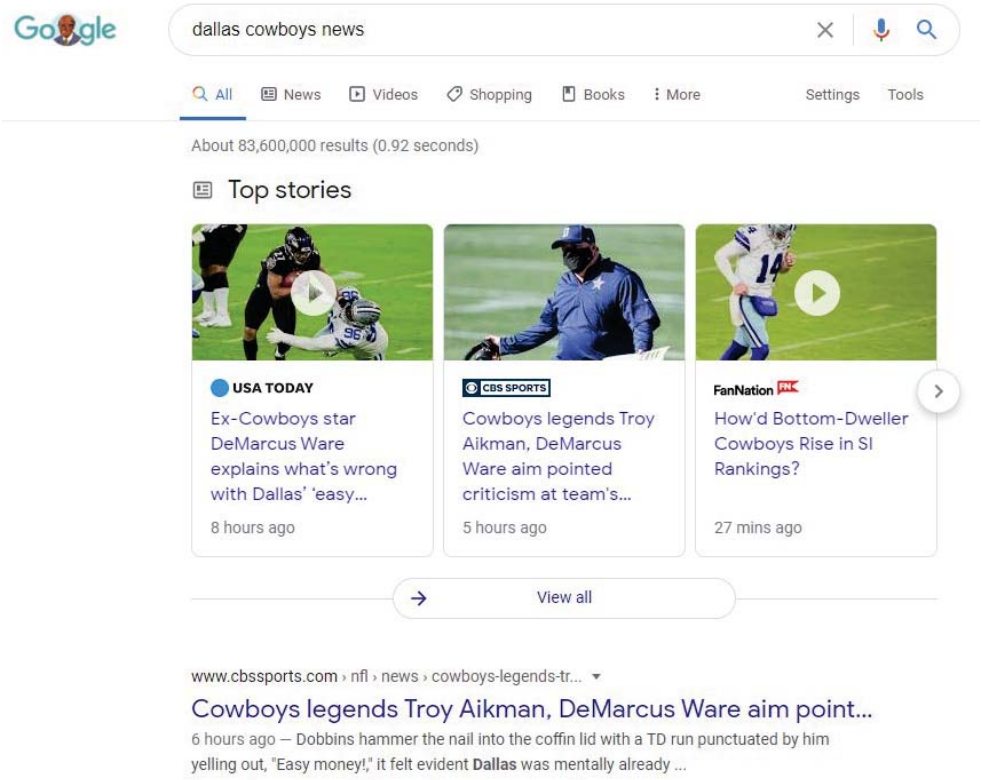
208. Google ad server employees met with AMP employees to strategize about using AMP to impede header bidding, and how much pressure publishers and advertisers would tolerate. First, Google restricted the code to prohibit publishers from routing their bids to or sharing their user data with more than a few exchanges a time, which limited AMP compatibility with header bidding. At the same time, Google made AMP fully compatible with routing to exchanges through Google. Google also designed AMP to force publishers to route rival exchange bids through Google's ad server so that Google could continue to peek at rivals' bids and trade on inside information. Third, Google designed AMP so that users loading AMP pages would make direct communication with Google servers, rather than publishers' servers. This enabled Google's access to publishers' inside and non-public user data. AMP pages also limit the number of ads on a page, the types of ads publishers can sell, as well as enriched content that publishers can have on their pages.

209. AMP is a low-quality product for publishers in two ways. Publishers [redacted]. AMP also degraded quality by restricting content and ad types.

210. Just as publishers have the freedom to make their webpages mobile or desktop compatible, publishers still have the freedom to decide whether to build their pages using the AMP framework. However, [redacted]. [redacted]

[redacted].

Google search results for "Dallas cowboys news"; AMP results are displayed in the carousel along the top



211. Google falsely told publishers that adopting AMP would enhance load times, but Google employees knew that AMP only improves the [redacted] and AMP pages can actually [redacted]. In other words, the ostensible benefits of faster load times for cached AMP version of webpages were not true for publishers that designed their web pages for speed. Some publishers did not adopt AMP because they knew their pages actually loaded faster than AMP pages.

212. Google also [redacted] of non-AMP ads by giving them artificial one-second delays in order to give Google AMP a [redacted] [redacted] slows down header bidding, which Google uses to turn around and denigrate header bidding for

being too slow. [redacted] Google falsely claimed. Internally, Google employees grappled with [redacted]

213. Google gave publishers a Faustian bargain: (1) publishers could lose more money by using header bidding because Google Search would suppress their search rankings and send traffic to competing AMP-compatible publishers; or (2) publishers could lose less money by using AMP pages and forgoing exchange competition in header bidding. Either option was far inferior to the options available to publishers before AMP was introduced. Just how inferior? [redacted] according to internal Google documents.

7. Google cuts off data to publishers that do not stop using header bidding.

214. Google further excludes competition from header bidding by conditioning publishers' access to key ad server user data on the basis publishers completely forego header bidding. Access to such data is a critical input for successful online advertising campaigns, and Google recognized that a walled garden approach would exclude competition and protect its monopoly.

215. Google does not let publishers access their ad server user IDs, then co-mingles the same data with Google data, and shares back the co-mingled data set only with publishers who route trading through Google's open bidding program. Specifically, Google combines data it obtains by running publishers' inventory management software with data Google obtains by operating its own properties Search and YouTube, naming the combined data set [redacted] Google makes the combined [redacted] data set available to Google's exchange and buying tools through a special project codenamed Project [redacted] Publishers that use header bidding are denied a critical data input.

216. When Google acquired DoubleClick, it made representations to both Congress and the FTC that publishers and advertisers owned ad server data, which would have prohibited Google's exchange and advertising middlemen from trading on such inside information. Reneging on these

promises allows Google to act as a seller's broker, but actually not act in a seller's interest. Google accesses a seller's non-public data in its capacity as a seller's broker, but then converts such data for Google's own use. In turn, Google lets publishers that promise to forgo header bidding to regain access to some of that data to sell ads.

217. In a similar fashion, Google's ad server started to share "minimum bid to win" data after auctions conclude with exchanges in Open Bidding, [redacted]. The "minimum bid to win" data is the price an auction participant would have had to bid to win a particular publisher auction. Those bidding in Open Bidding use this information to adjust their future bidding strategy in order to beat those bidding through header bidding. In other words, Google withholds critical information selectively so that exchanges in header bidding lose and those bidding in Open Bidding win. Google could implement less restrictive alternatives of these features.

8. Google excludes competition through "nontransparent pricing."

218. When marketing its exchange to publishers and advertisers, Google has explained an ad exchange is "just like a stock exchange, which enables stocks to be traded in an open way." However, Google's exchange is not open at all. Google purposefully keeps auction mechanics, terms, and pricing, opaque and "nontransparent" to impede exchange competition.

219. Google's non-transparent pricing strategy includes obfuscating the take rate that publishers and advertisers pay Google. Google tells small advertisers using Google Ads the price they pay Google for ad space, but not the price the inventory actually cleared for in Google's exchange, the revenue the publisher receives, or the markup Google keeps. In a discussion between Google employees about the fees that Google Ads charges, one employee asked, [redacted] Another clarified that the fee [redacted] Even Google employees don't understand Google's fees for small advertisers.

