Ministère de la Justice Canada

Bureau de la concurrence
Services juridiques

Place du Portage, Tour I
22e étage
50 rue Victoria
Gatineau QC K1A 0C9

Department of Justice Canada

Competition Bureau Legal Services

Place du Portage, Phase I
22nd Floor
50 Victoria Street
Gatineau QC K1A 0C9

Téléphone/Telephone
(613) 296-4470

Télécopieur/Fax
(819) 953-9267

VIA EMAIL

July 2, 2025

Dear Sir or Madam:

We would ask that you bring this letter to the attention of Justice Little.

The Commissioner is moving to amend the Notice Application. The amendments are, in our respectful view, of a minor nature and do not stir up any controversy. The Commissioner has sought the consent of counsel for Google. Google has indicated that it does not oppose the amended pleading, but it is not prepared to consent. Attached is a copy of the letter from counsel. Of course, Google will have the right to respond to the amendments if it so wishes.

The Commissioner is seeking guidance from the Tribunal as to whether it is required to bring a formal motion or whether this letter would suffice. If the Tribunal is prepared to proceed on an informal basis, the Commissioner could prepare a draft order for the Tribunal.

We attach for your consideration a copy of the proposed Amended Notice of Application.

Yours truly,

Alexander M. Gay

Digitally signed by Alexander M. Gay
DN: OU=Competition Bureau Legal Services, O=Department of Justice Canada, CN=Alexander M. Gay, E=alexander.gay@cb-bc.gc.ca
Reason: I am the author of this document
Location:
Date: 2025.07.02 14:55:46-04'00'
Foxit PDF Editor Version: 13.1.7

Alexander Gay

Canada

DAVIES

155 Wellington Street West
Toronto, ON M5V 3J7 Canada

dwpv.com

Chenyang Li
T 416.367.7623
CLi@dwpv.com

File 292324

July 1, 2025

WITH PREJUDICE

BY EMAIL (ALEXANDER.GAY@CB-BC.GC.CA)

Alexander M. Gay
General Counsel
Competition Bureau Legal Services
Department of Justice Canada

Dear Mr. Gay:

Request to Amend the Notice of Application issued November 28, 2024 of the Commissioner of Competition in *Commissioner of Competition v. Google Canada et al.* (CT-2024-010)

We write in response to your letter dated June 27, 2025 in which you request that Google LLC and Google Canada Corporation (together, "**Google**") consent to the filing by the Commissioner of Competition ("**Commissioner**") of the Amended Notice of Application enclosed with your letter.

Google neither consents nor opposes the filing by the Commissioner of the Amended Notice of Application. Google intends to take no position on a motion the Commissioner may bring for leave to file the Amended Notice of Application.

Please be advised, however, that Google's decision to take no position on this matter should not be construed as any concession or admission by Google that the Commissioner's proposed amendments – which have been delivered for transparently tactical purposes – have any effect on the extant constitutional challenge that is scheduled to be heard beginning on September 29, 2025. To the contrary, the Commissioner's proposed amendments do not affect the merits of the constitutional challenge in any way.

Google reserves all of its rights to amend its Response to the Notice of Application in light of the proposed amendments, and to fully address and respond to the Commissioner's attempt to circumvent or answer the constitutional challenge during the argument of the challenge in September.

Please copy us on any correspondence with the Tribunal concerning the scheduling of the Commissioner's intended motion for leave to amend the Notice of Application.

Yours very truly,

Chenyang Li

cc Donald Houston, Derek Leschinsky, John Syme, Katherine Rydel, and Sanjay Kumbhare (*Competition Bureau Legal Services*)

Kent E. Thomson, Elisa Kearney, Chantelle Cseh, and Chanakya Sethi (*Davies Ward Phillips & Vineberg LLP*)

CT-2024-

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act*, R.S.C. 1985, c. C-34;

AND IN THE MATTER OF certain conduct of Google Canada Corporation and Google LLC relating to the supply of online advertising technology services in Canada;

AND IN THE MATTER OF an application by the Commissioner of Competition for one or more orders pursuant to section 79 of the *Competition Act*.

BETWEEN:

COMMISSIONER OF COMPETITION

Applicant

– and –

GOOGLE CANADA CORPORATION AND GOOGLE LLC

Respondents

NOTICE OF APPLICATION

TAKE NOTICE that the Applicant, the Commissioner of Competition (the "**Commissioner**"), will make an application to the Competition Tribunal (the "**Tribunal**") pursuant to section 79 of the *Competition Act* (the "**Act**") for an order pursuant to subsection 79 of the Act for:

a) an order pursuant to subsections 79(1), 79(2) and 79(3.1) of the Act:

   a. requiring Google Canada Corporation and Google LLC (collectively, "**Google**") to divest Google's publisher ad server, DFP, and Google's ad exchange, AdX, along with any additional structural relief as needed to restore competition and overcome the effects of Google's anti-competitive practice in Canada;

   b. otherwise, prohibiting Google from continuing to engage in the anti-competitive practice described herein and from engaging in any other practices with the same purpose and effect in Canada; and

   c. requiring Google to pay an administrative monetary penalty in such an amount as the Tribunal decides is appropriate~~directing Google to pay an administrative monetary penalty equal to three times the value of the benefit derived from Google's anti-competitive practice, or if that amount cannot be reasonably determined, 3% of Google's worldwide gross revenues~~;

b) directing Google to pay costs; and

c) such other relief as the Tribunal may consider appropriate.

AND TAKE NOTICE that the timing and place of hearing of this matter shall be fixed in accordance with the practice of the Tribunal;

AND TAKE FURTHER NOTICE that the Applicant has attached hereto as Schedule "A" a concise statement of the economic theory of the case.

THE ADDRESSES FOR SERVICE ARE:

For Google Canada Corporation and Google LLC:

Davies Ward Phillips & Vineberg LLP
Barristers & Solicitors
155 Wellington Street West
Toronto, ON M5V 3J7
Tel: (416) 367-7450 / (416) 367-7623

Attention: Elisa Kearney
Chenyang Li

For the Commissioner of Competition:

Attorney General of Canada
Department of Justice Canada
Competition Bureau Legal Services (CBLS)
Place du Portage, Phase I
50 Victoria Street, 22nd Floor
Gatineau, QC K1A 0C9
Tel: (613) 296 4470
Fax: (819) 953-9267

Attention: Alexander M. Gay
Donald Houston
John Syme
Ian Clarke
Katherine Rydel
Adam Rossiter

The Applicant proposes that the hearing of this matter be held in Ottawa, Ontario and that it be heard in English and French.

STATEMENT OF GROUNDS AND MATERIAL FACTS

I. OVERVIEW

1. Google claims its mission is "to organize the world's information and make it universally accessible and useful." Previously, it embraced an even simpler ethos: "Don't be evil." But the choices Google has made in building its digital advertising technology business reveal a more self-serving agenda. Through a series of calculated decisions, taken over the course of multiple years, Google has excluded competitors and entrenched itself at the center of online advertising — establishing and reinforcing its dominance by controlling the main tools used both by online publishers who sell digital ad space and advertisers who buy it ("**ad tech**").