220. Overall, evidence suggest that publishers selling inventory through Google receive approximately 70 percent of advertising revenue paid by advertisers, and in some cases that amount is as low as 58 percent. In other words, the buy-sell spread is approximately 30 percent and in some cases is as high as 42 percent.

221. The lack of transparency decreases competitive pressure at different points in the supply chain and increases opportunities for rent-seeking and arbitrage. As one senior Google employee put it, [redacted] In other words, Google can charge higher fees at points in the supply chain where there is little competition and the lack of transparency around fees impedes other firms from coming in and competing with Google by offering the same services at lower prices.

222. The lack of transparency also prevents Google's potential and actual competitors from assessing a possible return on investment if they enter or as they compete in the market. 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.

223. Non-transparent pricing also lets Google engage in abusive trading behavior in secret, without competition entering to challenge its conduct. Internal Google documents make clear that non-transparent pricing is a deliberate strategy to impede competition and give Google the leeway of [redacted] to do things like arbitrage.

[redacted]

9. The emerging new network of [redacted]

224. The AMP approach of controlling publishers content foreshadows Google's future plans for a [redacted] that will control what publishers own. In this emerging world of "[redacted] Google plans to control and monetize publishers' content. Publishers will generate content and comply with even more stringent policies than AMP, while Google will [redacted] Google internal documents describe this as the [redacted] and its objectives stand in stark contrast to the open internet and the huge consumer welfare improvements unlocked by it. Google's control of publisher monetization will allow it to build a version of one giant walled garden that is particularly advantageous to Google. A walled garden where publishers own the property and bear the cost and risk of providing content but Google captures the benefit by extracting a high share of

advertising revenues as the sole ad tech services provider. The following internal Google document summarizes Google's future plans for the internet:

[redacted]

225. The goal of the [redacted] is to [redacted] by enabling third-party inventory to behave as if it [redacted]. The [redacted] will [redacted] The new requirements would be [redacted]—a new superset of distinct [redacted] requirements "[redacted] with Google as the sole indirect ad supplier in an environment in which Google was [redacted] In other words, the publishers own the content, but Google controls it. In addition to ceding all control, Google would demand that publishers accept exponentially higher fees—[redacted] Google's standard revenue share.

226. In order to convince publishers to accept this bargain, Google intends to [redacted]

[redacted] or, under the [redacted], to give up all control and pay Google exponentially higher revenue shares.

227. Given the extraordinary information Google has on every consumer, the threat of withholding that information from publishers forecloses competition. Based on Google's default settings of Google products alone, it includes everything you have ever searched on Google or on Chrome, every email you have sent or read on Gmail, everywhere and every time you have ever travelled on Google Maps, everything you have ever done on every Android app, every video you have ever watched on YouTube, every meeting you have ever attended on Google Calendar, and everyone you know in your Google Contacts. It also includes a massive amount of third-party data, including information from sites and apps that use Google services, and every online publisher and advertiser using Google ad products has about the user. Google is able to use this massive information advantage strategically to harm any publisher who refuses to use its intermediaries or, under the emerging [redacted], every publisher who refuses to allow Google to operate what it owns.

228. Google's decision to phase out third-party cookies on Chrome only increases the information asymmetries, leaving publishers with fewer alternatives other than Google's user data. Because access to user data is only available on the [redacted] or through Google intermediaries, Google's decision to shut down third-party cookies on Chrome increases the information asymmetries between its exchange and other exchanges such as those in header bidding.

229. The [redacted] approach is not without risks. Google knew that such a change would be deeply unpopular with publishers, but concluded that the [redacted] because Google's clients are [redacted] Given the nature of

targeted ads, Google has consistently misrepresented that "we'll never sell your personal information to anyone." But the [redacted] takes this misrepresentation to another level. Google recognized that a fundamental [redacted] of the [redacted] [redacted] [redacted] As one Google executive put it, [redacted] Of course, the public relations risks are real because that is precisely what Google is doing: using its massive trove of user data to generate targeted ad revenue. The [redacted] will go further and charge even higher prices for the sale of personal user information in order to create a giant walled garden and increase its profit margins and eliminate competition.

10. Google excludes competition though unified pricing rules.

230. Google also uses its ad server monopoly power to exclude competition from exchanges in header bidding through new unified pricing rules. In 2019, Google's ad server started prohibiting publishers from setting different price floors for different sources of indirect demand. As a result, publishers can no longer route their ad space to an exchange like AppNexus at a price floor lower than what the publisher routes the same impression to Google's exchange. Neither can a publisher give one bidder like Google Ads a price floor of a $10 CPM, while giving another buy-side DSP, such as The Trade Desk, a price floor of an $8 CPM. Google calls these new restriction Unified Pricing.

231. Unified Pricing prohibits publishers from using price floors to generate competition between Google and non-Google exchanges and buy-side intermediaries. Historically, publishers set higher price floors for Google to price discriminate between buyers. Setting a higher floor for Google's demand allowed publishers to extract a greater share of value from the informational advantage that Google created for itself. This is a consequence of Google's ad server sharing better

user IDs with Google than with non-Google intermediaries. Unified Pricing rules prohibit publishers from charging Google an information risk premium, and generating competition from bidders that cannot compete against Google's information advantages.

232. Unified Price rules result in Google's exchange and buy-side winning an increasing portion of publishers' impressions. [redacted]. Records also show that [redacted].

233. Unified Pricing rules not only prohibit publishers from discriminating between exchanges and bidders based on price and yield, but also on non-price criteria like ad quality. Publishers cannot favor exchanges and ad buying tools that return higher quality ads. Unified Pricing rules also eliminate the incentive for publishers to multi-home across exchanges. In adopting Unified Pricing, Google forced publishers to work with Google's buy-side and through Google's exchange. Previously, Google Ads and DV360 bid on inventory in non-Google exchanges and publishers could choose to only work with Google's buy-side in non-Google exchanges by setting their floors too high in Google's exchange. Unified Pricing rules ended this practice, which results in Google re-routing DV360 and Google Ads buying through Google's exchange, leading to a higher take rate for Google. This was one of Google's main aims with Unified Pricing.

234. Google misrepresented to publishers the reason it was adopting Unified Pricing. According to an internal Google memorandum summarizing a May 2, 2019 meeting between

Google and Facebook, the parties discussed [redacted]. These discussions helped Google to later decide to prohibit publishers from setting different price floors for different exchanges. Externally, Google publicly and falsely declared that abolishing price floors benefited publishers. Privately, however, Google revealed that the true objective was to [redacted]

F. Google forces advertisers to use Google's ad buying tools for large advertisers.

1. Conduct that excludes competition in the exchange market also excludes competition in the ad buying tools market.

235. As discussed in paragraphs 132-138, Google has deployed various programs, including the [redacted] program, that foreclosed competition in the ad buying tool market for large advertisers.

236. Likewise, as discussed in paragraphs 231-235, in adopting Unified Pricing, Google forced publishers to work with Google's ad buying tools through Google's exchange. Before Unified Pricing, publishers could set different price floors to facilitate competition between Google and non-Google buyers.

237. As discussed in paragraphs 200-202, when Google replaced Last Look, it deployed a bid optimization scheme based on predictive modeling that uses user ID information from publishers' ad servers to enable its ad buying tools to unfairly predict the optimal bid for an impression. Consequently, Google foreclosed competition between ad buying tools in the market competing to trade on Google's exchange.

2. Google excludes competition in the market for large advertiser buying tools.

238. Google unlawfully maintains its monopoly power on the buy-side by withholding YouTube inventory from competing ad buying tools, and, by ensuring its exchange and ad server provide Google's buy-side with information advantages and better opportunities to execute orders in Google's exchange.

239. The market for instream online video advertising in the United States is a relevant antitrust market. Online instream ads occur within the video stream of a video that the user is already watching (e.g., a video ad before, during, or after a YouTube video) while outstream ads are ads that occur when the end-user is scrolling through other content (e.g., a video ad that automatically plays when scrolling through an article). Instream online video advertising is not interchangeable with other types of online advertising, like search or display advertising. Instream online video advertising typically serves distinct campaign goals for advertisers and usually command significantly higher prices than online display ads, suggesting that online display ads do not constrain the prices of instream online video ads. Instream online video advertising is also not interchangeable with outstream video advertising since the end-user behavior differs significantly—the end-user passively watches instream video as opposed to scrolling through outstream video—leading advertisers to view the ad spaces differently.

240. YouTube has market power in the instream online video advertising market. YouTube's share of the overall online video advertising market is at least 43 percent in the United States, and potentially much higher for instream online video advertising. Second, YouTube has immense reach amongst U.S. consumers, reaching approximately 190 million U.S. consumers. Among younger U.S. consumers, 77 percent of U.S. internet users aged 15-25 used YouTube, as measured in Q3 2020. Even amongst older age-groups, YouTube's reach was 67 percent or higher. YouTube's reach among U.S. consumers makes it a "must-have" source of online instream video

inventory for advertisers and is considered a [redacted] by Google for its buying tool DV360. Accordingly, Google wields significant market power in the instream online video ads market, as demand for YouTube content is unique compared to other online video publishers that sell instream online video advertising adjacent to short-form user created video content.

241. The relevant geographic market for online instream video advertising is the United States. Online instream video advertising available in other countries is not a reasonable substitute for the online instream video advertising available in the United States. Therefore, the United States is a relevant geographic market.

242. Google uses its market power to withhold YouTube inventory from competing buy-side ad buying tools, forcing advertisers to use Google's tools in order to purchase ad space from the leading provider of video inventory in the United States.

243. Google did not always require advertisers to use a Google buy-side intermediary in order to purchase YouTube ad space. Until 2015, advertisers could purchase YouTube inventory through one of many non-Google buy-side intermediaries.

244. However, in 2013, Google noticed that its buy-side intermediary for large advertisers DV360 was falling behind the competition and Google started to consider withholding YouTube for the express purpose of pressuring advertisers to use DV360 and Google Ads. In an internal 2014 Google document, Google estimated that [redacted]

245. Google also recognized that withholding YouTube from competing buy-side intermediaries would give Google's intermediaries, DV360 and Google Ads, power as buyers' agent to steer advertisers' budgets. A 2013 strategy conversation makes this clear: [redacted]

[redacted] In other words, by withholding YouTube, advertisers would have to use Google's advertising buying tools, permitting Google to then steer budgets back to Google properties.

246. Rather than competing on the basis of price or quality, Google started withholding YouTube inventory from third-party buy-side intermediaries in order to force advertisers to use Google's advertising buying tools.

247. By restricting non-Google buy-side intermediaries from selling YouTube inventory, Google acted against YouTube's interest. Restricting the pool of buyers for YouTube inventory lowered the demand and revenue for YouTube content creators.

248. The harm to competing buy-side intermediaries is also magnified because an advertiser or ad agency may prefer to minimize the number of DSPs they use. Advertisers and ad agencies bear significant costs and inefficiencies when using more than one DSP for an ad campaign. For example, they increase the rate at which they bid against themselves on exchanges, driving up their own advertising costs. As a result, advertisers can either use more than one DSP and increase their costs or use just Google's DSP and avoid these inefficiencies altogether.

249. Withholding YouTube caused competition on the buy-side to flounder. Many DSPs stopped growing, many others went out of business, and the market overall has been closed to entry.

VIII. ANTICOMPETITIVE EFFECTS

250. Google's exclusionary conduct has resulted in harm to competition. Evidence of the anticompetitive effects from Google's conduct includes the exit of rival firms and limited and declining entry rates in these markets (despite significant profits enjoyed by Google in those same markets). The harm to competition deprives advertisers, publishers and consumers of improved quality, greater transparency, increased output and/or lower prices.

251. Google has unlawfully maintained monopolies by using its market power to disadvantage rivals via tying, exclusionary conduct, information asymmetries, and other conduct that has collectively and separately harmed competition in the following ways:

i. Denying rivals in the exchange market access to the necessary scale to compete effectively by denying rivals' access to inventory and to advertiser demand;

ii. Substantially foreclosing competition in the market for exchanges and using market power in the exchange market to harm competition in the publisher ad server market;

iii. Substantially foreclosing competition in the market for publisher ad servers and using market power in the publisher ad server market to harm competition in the exchange market, the market for display ad buying tools for small advertisers, and the market for display ad buying tools for large advertisers;

iv. Substantially foreclosing competition in the markets for display ad buying tools for small advertisers and display ad buying tools for large advertisers by creating information asymmetry and unfair auctions by virtue of Google's market dominance in the publisher ad serving tools and exchange markets;

v. Increasing barriers to entry in the markets for publisher ad servers, exchanges, display ad buying tools for small advertisers, and display ad buying tools for large advertisers;

vi. Harming innovation, which would otherwise benefit publishers, advertisers and consumers;

vii. Harming publishers' ability to effectively monetize their content, reducing publishers' revenues, and thereby reducing output;

viii. Maintaining opacity on margins and selling processes, harming competition in the exchange and display ad buying tools markets;

ix. Increasing advertisers' costs to advertise and reducing the effectiveness of their advertising, thereby harming businesses' ability to deliver their products and services, and reducing output;

x. Improperly shielding Google's products from competitive pressures, thereby allowing it to continue to extract high margins while shielded from significant pressure to innovate.

252. This section outlines the effect of Google's conduct on competition in the publisher ad server market, exchange market, the market for display ad buying tools for small advertisers, and the market for display ad buying tools for large advertisers, and the effects on publishers, advertisers, businesses, and the general public.

A. Anticompetitive Effects in the Publisher Ad Server Market

253. A significant barrier to entry—high switching costs—exists in the publisher ad server market. Google's conduct, including tying its publisher ad server to its exchange, creates artificial barriers to entry in the publisher ad server market. Google's foreclosure of rival publisher ad servers has left publishers with little to no choice in their selection of publisher ad server.