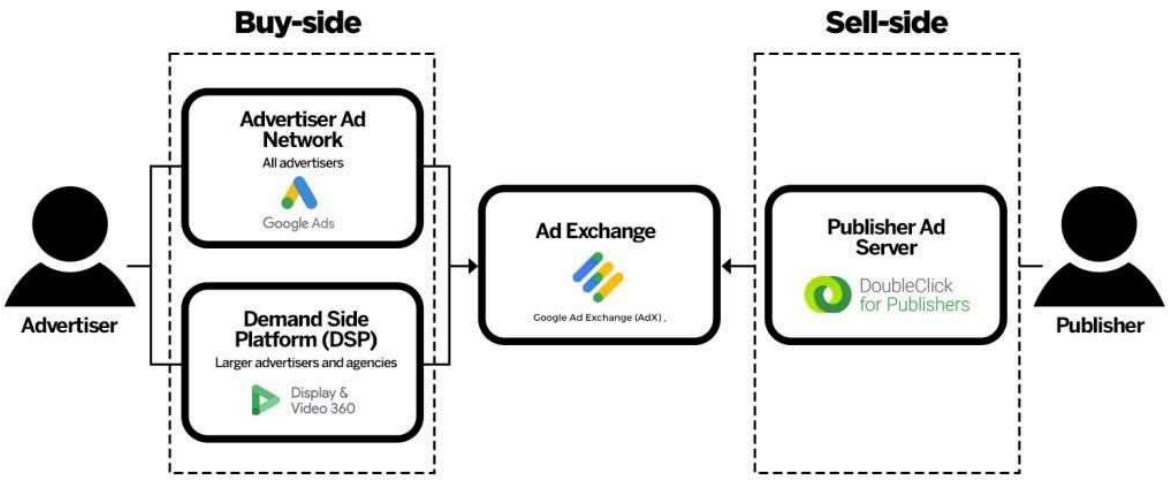
2. The Commissioner brings this application for an order that will restore competition in Canada, wresting away from Google some of the pervasive market power that it has used to improperly funnel transactions through its own ad tech products and thereby subvert rivals' ability to gain scale and otherwise compete with Google's products. Specifically, the Commissioner seeks an order from the Tribunal requiring Google to divest its publisher ad server and ad exchange (along with any additional structural relief needed to remedy the anti-competitive harm) and an administrative monetary penalty. The Commissioner asserts that this order is minimally necessary to restore competition and to promote Google's conformity with the law in the future.

3. Over the past decade, publishers have increasingly relied on digital ad revenue to support their publications. The viability of virtually all online publishers, big and small, rests in their ability to monetize their content. To help drive this revenue stream, many publishers create and design their websites with dedicated space set aside where ads can be placed. The ads in these spaces can take different forms, but one common and distinct type is **"web"** ads — which

refers to the ads that appear above, alongside or beneath the content on a publisher's webpage.

4. Unlike print, radio, and television advertising, where the purchase and sale of advertising space can be a tedious, manual process, web ad inventory is increasingly bought and sold "**programmatically**" in enormous volumes and at near instantaneous speeds through a series of automated auctions involving sophisticated software platforms (informally "**ad tech tools**"), collectively referred to as the "**ad tech stack**."

5. At a high-level, the ad tech stack is generally understood to be comprised of sell-side tools (i.e., "**publisher ad servers**"), used by publishers to manage their ad inventory and online advertising sales; buy-side tools (i.e., "**advertiser ad networks**" and "**demand-side platforms**"), used by advertisers to buy available ad space; and the tools that serve as the intermediary between the sell- and buy-side tools (i.e., "**ad exchanges**"), allowing publisher ad servers to offer available ad space and advertiser ad networks and demand-side platforms ("**DSPs**") to bid on that inventory through automated auctions.



6. Google is the largest provider of ad tech tools across the ad tech stack for web advertising in Canada, having positioned its products to be the "go to" tools used by both publishers and advertisers alike. Google is dominant in the publisher ad server, ad exchange and advertiser ad network markets in Canada. In the publisher ad server market, measured by web impressions transacted, Google's DoubleClick for Publishers ("**DFP**")[1] holds an over 90% market share. In the advertiser ad network market, Google Ads[2] commands an over 70% share. Google is also the largest provider of DSP and ad exchange services in Canada. In the DSP market, Google's Display & Video 360 ("**DV360**")[3] commands an over 60% share. In the ad exchange market, Google's AdX is the largest ad exchange with a market share of over 50% (the closest competing ad exchange has a 6% market share). No other single ad tech provider has Google's scale or reach across the ad tech stack, with over 200 billion Canadian web ad transactions flowing through its ad tech tools in 2022.

7. Google's near-total control of the ad tech stack is a function of premeditated design and conduct, rather than superior competitive performance or happenstance. Through a series of interrelated and interdependent actions, which have had cumulative and synergistic anti-competitive effects, Google has unlawfully tied together its different ad tech products, hamstrung rivals' ability to compete on the merits, and purposely restrained and deprecated innovative technologies that stood to threaten its market power. In particular, Google has:

    a) made its advertiser ad network's unique, must-have advertiser demand (originating from its pre-existing relationship with advertisers that purchase search advertising) available only to its own ad exchange, and in turn, compelled publishers to use its publisher ad server in order to access that demand by means of real-

[1] Also sometimes referred to as "**DRX**".
[2] Also sometimes referred to as Google Display Network "**GDN**", Google Content Network "**GCN**" or AdWords.
[3] Also sometimes referred to as DoubleClick Bid Manager or "**DBM**".

time bids from its ad exchange. Put differently, Google has tied its different ad tech products (i.e., Google Ads, AdX, and DFP) together to increase and maintain its market dominance; and

b) used its dominant position across the ad tech stack to distort auction dynamics by (i) giving its own ad exchange preferential access to valuable ad inventory, (ii) taking negative margins to win more transactions, and (iii) dictating the terms on which its own publisher-customers could transact with rival ad exchanges.

8. By implementing these anti-competitive policies and practices, Google has been able to maintain, entrench and increase its market power by raising barriers to entry and expansion, suppressing innovation and excluding rivals, thus insulating itself from competition. Google's conduct has had serious consequences for publishers and advertisers — manifesting in a substantial prevention and lessening of competition, the magnitude, duration and scope of which is compounded by the economies of scale and network effects endemic to digital platforms. But for Google's conduct, publishers and advertisers would have benefitted from greater choice, more innovation and lower prices.

9. The Commissioner brings this application to put a decisive end to Google's structural dominance and anti-competitive practice, restore competition to important digital advertising markets, and safeguard against further harm to competition in the future. Absent an order from this Tribunal, Google will continue to engage in the anti-competitive practice and conduct that has facilitated its exercise of new or increased market power and preserved its existing market power. Google will thus be able to continue, unchecked, to reduce the rivalry between it and those competitors who remain in the relevant markets, as well as prevent new competition from materializing. Competition in the markets in question will continue to be substantially lessened and prevented, thereby raising costs, reducing choice, and stifling innovation, to the detriment of publishers, advertisers and Canadians more generally.

II. MATERIAL FACTS

A. THE PARTIES

10. The Commissioner is an officer appointed by the Governor in Council under section 7 of the Act and is responsible for the administration and enforcement of the Act.

11. Google LLC is a multinational limited liability company incorporated under the laws of the State of Delaware. It is a wholly owned subsidiary of Alphabet Inc., a publicly traded company also incorporated under the laws of the State of Delaware. Google LLC has a Canadian subsidiary, Google Canada Corporation, which is incorporated in the province of Nova Scotia and facilitates its business in Canada.

12. Google offers various internet-related services and products, including services and products used by online publishers and advertisers to buy and sell digital ads (i.e., ad tech tools). Google's offerings of ad tech tools are remarkably extensive, encompassing a range of software platforms that extend beyond the immediate focus of this application (e.g., Google AdMob, Google AdSense, and Google Marketing Platform).

13. This application focuses on three of Google's ad tech tools: its publisher ad server, DFP; its advertiser ad network, Google Ads; and its ad exchange, AdX. Taken together, these ad tech tools are essential elements of the ad tech stack and are tools that publishers and advertisers use to buy and sell web ads, described below, and the exchange on which the ads trade. Google markets these tools in Canada, North America, and globally.

14. In 2023, Google reported $307.4 billion USD in revenue, $31.3 billion USD of which was derived from its ad tech tools' revenue, which include DFP, Google Ads and AdX.

B. INDUSTRY BACKGROUND

15. This application addresses Google's conduct that has harmed (and continues to harm) competition in the markets for ad tech tools used to programmatically buy and sell web ads through open channels (or "open web ads"). This section provides important background information to assist in understanding how Google's actions over the years have adversely affected competition. In particular, this section introduces several key concepts, including the differences between web ads and other forms of digital advertising; the contrast between advertising sold through closed channels and open channels; and the difference between buying and selling ads *via* direct deals versus programmatically.

16. For additional context, this section also provides a description of the three ad tech tools that are at issue in this application (i.e., publisher ad servers, ad exchanges and advertiser ad networks), with reference to the products offered by Google and its rivals, and describes how the sale of web ads has changed over time.

1. What is digital advertising?

17. As consumers have shifted their attention from traditional to digital media, advertisers have responded by increasing their budgets for digital advertising. Beyond simply following their audience, advertisers embracing digital advertising have learned of its unique benefits. These benefits include more immediate engagement with consumers (e.g., allowing users to click on an ad and be redirected to the advertiser's website), highly specific audience targeting, and enhanced tracking that allows for quick adjustments based on real-time campaign performance. For most advertisers, digital advertising has become an essential part of any ad campaign, complementary to their non-digital or offline efforts.

18. For online publishers, digital advertising serves a different (albeit no less important) role. Like traditional publishers, online publishers can monetize their content by displaying ads to their audiences. For many online publishers, digital advertising represents a vital source of revenue for sustaining their operations and providing valuable content to their users. In some instances, it can be the difference between consumers being able to access freely available content and content locked behind paywalls.

a) There are different types of digital ads

19. Digital ads can be broadly categorized into the following main types:[4]

    a) **Search ads**: are ads that are shown alongside search results from a user query using a general or specialized search engine;

    b) **Web ads**: are ads that appear above, alongside or beneath the content of a webpage;

    c) **In-stream video ads**: are video ads that play before or during online video content;

    d) **In-app ads**: are ads that appear within a mobile app; and

    e) **Social ads**: are ads that appear within a user's social media feed.

20. Each type of ad is meaningfully distinct from the others, from both the perspective of a publisher and advertiser. For publishers, the distinction can be as simple as the ad space being offered for sale based on the type of online content they produce. For example, a search engine (e.g., Google) can sell search ads linked to a certain word or phrase to appear as "sponsored" links at the top or side of search results; a publisher of online videos (e.g., a content creator on YouTube) can sell in-stream video ad space to play before, during, or after their online video content; an app developer (e.g., a gaming app like

[4] Ads that are not linked to a search are commonly referred to as "display ads".

Candy Crush) can sell in-app ad space to appear within their mobile app; a social media platform (e.g., Meta) can sell social ad space to appear within a user's social media feed; and a website publisher (e.g., a news publisher like the Toronto Star) can sell web ad space to appear alongside the content on its website.

21. For advertisers, the distinction might be owing to a myriad of reasons: e.g., the goals of their ad campaign, their target demographics, budget considerations, desired return on investment, key performance indicators, creative assets (i.e., the media elements of the ad), and the availability of specific ad tech tools.

22. Where they can, online advertisers typically run digital ad campaigns that incorporate a diverse array of digital ad formats. This allows them to leverage the strengths of each ad type, reach a broader audience, enhance brand engagement, and fulfill a broader variety of campaign objectives. In fact, for most advertisers, each of the different ad types are often considered to be important complements to their overall marketing strategies and are therefore often used together as part of a holistic effort to maximize advertising performance.

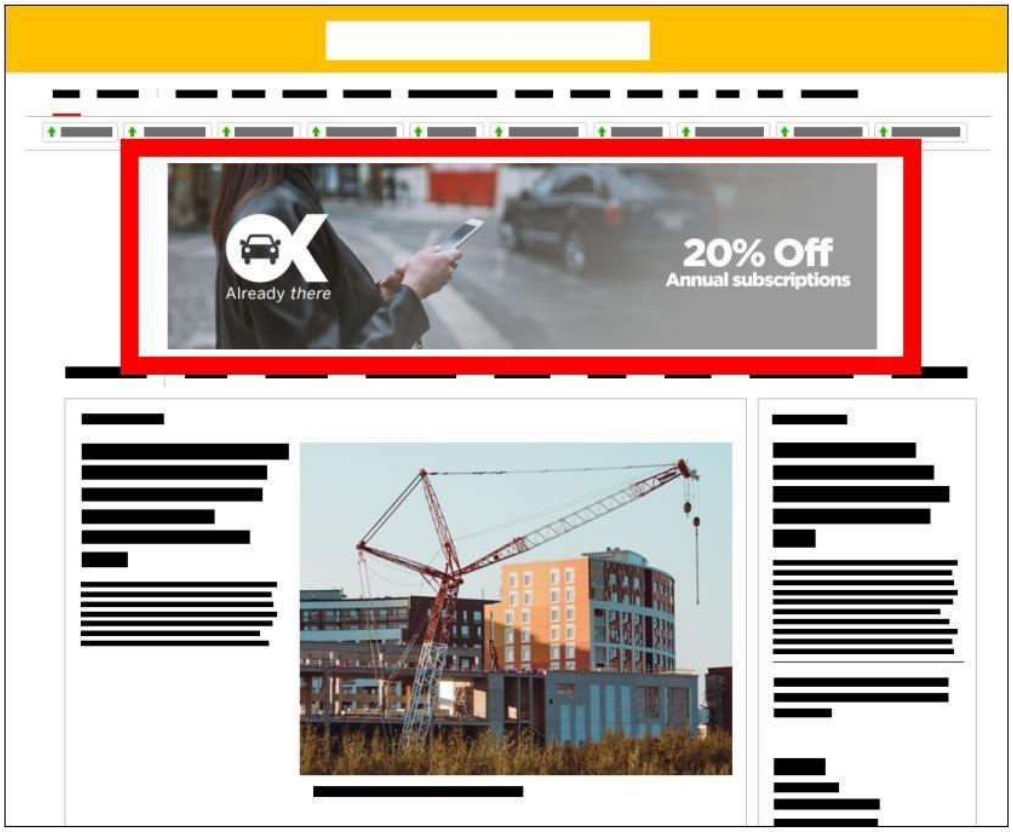
b) Our focus is on "web" ads

23. Web ads are ads that internet users see when they visit a website. This subset of ads is comprised of banner ads (image or text-based ads appearing at the top, bottom, and down the sides of webpages) and outstream video ads (video ads shown outside a traditional video player, such as in a popup or embedded within a banner ad of an online article) shown on websites.[5]

24. Web ads, which often come in a set of predetermined formats and sizes, are distinguishable from other types of digital ads by the unique features of the associated creative assets and placement strategies. For example, web ads are

[5] Outstream ads are not embedded in other video content like in-stream video ads (e.g. an ad which plays on YouTube before or in the middle of a YouTube video).

typically recognizable by virtue of their eye-catching visuals, placements in high-visibility areas, and standardized sizing. An example of a web ad as it would appear to a reader of an online publication is included below:



25. An advertiser might choose web ads as part of their marketing campaign as a complement to other digital ad formats for several reasons. The characteristics of web ads make them particularly good for raising brand awareness, increasing reach (i.e., the number of people who see the ad) and getting user engagement (*via* clickable links). Web ads often accomplish this at a lower cost than other types of digital ads and are more amenable to integration or placement across multiple websites.

26. Google and other market participants, including publishers and advertisers, track the sale of web ads as a distinct inventory category in the ordinary course. The underlying technological requirements for serving web ads are distinct from other types of digital advertising, as is the competitive landscape for the

provision of ad tech tools. For example, unlike web ads, in-app ads are often served using what are known as software develop kits ("**SDKs**"), and Google (Google AdMob) and other market participants offer tools specifically designed to sell in-apps ads.

2. Marketing channels for web advertising

a) Our focus is on web ads traded through open channels

27. The way advertisers buy digital ad space depends on how a publisher chooses to sell its inventory: through closed channels or open channels.