254. The anticompetitive effects of Google's conduct on the publisher ad server market can be seen by the exit of competitors and limited entry over the past decade or so. Several large advertising technology firms offered publisher ad server solutions, including substantial competitive offerings from Yahoo!, AppNexus, and OpenX. Today, few publisher ad server competitors remain in the United States. Yahoo's publisher ad server was acquired in 2017 and shuttered in 2019. AppNexus's publisher ad server was acquired by AT&T and rebranded to

Xandr but faces an uncertain future as AT&T is reportedly considering selling the publisher ad server. OpenX shut down its ad server solution in 2019.

255. Entry into the publisher ad server market has been remarkably weak over the past decade. This lack of entry is a result of high publisher switching costs augmented by the artificial barriers arising from Google's anticompetitive conduct. As a result, publishers have very limited alternatives to Google's publisher ad serving product, and rivals are unable to compete by improving quality or lowering price.

256. Google has charged supra-competitive fees and degraded quality in the publisher ad server market.

B. Anticompetitive Effects in the Exchange Market

257. Google abuses its scale in advertiser demand and information arising from its market power in the publisher ad server market to create asymmetric advantages that benefit its exchange over rival exchanges. In doing so, Google harms competition in the exchange market.

258. For example, Google implements Last Look (a feature of the publisher ad server) to the benefit of Google's exchange over rival exchanges. Google uses data from the publisher ad server to benefit its exchange over rival exchanges. The artificial advantages created by Google's integration and asymmetric treatment drive scale for Google's exchange over rivals. As Google wins additional share, it gains access to bid and win data at scale that can be further used to develop features that benefit the exchange over rival exchanges. Google's conduct reduces rival exchanges' ability to compete on quality, since they are deprived of scale and are foreclosed from the information necessary to build similar features.

259. Competition in the exchange market is harmed because Google's auction programs steer impressions to its own exchange. Competitors cannot effectively compete by lowering their take rate, since Google will use its information advantage to adjust its margin when needed to

win an impression and recoup its subsidy on other impressions. By doing so, Google generates inefficiency in the allocation of impressions. This means that Google's average take rate does not reflect the inefficiency introduced because of Google's conduct.

260. By foreclosing competition, Google reinforces the scale advantages of its own exchange, which reduces the quality of competing exchanges. The persistence of supra-competitive pricing is another demonstration of the anti-competitive effects of Google's exclusionary conduct. Competing exchanges have attempted to compete by lowering take rates, without gaining considerable market share. In 2017, AppNexus dropped its take rate to 8.5 percent and Rubicon to 10-12 percent, while AdX continued to charge a [redacted] Despite offering take rates of less than half of Google's exchange, rival exchanges have failed to gain substantial market share.

C. Anticompetitive Effects in the Markets for Display Ad Buying Tools for Small Advertisers and Display Ad Buying Tools for Large Advertisers

261. To access inventory from publishers using Google's publisher ad server and exchange without suffering from asymmetric treatment, larger advertisers must use Google's display ad buying tool for large advertisers, DV360. Smaller advertisers must use Google's display ad buying tool for small advertisers, Google Ads. Google leverages its market power in the publisher ad server and exchange markets to develop features that benefit DV360 and Google Ads, and forecloses rivals from accessing information and data to develop similar features. These increases the win rate and attractiveness of Google's products to advertisers. Rival display ad buying tools may develop auction features nominally similar to Google's, but rivals cannot develop similar advantages because they are foreclosed from accessing the necessary information and data. Google's practices of cross-subsidization and recoupment reduce efficiency in the allocation of impressions, and harm rivals' ability to compete on take rate in the

markets for display ad buying tools for small advertisers and display ad buying tools for large advertisers.

262. Competition in the market for display ad buying tool tools for large advertisers is harmed by DV360's unique access to YouTube inventory. Advertisers regard YouTube as "must-buy". Rival display ad buying tools for large advertisers could previously offer YouTube inventory. Rather than competing on price or quality, making YouTube inventory exclusive to DV360 allowed Google to ensure that DV360 is a must-use display ad buying tool for larger advertisers.

D. Harm to Innovation

263. Google's anticompetitive conduct has shielded it from competitive pressures that would otherwise require ongoing, substantial innovation in response to its customers' needs. Google. In turn, this lack of innovation has caused grave harm to advertisers, publishers and consumers.

264. A critical example of Google's anti-competitive conduct when innovation did occur, albeit briefly, demonstrates the potential innovation that has been thwarted throughout the period. Real-time bidding was developed as a technology around 2009. Google has deprived rival exchanges, publishers, and advertisers of the potential of real-time bidding: all demand sources competing in real-time to achieve the best access and price for a given impression. Google's announcement of AdX described: "By establishing an open marketplace where prices are set in a real-time auction, the Ad Exchange enables display ads and ad space to be allocated much more efficiently and easily across the web." Google's ensuing actions betrayed that goal for its exchange, and betrayed the promise of real-time bidding working to achieve the efficient allocation of impressions between publishers and advertisers.

265. Google's response to header bidding has further harmed innovation in the exchange and publisher ad server markets. Google has used its market power in the publisher ad server market and exchange markets to "kill" header bidding, rather than competing on the merits. For example, in 2016, a publisher ad server competitor increased added a feature that improved the efficiency and precision of header bidding for publishers. Meanwhile, Google continued to force publishers using DFP to use more cumbersome and less efficient methods for implementing header bidding. The benefits of innovation to support header bidding were limited because of Google's market power and anticompetitive actions. Header bidding offers a strong indication of the benefits of equal access and competition for impressions, for publishers and advertisers. Header bidding created the potential for innovation to disintermediate Google's control of the exchange and publisher ad server markets. Google's response aimed to stifle the "existential threat" of header bidding, and with it, the promise of innovation providing something better matched to publisher and advertisers' needs.

266. Google's control of publisher inventory has limited the development of innovations that would allow publishers to benefit from the audiences they create for their content, and advertisers to better reach those audiences at lower cost. Google's substantial harm and elimination of competitors prevented competitive forces from driving innovative solutions that best serve advertisers, publishers and consumers.

E. Harm to Consumers

267. Consumers are harmed via the impact of Google's anticompetitive conduct on publishers and advertisers. Google's anticompetitive conduct reduces the efficiency of matching impressions and ads, reducing the potential benefits of online display advertising for publishers, advertisers, and consumers. Google's conduct harms publishers' ability to effectively monetize

their content. Google's conduct reduces the efficiency of advertisers' campaigns. Both of these effects cause harm to consumers.

268. Google reduces publishers' ability to effectively monetize their content, by introducing inefficiencies and extracting a supracompetitive share of advertising revenues (up to [redacted] percent for publishers using Google's ad server DFP and Google's exchange AdX). Google generates advantages for its own exchange and display ad buying tools that depress real-time competition between demand sources, and even within this reduced competition for impressions, a publisher's impression is not necessarily sold to the highest bidder. As described in this complaint, publishers have very limited alternatives to Google's publisher ad server. The impact is a reduction in publisher revenues from digital advertising. . This reduction in publisher advertising revenues affects the quality of the products that publishers can offer to consumers.

269. Leading, long-established and high-quality news publications have faced challenges monetizing via digital advertising, despite large readership and growing subscriber bases. Digital publishers were built on the expectation of fast growth in advertising sales but that expectation has remained largely unrealized. In 2019, industry commentary described a pattern of struggling publishers heralding the "accelerating deterioration of the sector." In recent years, digital publishers have struggled to meet their advertising revenue targets, leading many to downsize their workforces significantly to reduce costs. By reducing the revenue potential for publishers, Google reduces publishers' incentives and resources to produce content. Consumers are harmed by the reduction in availability, quality, and innovation in online content.

270. The impact of Google's conduct on advertisers harms consumers. Advertising is an important driver of competition within markets. For instance, advertising allows consumers to learn of the range of competitors in a market, their prices, and the nature of the products and

services offered. When advertising effectiveness is reduced, competition between rivals is reduced, and consumers are harmed. Additionally, a reduction in the effectiveness of advertising means that businesses have reduced ability to recoup investment in their products and services, reducing their ability and incentive to continue to invest and innovate. With a competitive market for ad tech services, the cost and effectiveness of advertising campaigns would be improved, and consumers would benefit.

IX. CLAIMS

A. COUNT I – MONOPOLIZATION IN VIOLATION OF SECTION II OF THE SHERMAN ACT, 15 U.S.C. § 2

271. Plaintiff States repeat and reallege every proceeding allegation as if fully set forth herein.

272. Google wrongfully acquired and unlawfully maintained monopoly power in the sell-side market for publisher ad servers, unlawfully acquired, maintained, or attempted to acquire monopoly power in the ad exchange market, and ad network markets, unlawfully acquired, maintained, or attempted to acquire monopoly power in on the buy-side in the market for ad buying tools made for small advertisers, and unlawfully attempted to acquire monopoly power on the buy-side in market for ad buying tools for large advertisers (i.e. the DSP market).

273. Google has willfully maintained and abused its monopoly in the ad server market and adjacent markets to, *inter alia*, restrict publishers from routing inventory to multiple exchanges, preferentially route publisher inventory to Google's exchange, provide Google's exchange exclusive access to high-value inventory, provide information advantages to harm competition, structure key aspects of the exchange market to minimize transparency, trade ahead of header bidding exchanges, use its data advantages to trade on inside information, deceive publishers to encourage them to disable header bidding, cripple publishers ability to measure header bidding

yield, reduce line item capabilities to impede header bidding, redesign how web content is presented to make header bidding incompatible, withhold data from header bidding, and enter into agreements with horizontal competitors to entrench its monopoly position, and exclude competition through unified pricing.

274. Google has used its monopoly power in search and search advertising to create and maintain a monopoly in Google's buy-side tools and Google's exchanges and force publishers to use those products.

275. Google has willfully maintained and abused its monopoly power in the short-form video sharing market to force advertisers to use Google's buy-side tools.

276. Plaintiff States have sustained antitrust injury as a direct and proximate cause of Google's unlawful conduct, in at least the following ways: (1) substantially foreclosing competition in the market for publisher ad servers, and using market power in the publisher ad server market to harm competition in the exchange market; (2) substantially foreclosing competition in the exchange market by denying rivals' access to publisher inventory and to advertiser demand; (3) substantially foreclosing competition in the market for demand-side buying tools by creating information asymmetry and unfair auctions by virtue of Google's market dominance in the publisher ad serving tools and exchange markets; (4) increasing barriers to entry and competition in publisher ad server, exchange, and demand-side buying tools markets; (5) harming innovation, which would otherwise benefit publishers, advertisers and competitors; (6) harming publishers' ability to effectively monetize their content, reducing publishers' revenues, and thereby reducing output and harming consumers; (7) reducing advertiser demand and participation in the market by maintaining opacity on margins and selling process, harming rival exchanges and buying tools; (8) increasing advertisers' costs to advertise and reducing the

effectiveness of their advertising, and thereby harming businesses' return on the investment in delivering their products and services, reducing output, and harming consumers; (9) protecting Google's products from competitive pressures, thereby allowing it to continue to extract high margins while shielded from significant pressure to innovate.

277. For the reasons set forth above, Google has violated Sections 2 of the Sherman Act, 15 U.S.C. § 2.

278. The Plaintiff States are entitled to equitable relief as appropriate to cure Google's unlawful conduct and restore competition in the relevant markets. Consumers in the Plaintiff States are regular users of products in the relevant markets and will continue to purchase such products and suffer further injury if Google's unlawful monopolies are not ended.

B. COUNT II – ATTEMPTED MONOPOLIZATION IN VIOLATION OF SECTION II OF THE SHERMAN ACT, 15 U.S.C. § 2

279. Plaintiff States repeat and reallege every proceeding allegation as if fully set forth herein.

280. As detailed above, Google has monopoly power, or at a minimum, a dangerous probability of acquiring monopoly power, in the relevant online display advertising markets, including the sell-side market for ad servers, the ad exchange and ad network markets, and the demand-side market for buying software.

281. Google has willfully, knowingly, and with specific intent to do so, attempted to monopolize the relevant online display advertising markets, including the sell-side market for ad servers, the ad exchange and ad network markets, and the demand-side market for buying software.

282. Google has attempted to monopolize in the ad server market and adjacent markets to, *inter alia*, restrict publishers from routing inventory to multiple exchanges, preferentially route publisher inventory to Google's exchange, provide Google's exchange exclusive access to high-

value inventory, provide information advantages to harm competition, structure key aspects of the exchange market to minimize transparency, trade ahead of header bidding exchanges, use its data advantages to trade on inside information, deceive publishers to encourage them to disable header bidding, cripple publishers ability to measure header bidding yield, reduce line item capabilities to impede header bidding, redesign how web content is presented to make header bidding incompatible, withhold data from header bidding, and enter into agreements with horizontal competitors to entrench its monopoly position, and exclude competition through unified pricing.

283. Google has attempted to monopolize in search and search advertising to create and maintain a monopoly in Google's buy-side tools and Google's exchanges and force publishers to use those products.

284. Google has attempted to monopolize in the short-form video sharing market to force advertisers to use Google's buy-side tools.

285. Plaintiff States have sustained antitrust injury as a direct and proximate cause of Google's unlawful conduct, in at least the following ways: (1) substantially foreclosing competition in the market for publisher ad servers, and using market power in the publisher ad server market to harm competition in the exchange market; (2) substantially foreclosing competition in the exchange market by denying rivals' access to publisher inventory and to advertiser demand; (3) substantially foreclosing competition in the market for demand-side buying tools by creating information asymmetry and unfair auctions by virtue of Google's market dominance in the publisher ad serving tools and exchange markets; (4) increasing barriers to entry and competition in publisher ad server, exchange, and demand-side buying tools markets; (5) harming innovation, which would otherwise benefit publishers, advertisers and competitors; (6) harming publishers' ability to effectively monetize their content, reducing publishers' revenues,

and thereby reducing output and harming consumers; (7) reducing advertiser demand and participation in the market by maintaining opacity on margins and selling process, harming rival exchanges and buying tools; (8) increasing advertisers' costs to advertise and reducing the effectiveness of their advertising, and thereby harming businesses' return on the investment in delivering their products and services, reducing output, and harming consumers; (9) protecting Google's products from competitive pressures, thereby allowing it to continue to extract high margins while shielded from significant pressure to innovate.