28. "Closed channel" publishers, often referred to as "walled gardens", are so-called because advertising on their properties is sold directly to advertisers through their own systems. Typically, advertising inventory on large social media platforms (e.g., Meta, LinkedIn, and TikTok) can only be bought and sold through their own integrated, internally supplied advertising software. These tools cannot be used to buy or sell advertising on any other publisher's platform or website.

29. In contrast, "open channel" publishers monetize their ad inventory through third-party ad tech tools — i.e., software they do not own themselves. This model, which most online publishers use, allows publishers to avoid developing their own tools or otherwise arduously managing their ad inventory, which for all but the largest publishers would be impractical. For advertisers, buying ad inventory through open channels affords a diverse range of ad space across various websites, and is therefore an important source of ad inventory for campaign strategies not tied to a single website or platform (e.g., ad campaigns that extend beyond the walls of Facebook).

b) Our focus is on open web ads traded programmatically

30. Publishers and advertisers have two primary options for buying and selling digital ad inventory: direct deals and programmatic trading. Direct deals involve negotiating agreements directly for the purchase of ad inventory on the publishers' websites. These agreements typically cover key elements such as campaign start and end dates, ad types, frequency, rates, and fees. Direct deals are typically more resource intensive for both advertisers and publishers in that they require, among other things, sales teams and administrative support. Direct deals are more commonly used for large volumes of inventory, making them suitable for publishers of websites that have large audiences, a particular brand image, or that attract an audience specifically targeted by advertisers.

31. Almost no publisher (big or small) can practicably sell their entire ad inventory *via* pre-negotiated direct deals. Remaining inventory (i.e., ad space not allocated to an advertiser by way of a direct deal) is usually bought and sold indirectly — through a set of automated processes designed to buy and sell ad inventory on an impression-by-impression basis. Indirect transactions happen during the split seconds when a user loads a website and typically occur through high-speed auctions (known as "programmatic" trading) facilitated by ad tech tools.

32. While most programmatic ad sales take place in an auction setting, some transactions are the result of ad tech tools automating the terms of negotiated direct deals. Referred to as programmatic guaranteed sales, this manner of buying and selling ads allows advertisers to maintain greater control and more effectively target specific audiences, while publishers benefit from filling premium inventory at negotiated prices.

3. The ad tech tools used to buy and sell open web ads programmatically

a) Publisher ad servers

33. Web publishers wanting to monetize their websites use software known as a "publisher ad server" to manage and track the sale of their ad inventory across different demand sources (e.g., ad exchanges) and transaction types (e.g., direct and indirect deals). Publisher ad servers connect publishers to the broader ad tech stack and most importantly make real-time decisions about what ads to show on their websites. From the publisher perspective, a publisher ad server would typically allow the publisher to set rules, including regarding what ad will be served on its site, as well as regarding through which exchanges (i.e., marketplaces) their ad space would be offered for sale.

34. In addition to their core function (managing ad inventory in real-time), publisher ad servers offer valuable monitoring and reporting features to help publishers track their monetization performance through metrics such as impressions, clicks, and payout rates.

35. Most publishers opt to use a single publisher ad server to manage their web inventory (referred to as "single homing"). This, in part, simplifies the sale (and coordination) of inventory across multiple websites and demand sources, reduces training time for sales teams, and lessens the technical and resource-intensive integration demands associated with publisher ad servers.

36. Switching between publisher ad servers is time-consuming and burdensome. This is for several reasons, including the technical complexity of integrating a new publisher ad server with a publisher's webpages and back-end billing systems; the financial implications of migration (including potential downtime and new software licenses); the need to invest in training of staff on new software; and, challenges in transferring historical data and ensuring continuity in reporting. Internally, Google describes publisher ad servers as "sticky".

37. Publisher ad servers for programmatic open web advertising in Canada include Google's DFP, Equativ, Monetize (Microsoft) and Kevel. As of 2022, Google's market share of the publisher ad server market exceeded 90% of web impressions for Canadian publishers.

b) Advertiser buying tools

38. Advertisers wanting to buy web ad inventory from publishers programmatically use software products known as advertiser ad networks, or products known as DSPs. Both tools can be used by advertisers to transact in the ad tech stack and buy ads programmatically in "real-time" (i.e., per impression). That said, there are important differences between advertiser ad networks and DSPs.

39. Advertiser ad networks typically offer a more automated (less complex) ad buying experience for advertisers who either lack the technical proficiency or resources to utilize more complex tools (i.e., DSPs) or simply want a more "hands-off" solution. Smaller advertisers tend to use advertiser ad networks exclusively.

40. Some larger advertisers might also (or alternatively) use enterprise buying tools known as DSPs. Compared to the self-serve advertiser ad networks used by smaller advertisers, DSPs provide advertisers with a wider array of user targeting options (i.e., technically advanced and highly customizable features) that can require significant technical expertise to manage effectively. Unlike advertiser ad networks, DSPs often require advertisers to commit to a minimum monthly spend.

41. Examples of advertiser ad networks for programmatic open web advertising include Google Ads and Criteo, and examples of DSPs for programmatic open web advertising include Google's DV360 and The Trade Desk. In 2022, based on web impressions shown to Canadian users, Google Ads' share of the advertiser ad network market was at least 70% and DV360's share of the DSP market was 60%.

c) Ad exchanges

42. Ad exchanges (also referred to as supply-side platforms or "**SSPs**") are the software intermediaries that run real-time auctions for web ad inventory in response to bid requests received from publisher ad servers. To that end, ad exchanges stand between publisher ad servers and advertiser buying tools, serving as the digital auction-driven marketplace where advertisers can bid in real-time on ad inventory made available by publishers.

43. In addition to their marketplace function, ad exchanges also permit some degree of control to both publishers and advertisers: publishers can set price floors for their inventory and manage which advertisers are allowed to purchase the inventory; and advertisers can target particular publisher and consumer characteristics at a specific per-impression price.

44. A key feature of an ad exchange is that it facilitates real-time auctions (known as real-time bidding or "**RTB**"). RTB involves buying and selling ad inventory in real-time, on a per-impression basis and at a variable price. RTB allows for faster and more efficient buying by advertisers. RTB makes it possible to leverage real-time user data in the auction process, allowing advertisers to have more control over when, where and to whom an ad is shown. This increases the efficiency of an advertiser's ad spend and return on investment. For publishers, RTB can increase the value of their ad inventory, improve their sell-through rate and generate more revenue.

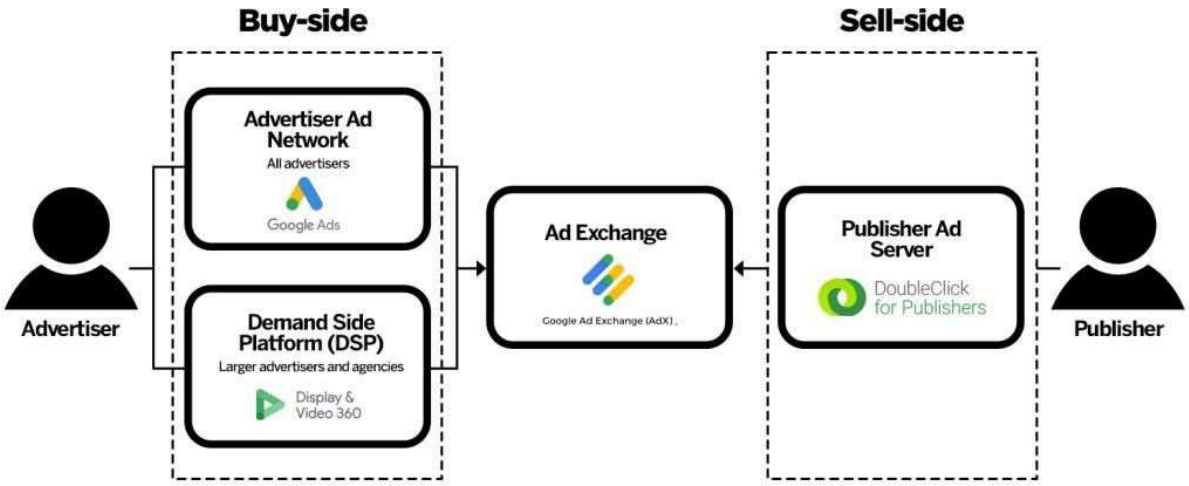
45. Many publishers connect with multiple ad exchanges through their publisher ad server, and advertisers typically value advertiser ad networks and DSPs that can connect to (or bid into) as many ad exchanges as possible. Publishers and advertisers that are limited in their ability to connect with or benefit from interoperability between multiple ad tech tools are disadvantaged.

46. Examples of ad exchanges for programmatic open web advertising include Google's AdX, Magnite, Index Exchange, and PubMatic. As of 2022, Google's

market share of the ad exchange market was over 50% of web impressions shown to Canadian users, roughly 6 times that of its next closest ad exchange competitor.

4. Understanding the mechanics of a programmatic auction

47. Website publishers use the ad tech stack to programmatically sell their remaining (i.e., unsold through direct sales) ad inventory, while advertisers depend on the same stack to buy it. The exact ad tech tools and steps involved in any given programmatic trade of web ads can differ from one transaction to another. Alongside the previously mentioned ad tech tools, publishers and advertisers might also choose to use other ancillary tools such as data management platforms, creative management platforms, ad verification tools, attribution tools, to name a few. That said, and despite the idiosyncrasies of any particular trade, the basic steps in the programmatic trading of web ads involve, minimally, the engagement of a publisher ad server, one or more ad exchanges, and one or more advertiser buying tools (i.e., advertiser ad networks and DSPs), as depicted in the simplified illustration below:



48. The process begins when a user visits a webpage where there is web ad inventory available to be filled. The user's visit causes the webpage to load the publisher ad server's "tag" which triggers the publisher ad server to identify the

user and route any available web ad space on the webpage to one or more pre-selected ad exchanges (an "**ad request**"). An ad request generally contains information about the ad inventory (e.g., what size or format the inventory is, or what type of page is being viewed) and any information that the publisher might have about the user who is visiting the webpage.

49. On receipt of an ad request, the ad exchange will send its own request to any and all ad buying tools (e.g., advertiser ad networks and DSPs) qualified to bid on the inventory, soliciting them to return a bid for the space (a "**bid request**"). As part of its bid request, the ad exchange will include information about the ad space (e.g., size, location), the page address, and any additional information available about the user visiting the webpage.

50. Each buying tool that receives a bid request will undertake an automated process of assessing potential bid responses based on pre-configured parameters set by its advertiser users. Once the tool identifies which of its advertisers is willing to pay the most for the impression, it will return the bid back to the ad exchange (a "**bid response**").

51. Each ad exchange then evaluates all of the bid responses it receives against eligibility criteria set by the publisher, holds an auction in real-time to select the highest eligible bid response received, picks the winning bid, and then returns it to the publisher ad server. The publisher ad server picks a winning bid and sends the ad creative to the publisher's webpage to be displayed to the user.

52. At each step of the process, the different ad tech tools deduct from advertiser bids the fees associated with using the ad tech tool. By the time the winning ad is served (displayed) to the user, the publisher receives the value of the winning bid less fees paid to each ad tech intermediary used to facilitate the transaction. Advertiser ad network, DSP and ad exchange fees are often based on a percentage of the price of the winning bid and are referred to as the "revenue share" or "take rate", which is only charged if the advertiser wins the

impression. Publisher ad servers generally offer publishers licence-based pricing, or charge a fee based on impressions served.

53. The entire process happens in a fraction of a second, without the user's knowledge and before the webpage loads.

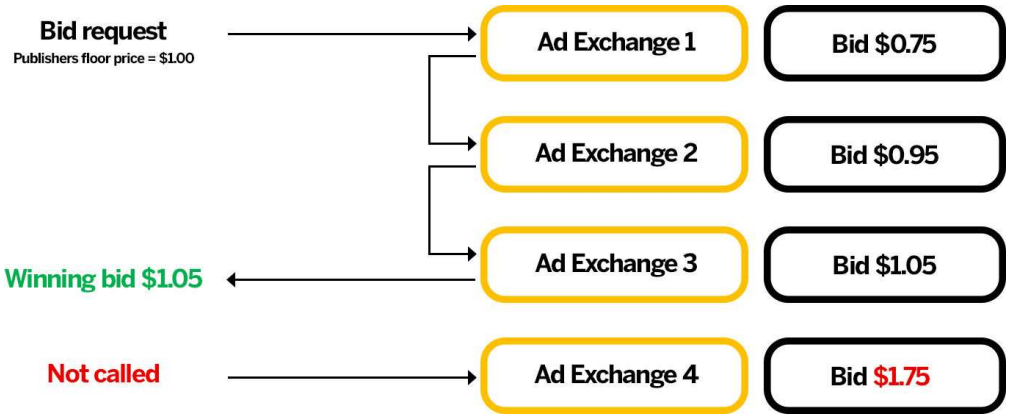
a) Evolution of the auction process: a brief overview

54. In the earliest inceptions of the auction process, publishers used their publisher ad servers to sell ad inventory by requesting bids from ad exchanges or other demand sources sequentially, one at a time — a process called a "waterfall". When an impression became available, the publisher ad server would call the first ad exchange in the waterfall to solicit bids from advertisers on that exchange. If no bid from an advertiser on that exchange met the publisher's price floor (i.e., the minimum price the publisher was willing to accept) the publisher ad server would then proceed to the next exchange. This cycle would continue until either a qualifying bid was found or all the sequenced exchanges had been canvassed. If, at some point, the publisher ad server received a bid matching or exceeding the publisher's floor price, the waterfall process would end.

55. Typically, publishers sequenced demand sources in the waterfall based on a measure of the ad exchange's past performance and payment (i.e., historical average price offered for impressions by the exchange). So, for example, if a particular ad exchange historically generated a higher average price for impressions, it would be given priority in the waterfall ahead of the ad exchanges that historically generated a lower average price for impressions.

56. The waterfall process was inefficient and could result in a publisher receiving less for a given impression than the market was willing to pay. In particular, it was possible for an ad exchange called by the publisher ad server to win the available inventory based on its historical pricing, even though another ad exchange further down the waterfall would have been able to offer a higher

price for the same ad space. By way of example, the illustration below depicts that the ad exchange with the highest bid (ad exchange 4) was never called, resulting in the publisher missing out on an additional $0.70 in revenue:



57. When Google relaunched AdX in 2009 (internally referred to as "AdX 2.0"), it introduced Dynamic Allocation, which allowed AdX (and only AdX) to bypass competition in the waterfall process by giving AdX a right of first refusal (or "First Look") ahead of all other ad exchanges in the waterfall.[6] In other words, Google gave its own ad exchange preferential treatment whereby it would always be first in line, regardless of where it would have ranked based on the price it historically generated relative to other ad exchanges. Therefore, even if under the old waterfall process AdX would have ranked *lower* than one or more other ad exchanges, with Dynamic Allocation, as gatekeeper, Google moved AdX to the front of the line. That meant that AdX could (and did) win impressions that without First Look it would have lost. AdX (and Google's) gain was other ad exchanges' loss.

[6] In 2014, Google launched "Enhanced Dynamic Allocation", a new version of Dynamic Allocation with additional functionalities. Despite this change, Google's advantageous First Look remained a defining feature of Enhanced Dynamic Allocation.

58. Partly to circumvent Google's restrictions (i.e., Dynamic Allocation/ First Look advantage) and to generate real-time competition among multiple demand sources, in or around 2015, publishers began adopting a technology called "header bidding." Header bidding allowed ad exchanges to compete against each other at the same time (in real-time), as opposed to being relegated to a waterfall and/ or subjected to Google's First Look advantage.