286. For the reasons set forth above, Google has violated Sections 2 of the Sherman Act, 15 U.S.C. § 2.

287. The Plaintiff States are entitled to equitable relief as appropriate to cure Google's unlawful conduct and restore competition in the relevant markets. Consumers in the Plaintiff States are regular users of products in the relevant markets and will continue to purchase such products and suffer further injury if Google's unlawful monopolies are not ended.

C. COUNT III – UNLAWFUL TYING IN VIOLATION OF SECTION II OF THE SHERMAN ACT, 15 U.S.C. § 2

288. Plaintiff States repeat and reallege every proceeding allegation as if fully set forth herein.

289. Google's contractual arrangements and other conduct force publishers and others to use Google DFP if they use Google AdX exchange.

290. Google's DFP and Google AdX are separate products in separate markets.

291. Google AdX has sufficient market power in the exchange market to coerce publishers and others to use DFP even if they would prefer not to do so.

292. Google's tying arrangements affect a significant volume of interstate commerce and have the effect of substantially foreclosing competition in the publisher ad server market by virtue

of reducing the number of publishers and others for whom other publisher ad servers can effectively compete. Moreover, these tying arrangements allow Google to maintain supra-competitive prices for AdX that are ultimately passed on to publishers and others, who are also harmed by virtue of having fewer options available at lower prices because of Google's conduct.

293. Google's tying arrangements have caused competing publisher ad servers substantial damages as a direct and proximate cause of this unlawful conduct because Google has foreclosed other publisher ad servers from competing for potential publishers and others, and deprived publisher ad servers of other business for reasons having nothing to do with the merits of Google DFP or other publisher ad server products.

294. Google's contractual arrangements and other conduct force advertisers and others to use Google's ad buying tools, DV360 or Google Ads, if they seek to advertise on YouTube.

295. YouTube and Google's demand-side platforms and advertising buying tools—DV360 and Google Ads—are separate products in separate markets.

296. YouTube has sufficient power in the online video inventory market to coerce advertisers and others to use Google's demand-side platforms and advertising buying tools—DV360 and Google Ads—even if they would prefer not to do so.

297. Google's tying arrangements have a significant volume on interstate commerce, and have the effect of substantially foreclosing competition in the demand-side platform and advertising buying tools by virtue of reducing the number of advertisers and others for whom other demand-side platforms and advertising buying tools can effectively compete. Moreover, these tying arrangements allow Google to gain share for demand-side platforms and advertising buying tools that are ultimately passed on to advertisers and others, who are also harmed by virtue of having fewer options available at lower prices because of Google's conduct.

298. Google's contractual arrangements and other conduct force small advertisers and others to use Google AdX exchange, or at least not to use competing exchanges, if they use Google Ads.

299. Google Ads and Google AdX are separate products in separate markets.

300. Google Ads has sufficient power in the market for small advertiser ad buying tools to coerce advertisers and others to use Google AdX even if they would prefer not to do so.

301. Google's tying arrangements have a significant volume of interstate commerce, and have the effect of substantially foreclosing competition in the ad exchange market by virtue of reducing the number of small advertisers and others for whom other exchanges can effectively compete. Moreover, these tying arrangements allow Google to maintain supra-competitive prices for AdX that are ultimately passed on to advertisers and others, who are also harmed by virtue of having fewer options available at lower prices because of Google's conduct.

302. Google's tying arrangements have caused competing exchanges substantial damages as a direct and proximate cause of this unlawful conduct because Google has foreclosed other exchanges from competing for potential small advertisers and others, and deprived exchanges of other business for reasons having nothing to do with the merits of Google AdX's or other exchanges products.

D. COUNT IV – UNLAWFUL AGREEMENT IN VIOLATION OF SECTION I OF THE SHERMAN ACT, 15 U.S.C. § 1

303. Plaintiff States repeat and reallege every proceeding allegation as if fully set forth herein.

304. Google and its co-conspirator Facebook unreasonably restrained trade and harmed competition through an unlawful agreement to allocate auction wins and to fix prices in violation of Section 1 of the Sherman Act, 15 U.S.C. § 1.

305. Google wrongfully acquired and unlawfully maintained monopoly power in the relevant online display advertising markets, including the sell-side market for ad servers in the United States.

306. The agreements between Google and its co-conspirator Facebook are contracts, combinations, and conspiracies within the meaning of Section 1 of the Sherman Act, 15 U.S.C. § 1.

307. Google's anticompetitive acts have had harmful effects on competition and consumers.

E. COUNT V – SUPPLEMENTAL STATE LAW ANTITRUST CLAIMS

308. Plaintiff State of Texas repeats and realleges every preceding allegation as if fully set forth herein.

309. The aforementioned practices by Google were and are in violation of Texas Business and Commerce Code § 15.01 *et seq.*, including § 15.05(b).

310. Plaintiff State of Idaho repeats and re-alleges each and every preceding allegation as if fully set forth herein.

311. Google has engaged in Idaho commerce, as that term is defined by Idaho Code § 48 103(1).

312. Google's actions as alleged herein violate the Idaho Competition Act, Idaho Code § 48 105, in that such actions constitute monopolization, an attempt to monopolize, and/or a combination or conspiracy to monopolize lines of Idaho commerce, as that term is defined by Idaho Code § 48 103(1).

313. Google's actions as alleged herein violate the Idaho Competition Act, Idaho Code § 48 104, in that they have the purpose and/or the effect of unreasonably restraining Idaho commerce, as that term is defined by Idaho Code § 48-103(1).

314. For each and every violation alleged herein, Plaintiff State of Idaho is entitled to all legal and equitable relief available under the Idaho Competition Act, Idaho Code §§ 48 108, 48 112, including, but not limited to, declaratory judgment, injunctive relief, civil penalties, divestiture of assets, disgorgement, expenses, costs, attorneys' fees, and such other and further relief as this Court deems just and equitable.

315. Plaintiff State of Indiana repeats and realleges every preceding allegation as if fully set forth herein.

316. The aforementioned practices by Google were and are in violation of Ind. Code §§ 24-1-2-1 and -2.

317. Plaintiff the Commonwealth of Kentucky repeats and re-alleges each and every preceding allegation as if fully set forth herein. The aforementioned acts or practices by Google violate Kentucky's antitrust statute, Ky. Rev. Stat. § 367.175.

318. Google engaged in and is engaging in unlawful conduct in the course of trade or commerce, within the meaning of Ky. Rev. Stat. § 367.175, that has harmed and is harming the Commonwealth and consumers.

319. Further, pursuant to Ky. Rev. Stat. § 367.990(8), the Commonwealth seeks civil penalties of not more than the greater of five thousand dollars ($5,000) or two hundred dollars ($200) per day for each and every violation of Ky. Rev. Stat. § 367.175. The Commonwealth is entitled to relief including but not limited to: disgorgement, injunctions, civil penalties, damages, and its costs and attorney's fees pursuant to Ky. Stat. Ann. § 367.110-990.