59. In technical terms, header bidding worked by publishers inserting a piece of JavaScript code into the header sections of their website. As soon as a user visited the website, the JavaScript code would route the website's ad space to a publisher-selected set of ad exchanges simultaneously, *before* Google's publisher ad server initiated the waterfall process (with Google's First Look advantage).

60. In practice, header bidding worked as follows: an internet user would click on and begin to load a publisher's website and, as the page was loading, the user's browser would send out bid requests to pre-selected ad exchanges, which would submit real-time bids in return. The browser would then select the best bid from among those made and send it to the publisher's ad server for consideration.

61. Adoption of header bidding by publishers was widespread and swift. By 2016 publishers were reporting 20-40% increases in revenue because of header bidding. Google employees themselves recognized the competitive significance and threat that header bidding represented: "[h]eader tag and [h]eader [w]rapper technology and adoption has grown rapidly in the past 12 months, representing an existential threat to our business, and necessitating a response that maintains DRX's "[m]ust [c]all" status in the ecosystem".

62. When header bidding emerged, Google's First Look advantage under Dynamic Allocation was, in effect, transformed into a "Last Look" advantage. Under Last Look, AdX was able to use the winning bid from the header bidding auction as a floor price in its own auction, effectively enabling it to compete against other

exchanges and secure impressions after rival bids from those other exchanges had already been submitted (i.e., AdX had the opportunity to bid on inventory after having full access to the bids submitted by rivals through the header bidding auction). Thus, while header bidding expanded competition somewhat, it did not undo the competitive advantage that Google had created for AdX (and itself) with Dynamic Allocation. In short, AdX continued to enjoy a preferred position, albeit via Last Look, rather than First Look.

63. With its widespread adoption by publishers, Google saw header bidding as an "existential threat" to its businesses — despite its Last Look advantage. Google responded in 2018 by co-opting header bidding technology and introducing its Open Bidding (also referred to as Exchange Bidding) product as a header bidding alternative. Open Bidding incorporated aspects of header bidding (e.g., allowing pre-approved rival ad exchanges to bid simultaneously for ad inventory), and removed Google's Last Look advantage, but only for ad exchanges that used Google's Open Bidding product, not for those that continued to use conventional header bidding. This meant that only rival ad exchanges using Open Bidding could compete simultaneously alongside AdX, but those that chose to use header bidding would continue to be subject to Last Look.

64. Bids from rival ad exchanges that opted to participate in Open Bidding were (and are) subject to a 5% fee for web ads, borne by the publisher. That same fee is not levied against AdX bids. This means that, to be competitive, bids from rival ad exchanges must be 5% higher than bids from AdX, all else being equal. For example, a bid from an advertiser using an ad exchange other than AdX who was willing to pay $1.00 for an impression, would lose to a bid from an advertiser using AdX who bid 96 cents for that same impression. In other words, the impression would be won by an advertiser who valued that impression less, because of the fee imposed by Google.

65. In 2019, Google removed its Last Look advantage in response to competition/regulatory concerns. Simultaneously with giving up its Last Look advantage, Google launched its Unified First Price Auction ("**UFPA**"). Prior to 2019, all AdX auctions were run as second-price auctions, whereby the highest bidder would win the auction but only pay one cent more than the higher of the second-highest bidder's bid or the publisher's reserve (floor) price. Under UFPA, AdX auctions are run as first-price auctions where the highest bid pays the price of its bid. With the knowledge that this would be a welcomed (and long-overdue) change from the perspective of market participants, Google took the opportunity to simultaneously push through other changes to its ad tech products. Chief among them was the introduction of Unified Pricing Rules ("**UPR**"), which prohibited publishers from setting different floor prices for different ad exchanges. Prior to UPR, publishers would often set higher price floors for AdX than other ad exchanges, in order to, among other things, reduce their dependence on AdX. This led to rival exchanges winning more impressions. Under UPR, Google's AdX would be guaranteed to receive a floor price no higher than any other ad exchange being called. Publishers thus became more dependent on AdX and rival exchanges lost opportunities to win more impressions.

66. The size and scale of AdX increases the value of the platform to advertisers and publishers, relative to other ad exchanges. By implementing programs intended to advantage AdX, while disadvantaging its rivals, Google ensured that AdX was able to maintain its scale advantage. Predictably, these programs created "network effects", where the increased number of people or participants making use of a digital platform increases its value to users on both sides of the platform. As discussed below, very few publishers and advertisers could afford not to rely on Google's ad tech tools.

b) Network effects in ad tech

67. One of the core characteristics of ad tech, like other platforms that connect buyers and sellers, is the presence of network effects. Network effects occur where a user's value of a given platform depends on the number of other users on the platform. Network effects can be either positive or negative, direct or indirect.

68. Network effects are positive when additional users of a platform bring a positive benefit to existing users. This occurs, for example, in a social network platform such as Meta. In this instance, users value being able to access the posts of other users such that the more users there are, the more content and connections that a person can initiate and experience. Network effects are negative when additional users of a platform reduce the benefit of the platform to existing users. This may occur, for example, in the case of dating or employment platforms where users looking for a good match (in mates or jobs) find it harder when other users similar to them join the platform and compete for these matches.

69. Network effects are direct when the effect occurs among users on the same side of a platform. Both examples provided above are examples of direct network effects; positive for the case of a social media platform and negative for the case of a dating (or job matching) platform. Network effects are indirect when the effect occurs among users on different sides of the platform. This occurs, for example, in an ad exchange that connects advertisers with website publishers. In this instance, advertisers value the ad exchange more as the number of publishers selling inventory on the ad exchange increases. More inventory makes it more likely that an advertiser will find opportunities to serve its ads to viewers who are disposed to purchasing its products or services. Similarly, publishers value the ad exchange increasingly as the number of advertisers that are looking to buy advertising space on websites increases. As the number of

advertisers increases, demand for a publisher's inventory is likely to increase and prices for that inventory are likely to be bid up.

70. The existence of positive network effects makes it important for a digital platform to grow its number of users as this increases the value of the platform for its customers. In addition to increasing its absolute number of users, from a competitive perspective, network effects also make it highly desirable for a platform to be larger (i.e., have more users) than rival platforms. Everything else equal, greater size relative to rivals means that a platform will more likely be chosen by users since the largest platform brings the most benefits. Because of the importance of scale (absolute and relative), an important objective for a platform is to grow by both: (i) encouraging new customers to adopt it over rivals, and (ii) inducing users of rival platforms to switch.

71. The significance of network effects (both direct and indirect) on a platform can be reduced if users on one or both sides are able to "multi-home". Users multi-home when they use multiple platforms rather than just one. For this to be the case, the cost[7] to the user of moving from one platform to another must be low. The ability to move seamlessly across platforms allows a user to benefit from the network effects created by all platforms. (e.g., all riders and drivers on all ride sharing apps being able to move without cost from one platform to another). In this instance, the user can experience network effects at the market level, i.e., each user can benefit from all users who are using platforms collectively, rather than those on any one platform. In competition among platforms, all else being equal, platforms of smaller relative size value having their users be able to multi-home or interoperate with larger platforms as this diminishes the competitive disadvantage they face from their smaller size. Conversely, platforms of larger relative size benefit from preventing

[7] In this context, costs include financial expenditures as well as the time and effort of the user to use more than one platform.

interoperability since this allows them to experience the competitive benefits from their larger size.

72. Of particular importance to digital platforms is the collection of data from internet users, such as their past browsing behaviour, their demographic information and their interests. More users generate more data, which enables digital platforms to offer better customer targeting as well as better optimize their algorithms to improve the quality of their products. This creates a flywheel effect, where more users lead to more data, which leads to better performance, which in turn attracts more users through network effects.

73. In addition to higher user value through network effects, a platform with more users also benefits from economies of scale. It is typical for digital platforms to face high fixed costs and low marginal costs. Fixed costs include things such as the costs to set-up the platform, write computer code for algorithms and invest in digital infrastructure. Marginal costs are the incremental costs to a platform to serve one additional customer or complete one extra transaction. Given this cost structure, a platform has incentives to increase its number of users as this lowers its average costs. The combination of lower average costs and higher user value from positive network effects gives greater scope for a platform to earn greater profits. If these two effects are of sufficient magnitude, absent the ability of users to multi-home, over time markets can "tip", such that a single platform comes to dominate the market. In such an instance, competition among platforms is time limited, with the market in time becoming dominated by one platform, with the attendant substantial negative effects on competition.

74. As discussed below, the effects of Google's practice of anti-competitive acts are exacerbated by network effects, which serve to raise barriers to entry and fortify Google's dominance.

III. GOOGLE'S ABUSE OF ITS DOMINANT POSITION IN AD TECH MARKETS

75. Google is the largest provider of ad tech across the entire ad tech stack. No other provider has comparable scale or reach. Google has substantial market power in the publisher ad server, ad exchange and advertiser ad network markets for open web advertising in Canada, with an estimated 90%+, 50%+ and 70%+ market share (as measured by impressions transacted) in Canada, respectively. In the comparatively "less" concentrated ad exchange and DSP markets, Google still holds a 50%+ share and a 60%+ share respectively, and its next closest rivals are only a fraction of Google's size.

76. Google's dominance in each market is exacerbated by the different markets' interconnectedness within the ad tech ecosystem, and the compounding effects of scale and network effects. In other words, Google's substantial market power in each relevant market is mutually reinforcing of its position across the other ad tech markets, such that its power in any given market is stronger than if it were only dominant in a single market.

77. Google's market position is not simply due to superior products or competition on the merits; instead, it stems from years of deliberate and purposefully opaque actions, designed to seize control of the essential ad tech tools used by publishers and advertisers. Moreover, Google's dominant positions across the ad tech stack over time have allowed it, and continue to allow it to gather huge amounts of enormously valuable data, which provide it with a significant competitive advantage over rivals and potential rivals.

78. Through its conduct, Google has positioned itself at the centre of the ad tech ecosystem and used its control across the ad tech stack to unlawfully leverage its market power with one product to strengthen its position with its others, creating a self-reinforcing cycle of dominance. Specifically, Google has engaged in conduct that reduces demand (i.e., advertiser spend) and supply (i.e.,

publisher ad inventory) for rival ad tech products, thereby limiting the competitiveness of its rivals and the likelihood of entry of new ones.

79. There is no legitimate justification for Google's conduct. Yet the harm of Google's conduct is clear: competition on the merits is reduced, publishers earn less, advertisers pay more, and Canadians are likely faced with higher subscription fees and lower quality content.

A. THE RELEVANT MARKETS

80. Market definition is a tool for analyzing competition concerns. This can include helping to identify any market power a firm might have or exercise over a product or range of products, as well as the real or potential effects of any exclusionary conduct. To accomplish this, market definition involves assessing whether (in an otherwise competitive environment) a firm is constrained by its competitors or potential competitors, because consumers can switch to alternative products.

81. This application implicates three relevant product markets relating to the sale of programmatic open web advertising: publisher ad servers, advertiser ad networks, and ad exchanges. Canada, or alternatively North America or the world, is the relevant geographic market for all three product markets. For each of these products, there are no reasonable alternatives that could impose a competitive constraint on a hypothetical monopolist in response to a small but significant and non-transitory increase in price (or degradation of quality) above competitive levels.

1. Programmatic open web display advertising properly defines the boundaries of the relevant product markets

82. Web ads traded programmatically through open channels are an important and distinct form of advertising for publishers and advertisers. For the reasons described above at paragraphs 20-22, publishers and advertisers that rely on

programmatic open web advertising are limited in their ability to switch away to other forms of advertising. They are therefore limited to using ad tech products that are capable of transacting programmatic open web ads, and cannot readily substitute to products that lack that functionality.

83. For publishers seeking to monetize their web content, tools for buying and selling non-web ad space or ad space in walled gardens are not substitutable products. For example, ad tech tools designed to only sell and serve in-stream video ads or in-app ads, cannot be used as alternatives for publishers to serve web ads on their websites (regardless of whether web ads tools became no longer available or unreasonably priced). Similarly, proprietary tools for selling and serving ad space in walled gardens, like Facebook, are also not alternatives.

84. For advertisers, different types of digital ads are complements. Advertisers typically adopt a multi-channel approach when incorporating digital advertising into their campaigns. Each type of ad (e.g., search ad, web ad, in-stream video ad, in-app ad, social ad) serves distinct purposes and targets audiences in various contexts, making them complementary rather than substitutable. For example, web ads are particularly effective for raising brand awareness, increasing reach (i.e., the number of people who see the ad) and getting user engagement (via clickable links), often at a lower cost than other types of digital ads. Alternatively, in-stream video ads are more costly than web ads but tend to be more effective at capturing a viewer's attention; in-app ads are particularly relevant to gaming and at driving app downloads; search ads are ideal for reaching users who are already searching for a product or service; and social ads allow for two-way communication and engagement between businesses and their audiences. While they contribute significantly to an overall campaign, web ads are not readily substitutable for other formats as each brings unique strengths that enhance an overall marketing strategy. For advertisers looking to incorporate web ads into their campaign, ad tech tools not designed to transact webs ads are not a viable alternative.

85. Considering the foregoing, it follows that only ad tech tools that support trading web ads are viable alternatives for publishers or advertisers wanting to buy and sell web ads through open channels. Similarly, sales of non-web ads on ad tech tools that transact other ad formats, in addition to web ads, are excluded from the markets for the above-mentioned reasons.

2. Publisher ad servers are a relevant product market

86. Publisher ad servers used in the programmatic sale of web ads through open channels are a relevant product market for purposes of this application (hereafter, the "**Publisher Ad Server market**"). Google offers DFP as a product in this market.

87. Publisher ad servers serve a unique and important function for open channel web publishers: they are the primary means by which publishers manage, sell and track their ad inventory. Publishers use publisher ad servers to select ads to fill their inventory spaces in real-time. The evaluation and decision-making functions of publisher ad servers (sometimes referred to as the "decision engine") allow publishers to automate and manage their direct and programmatic ad sales. For the latter, the publisher ad server is responsible for sending ad requests to various ad exchanges, receiving back bids, and comparing those bids to decide which ad to serve the website user.

88. Publisher ad servers also typically (and uniquely) have functionality that allows publishers to collect and use targeting information, engage in inventory forecasting, and track ad performance and monetization across multiple exchanges.

89. Other ad tech tools (e.g., publisher ad networks and header bidding) are not reasonable substitutes for publisher ad servers as they do not offer the same functionality, and, to a significant degree, serve different needs for publishers. A sole profit-maximizing publisher ad server seller (i.e., a hypothetical monopolist) could profitably impose and sustain a small but significant and

non-transitory increase in price above competitive levels (or degradation in service) in the sale or supply of publisher ad server services.

90. Since 2019, Google has degraded the functionality of its publisher ad server, DFP, by adopting UPR and prohibiting publishers from setting different floor prices for different ad exchanges. Despite significant protest by publishers over the imposed change, Google's publisher ad server has continued to maintain a market share of more than 90%.

91. Google, and industry participants consider publisher ad servers to be differentiated products from other ad tech tools. For example, DFP is marketed by Google as being separate and distinct from its publisher ad network offering, Google AdSense. Though Google introduced Google Ad Manager ("**GAM**") in 2018, which contains both its DFP and AdX products, it still internally identifies its publisher ad server as a separate product and prices the DFP component of GAM separately.

92. Publisher ad servers are designed as a single service to organize and manage a publisher's entire advertising inventory. Owing to practicality and operational efficiency, publishers generally only use one publisher ad server at a time and rarely incur the high costs to switch from one to another due to engineering integration costs and significant disruptions caused by switching. In-house alternatives to publisher ad servers are equally not feasible options for most publishers because of the associated costs and technological requirements.