320. The Commonwealth of Kentucky seeks relief on behalf of itself and as *parens patriae* on behalf of its residents, pursuant to Ky. Rev. Stat. § 15.020, Ky. Rev. Stat. § 367.110 *et. seq.*, Ky. Rev. Stat. § 367.990, and Kentucky Common Law.

321. Plaintiff State of Mississippi repeats and re-alleges each and every preceding allegation as if fully set forth herein.

322. Google's acts violate Miss. Code Ann. § 75- 21-1 *et seq.*, and Plaintiff State of Mississippi is entitled to relief under Miss. Code Ann. § 75- 21-1 *et seq.*

323. Pursuant to Miss. Code Ann. § 75-21-1 *et seq.*, Plaintiff State of Mississippi seeks and is entitled to relief, including but not limited to injunctive relief, damages, restitution, disgorgement, civil penalties, costs, attorney fees, and any other just and equitable relief which this Court deems appropriate.

324. Plaintiff State of Missouri repeats and realleges every preceding allegation as if fully set forth herein.

325. The aforementioned practices by Google were and are in violation of the Missouri Antitrust Law, Mo. Rev. Stat. §§ 416.011 *et seq*.

326. Plaintiff State of North Dakota repeats and realleges every preceding allegation as if fully set forth herein.

327. The aforementioned practices by Google were and are in violation of North Dakota Century Code (N.D.C.C.) § 51-08.1-01 *et seq*., *Uniform State Antitrust Act*, including §§ 51-08.1-02 and 51-08.1-03.

328. Plaintiff State of South Dakota repeats and realleges every preceding allegation as if fully set forth herein.

329. The aforementioned practices by Google were and are in violation of South Dakota statutes SDCL 37-1-3.1 and 37-1-3.2.

330. Plaintiff State of Utah repeats and realleges each and every preceding allegation as if fully set forth herein.

331. Google's acts violate the Utah Antitrust Act, Utah Code § 76-10-3101, *et. seq.* (the "Act") and Plaintiff State of Utah is entitled to all relief available under the Act for those violations, including, but not limited to, injunctive relief, civil penalties, disgorgement, attorneys' fees, and costs.

F. COUNT VI – SUPPLEMENTAL STATE DECEPTIVE TRADE LAW CLAIMS

332. Plaintiff State of Texas repeats and realleges every preceding allegation.

333. At all times described herein, Google has engaged in conduct which constitutes "trade" and "commerce" defined in §17.45(6) of the DTPA.

334. Plaintiff State of Texas has reason to believe that Google has engaged in, and will continue to engage in, the unlawful practices set forth herein, has caused and will cause adverse effects to legitimate business enterprises which lawfully conduct trade and commerce in this State, and will cause damage to the State of Texas and to persons in the State of Texas. Therefore, the Consumer Protection Division of the Office of the Attorney General of the State of Texas believes and is of the opinion that this matter is in the public interest.

335. As alleged in more detail above, Google has engaged in false, deceptive, or misleading acts or practices in connection with each of its roles within the ad tech stack. In each such role, Google at least implicitly misrepresents that it is operating in the best interest of its customer, fails to disclose its conflicts of interest, and misrepresents the many ways that Google operates to disadvantage its customers.

336. For example, in its role as an ad server, Google led publishers to believe that it was acting in the publisher's best interest and would help them maximize revenue, when Google does not seek to maximize the publisher's revenue, but its own.

337. Similarly, in its roles as an ad exchange and ad network, Google misleads both publishers and advertisers regarding the actual price of advertisements. Google is deliberately

opaque and nontransparent in its pricing terms, fails to disclose the fee it collects, and generally causes confusion regarding the mechanics, terms, and pricing of its ad exchange and ad network.

338. Google has also engaged in false, deceptive, or misleading acts or practices in its efforts to discourage publishers, ad exchanges, and advertisers from participating in header bidding and to manipulate them into participating in Google's products. Such acts included misrepresenting to publishers that including rival exchanges in header bidding would negatively affect the publisher (e.g., by putting a strain on the publisher's servers), misrepresenting to publishers that Open Bidding would benefit them through exchange competition, falsely telling publishers that adopting AMP would enhance load times, falsely claiming that header bidding increased latency, falsely representing that abolishing price floors in Unified Pricing benefited publishers, misrepresenting that all bidders in Google's exchanges compete on an equal footing, and misrepresenting that Google had removed its Last Look advantage and would not trade ahead of their bids.

339. Google also misrepresents to participants in the ad tech stack and its users alike that Google encrypts User IDs in order to protect users' privacy, when in fact, Google continues to infringe on users' privacy by continuing to access such information in its own ad tech stack products.

340. Google has also engaged in false, deceptive, or misleading acts or practices by misrepresenting that it will never sell users' personal information to anyone.

341. Through its false, deceptive, or misleading acts, Google has violated § 17.46(a) of the DTPA, including by engaging in conduct specifically defined to be false, deceptive, or misleading by § 17.46(b) such as:

A. Representing that services have sponsorship, approval, characteristics, ingredients, uses, benefits, or quantities which they do not have or that a person has a

sponsorship, approval, status, affiliation, or connection which he does not have, in violation of DTPA § 17.46(b)(5);

B. Representing that services are of a particular standard, quality, or grade, if they are of another, in violation of DTPA § 17.46(b)(7);

C. Advertising goods or services with the intent not to sell them as advertised, in violation of DTPA § 17.46(b)(9);

D. Representing that an agreement confers or involves rights, remedies, or obligations which it does not have or involve, or which are prohibited by law, in violation of DTPA § 17.46(b)(12); and

E. Failing to disclose information concerning goods or services which was known at the time of the transaction with the intent to induce the consumer into a transaction into which the consumer would not have entered had the information been disclosed in violation of § 17.46(b)(24).

342. By means of the foregoing unlawful acts and practices, Google has acquired money or other property from persons to whom such money or property should be restored.

343. Plaintiff the Commonwealth of Kentucky repeats and re-alleges each and every preceding allegation as if fully set forth herein, specifically Texas's allegations in Count VI of this Complaint. The aforementioned acts or practices by Google violate the Consumer Protection Act, Ky. Rev. Stat. § 367.110 *et seq.*

344. Google engaged in and is engaging in unlawful conduct in the course of trade or commerce, within the meaning of Ky. Rev. Stat. § 367.170, that has harmed and is harming the Commonwealth and consumers. The above described conduct has been and is willful within the meaning of Ky. Rev. Stat. § 367.990.

345. The Commonwealth states that the public interest is served by seeking a permanent injunction to restrain the acts and practices described herein. The Commonwealth and its citizens will continue to be harmed unless the acts and practices complained of herein are permanently enjoined pursuant to Ky. Rev. Stat. § 367.190.

346. Further, the Commonwealth seeks restitution to the Commonwealth and/or disgorgement pursuant to Ky. Rev. Stat. § 367.190 - 200. The Commonwealth seeks a civil penalty of up to $2,000 for each such willful violation, or $10,000 for each such violation directed at a person over 60, pursuant to Ky. Rev. Stat. § 367.990(2). The Commonwealth is entitled to relief including but not limited to: disgorgement, injunctions, civil penalties, damages, and its costs and attorney's fees pursuant to Ky. Stat. Ann. § 367.110-990.

347. The Commonwealth of Kentucky seeks relief on behalf of itself and as *parens patriae* on behalf of its residents, pursuant to Ky. Rev. Stat. § 15.020, Ky. Rev. Stat. § 367.110 *et. seq.*, Ky. Rev. Stat. § 367.990, and Kentucky Common Law.

348. Plaintiff State of Mississippi repeats and re-alleges each and every preceding allegation as if fully set forth herein.

349. The aforesaid conduct was not only anti-competitive but was also unfair and deceptive to the consumers of the State of Mississippi, therefore Google's acts violate the Mississippi Consumer Protection Act, Miss. Code Ann. § 75-24-1, *et seq.*, and Plaintiff State of Mississippi is entitled to relief under the Mississippi Consumer Protection Act, Miss. Code Ann. § 75-24-1, *et seq.*

350. Pursuant to the Mississippi Consumer Protection Act, Miss. Code Ann. § 75-24-1, *et seq.*, Plaintiff State of Mississippi seeks and is entitled to relief, including but not limited to

injunctive relief, damages, restitution, disgorgement, civil penalties, costs, attorney fees, and any other just and equitable relief which this Court deems appropriate.

351. Plaintiff State of Missouri repeats and realleges every preceding allegation as if fully set forth herein.

352. The aforementioned practices by Google were and are in violation of Missouri's Merchandising Practices Act, Mo. Rev. Stat. §§ 407.010 *et seq*., as further interpreted by 15 CSR 60-8.010 *et seq*. and 15 CSR 60-9.01 *et seq*.

353. Plaintiff State of North Dakota repeats and realleges every preceding allegation as if fully set forth herein.

354. The aforementioned practices by Google were and are in violation of N.D.C.C. §51-15-01 *et seq.*, *Unlawful Sales or Advertising Practices*, including § 51-15-02.

355. Plaintiff State of South Dakota repeats and realleges every preceding allegation as if fully set forth herein.

356. The aforementioned practices by Google were and are in violation of South Dakota statute SDCL 37-24-6(1).

X. PRAYER FOR RELIEF

357. Accordingly, the Plaintiff States request that the Court:

a) Adjudge and decree that Google has committed violations of Section 2 of the Sherman Act, 15 U.S.C. § 2;

b) Adjudge and decree that Google has committed violations of Section 1 of the Sherman Act, 15 U.S.C. § 1;

c) Order monetary damages for violations that Google has committed of Sections 1 & 2 of the Sherman Act, 15 U.S.C. §§ 1, 2;

d) Order monetary relief to the Plaintiff States as *parens patriae* pursuant to 15 U.S.C. § 15c;

e) Order injunctive relief to restore competitive conditions in the relevant markets affected by Google's unlawful conduct;

f) Order structural relief to restore competitive conditions in the relevant markets affected by Google's unlawful conduct;

g) Enjoin and restrain, pursuant to federal and state law, Google and their officers, directors, partners, agents, and employees, and all persons acting or claiming to act on their behalf or in concert with them, from continuing to engage in any anticompetitive conduct and from adopting in the future any practice, plan, program or device having a similar purpose or effect to the anticompetitive actions set forth above;

h) Adjudge and decree that Google has committed violations of each of the state laws enumerated in Count V;

i) Order Google to pay civil fines pursuant to § 15.20(a) of the Texas Business and Commerce Code;

j) Order Google to pay civil penalties pursuant to Idaho Code § 48-108(d);

k) Order Google to pay civil penalties of not more than fifty thousand dollars ($50,000) for each violation of N.D.C.C. § 51-08.1-01 et seq., pursuant to N.D.C.C. § 51-08.1-07;

l) Order Google to pay civil penalties pursuant to South Dakota statute SDCL 37-1-14.2;

m) Order structural and other injunctive relief to enjoin, restrain, and prevent and deter the recurrence of the anticompetitive actions set forth above and to restore and preserve fair competition, including an order to disgorge all revenues, profits and gains achieved in whole or in part through violations of Mo. Rev. Stat. §§ 416.011 *et seq.*;

n) Order other equitable relief as may be appropriate;

o) Award the Plaintiff States the costs of this action and its preceding investigation, including reasonable attorneys' fees and costs, as provided for in the Clayton Act and applicable state law, including N.D.C.C. § 51-08.1-08;

p) Enjoin and restrain, pursuant to the DTPA and/or other State law, Google and its officers, directors, partners, agents, and employees, and all persons acting or claiming to act on its behalf or in concert with it, from continuing to engage in any false, deceptive, or misleading acts or practices and from adopting in the future any acts or practice having a similar purpose or effect to the false, deceptive, or misleading actions set forth above;

q) To pay civil penalties of up to $10,000.00 per violation for each and every violation of the DTPA as authorized by Tex. Bus. & Com. Code § 17.47(c)(1);

r) To restore all money or other property acquired by means of unlawful acts or practices, or in the alternative, to compensate identifiable persons for actual damages;

s) To disgorge all sums, monies, and value taken from consumers by means of deceptive trade practices, together with all proceeds, interest, income, profits, and accessions thereto; making such disgorgement for the benefit of victimized consumers and Plaintiff;

t) To pay all costs of Court, costs of investigation, and reasonable attorneys' fees pursuant to Section 17.47 of the DTPA and Tex. Govt. Code Ann. § 402.006(c);

u) Order Google to pay reasonable attorney's fees, investigation fees, costs, and expenses pursuant to N.D.C.C. § 51-15-10;

v) Order Google to pay civil penalties in an amount of up to $1,000 for each act in connection with each sale or advertisement of merchandise in violation of Mo. Rev. Stat. §§ 407.010 *et seq*.;

w) Order structural and other injunctive relief to enjoin, restrain and prevent, and deter the recurrence of the unlawful merchandising practices set forth above, including an order to disgorge all revenues, profits and gains achieved in whole or in part through violations of Mo. Rev. Stat. §§ 407.010 *et seq.*;

x) Order an award of restitution, payable to the State of Missouri, to restore all persons in Missouri suffering loss as a result of Google's unlawful merchandising practices in violation of Mo. Rev. Stat. §§ 407.010 *et seq*., and order additional award equal to 10% of such restitution, payable to the State of Missouri to the credit of the Missouri Merchandising Practices Revolving Fund, as provided in Mo. Rev. Stat. § 407.140, and to pay all costs, including fees, of investigation and prosecution of these claims pursuant to Mo. Rev. Stat. § 407.130 and § 416.121;

y) Order Google to pay civil penalties of not more than five thousand dollars ($5,000) for each violation of N.D.C.C. §51-15-01 *et seq.* pursuant to N.D.C.C. §§ 51-15-11;

z) Order Google to pay civil penalties pursuant to South Dakota statute SDCL 37-24-27;

aa) Grant leave to amend the Complaint to conform to the evidence produced at trial; and

bb) Direct such other and further relief as the Court deems just and proper.

XI. DEMAND FOR A JURY TRIAL

358. Pursuant to Federal Rule of Civil Procedure 38(b), the Plaintiff States demand a trial by jury of all issues properly triable to a jury in this case.

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December 16, 2020

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