3. Advertiser ad networks are a relevant product market

93. Advertiser ad networks used in the programmatic buying of web ads through open channels are another relevant product market for the purpose of this application (hereafter, the "**Advertiser Ad Network market**"). Google offers Google Ads as a product in this market.

94. Advertiser ad networks are simple ad tech buying tools used by advertisers to buy available ad inventory. They serve to aggregate ad inventory (i.e., available ad inventory) from various supply-side sources, and provide advertisers with a means of automating their bidding on the inventory (based on terms set by the advertiser, such as targeting, budget, etc.) as it becomes available.

95. Compared to other ad buying tools (e.g., DSPs), advertiser ad networks generally provide a more easy-to-use, turnkey or automated experience. This distinction is reflected in their different cost-structures, with advertiser ad networks typically charging advertisers on a cost-per-click ("**CPC**") basis rather than on a cost-per-mille ("**CPM**" or cost per thousand impressions) basis. Consequently, advertiser ad networks are most often the exclusive ad buying tool used by smaller, less-sophisticated advertisers who, for example, might have less technical expertise and/or a smaller advertising budget. For larger advertisers, advertiser ad networks are a distinct and complementary ad buying tool (often used in conjunction with DSPs).

96. Many advertisers that use advertiser ad networks as their ad buying tool for web advertising are limited in their ability to switch to alternative ad tech products. DSPs, the other major ad buying tool, require buyers to directly manage their ad campaigns using complex interfaces, often require buyers to use their own proprietary data to bid effectively on inventory, and can require minimum monthly spend levels. This makes these tools not reasonably accessible to smaller and less-sophisticated advertisers.

97. A sole profit-maximizing seller could profitably impose and sustain a small but significant and non-transitory increase in price (or degradation in service) above competitive levels in the sale or supply of the services provided by advertiser ad networks. In 2014, Google experimented with increasing Google Ads' fee from 14 to 15% (a 7% increase[8]) and found that this would increase Google

[8] [(15 - 14) ÷ 14] × 100 = 7

Ads' profit by 5.3%. Google then implemented this price increase. And in 2018, Google performed simulations that altered Google Ads' fee and found that it could profitably increase its take rate from 15% up to 20% (a 33% increase). However, it ultimately decided not to impose the increase due to reputational and legal concerns.

98. To the detriment of its advertiser customers, Google, through Google Ads, has severely restricted advertisers' ability to bid on third party ad exchanges (i.e., ad exchanges other than AdX), where they could access additional publisher inventory. In fact, until 2016, Google Ads routed its advertisers' bids *only* to AdX and today 85% of the ad impressions it purchases on behalf of advertisers, are purchased through AdX. In short, Google has deliberately curtailed the functionality of Google Ads (to the benefit of AdX) by restricting the publisher inventory available for its advertisers to bid on. In spite of this, Google has been able to maintain its "captive" advertiser base without a significant number of advertisers substituting away to other products.

99. Google recognizes advertiser ad networks as a distinct product market as compared to other ad tech tools (e.g., DSPs), with distinct competitors. In marketing its Google Ads and DV360 products, Google notes that the two tools "serve distinctly different customer sets". In describing the distinct customer segmentation of its ad buying tools, Google describes Google Ads users as "[t]ypically smaller and mid-sized marketers who are able to satisfy their display needs with a simple, low-touch solution with minimal customization" and DV360 users as "[l]arge display buyers interested in consolidating their display buying across channels and deploying a strategy with a single view of a customer".

4. Ad Exchanges are a relevant product market

100. Ad exchanges used in the programmatic trading of web ads through open channels are another relevant product market for the purpose of this application.

(hereafter, the "**Ad Exchange market**") Google offers AdX as a product in this market.

101. Ad exchanges are the ad tech products that facilitate the programmatic selling of ad inventory by connecting publisher ad servers with demand sources, including advertiser ad networks. Ad exchanges provide publishers with a way to offer their ad inventory for sale to a large number of advertisers in real-time (impression by impression), and in so doing access real-time bids from multiple demand sources. Similarly, ad exchanges provide advertisers (through their buying tools) with real-time access to a large supply of ad inventory on which they can bid.

102. Within the ad tech stack, the ad exchange is *the* intermediary layer between publishers and advertisers (i.e., the trading platform) for indirect ad sales. A sole profit-maximizing seller could profitably impose and sustain a small but significant and non-transitory increase in price (or degradation in service) above competitive levels in the sale or supply of ad exchange services.

103. Google's AdX has been able to charge a take rate of 20%, which it recognizes as being significantly above competitive levels (reflecting the lack of reasonable substitutes). Google has characterized its take rates, which have been at or around the same level since 2012, as being "not long term defensible" and "double the price" as compared with competitors.

104. While there are some limited ways in which publisher ad servers can connect directly with advertiser buying tools (ostensibly obviating the need for an ad exchange), these mechanisms are limited in nature and not reasonable alternatives to the functionality offered by ad exchanges.

105. Direct deals between publishers and advertisers are not a reasonable alternative to indirect programmatic sales. Publishers and advertisers cannot reasonably substitute away from ad exchanges by increasing their reliance on direct deals. Publishers and advertisers view direct deals as complements to auction-based

programmatic sales. Direct deals require significant resources from all parties to negotiate agreements and are therefore used by larger publishers and advertisers mainly for high-volume or high-value impressions. Moreover, it is impractical for publishers to sell all of their ad inventory directly, without the use of programmatic auctions (which rely on ad exchanges).

106. Google, and industry participants consider ad exchanges to be differentiated products from other ad tech tools.

5. The relevant geographic market is Canada, North America, or global

107. The relevant geographic market for the purpose of this application is Canada, or in the alternative North America, or in the further alternative, the world. Google is dominant under any approach to geographic market.

108. Indicia of a Canadian specific market include the following. First, ad tech tools operating within Canada are subject to Canadian regulatory requirements, including language, privacy and data sharing laws. These requirements are reflected in the tools themselves, which have been developed to enable full compliance with Canadian laws. Second, a successful ad tech firm requires the ability to market its products and services to its customers. To meet the unique needs of their Canadian customers, ad tech providers must have access to Canadian inventory and targeting data. Google and other market participants employ Canadian sales teams, track Canada-specific performance and sales targets, and compete based on unique competitive dynamics in the Canadian market.

109. A sole profit-maximizing seller of the relevant products (i.e., publisher ad servers, advertiser ad networks, or ad exchanges) to customers in Canada could profitably impose and sustain a small but significant and non-transitory increase in price (or degradation in service) above competitive levels, and would not be

constrained by prices charged by ad tech tools available only to customers located outside of Canada.

110. For publisher ad servers, Google can charge different prices to publishers located in different countries, including in Canada. And for advertiser ad networks and ad exchanges, Google can dynamically adjust the fees collected by its Google Ads and AdX products across publishers. This ability to charge different prices to different customers without constraint implies that Google, or a hypothetical monopolist, could likewise charge supra-competitive prices within a more limited geographic region (i.e., Canada).

111. Certain elements of the relevant products suggest a geographic market that is global, excluding countries and regions where the competitive dynamics are materially different because of laws, sanctions, or other similar factors (e.g., China, North Korea, Russia). Publishers and advertiser users of ad tech are in countries around the world and transact across national and regional boundaries. Publishers can use ad tech to sell ad inventory around the world and advertisers can use ad tech to buy impressions around the world.

112. The main ad tech providers in each relevant product market are present in multiple geographic regions, and benefit from network effects and scale that are not limited to any one country or region. Many of these providers, including Google, report on their ad tech performance metrics across regions broader than a single-country (e.g., North America, Europe and Asia-Pacific).

B. GOOGLE SUBSTANTIALLY OR COMPLETELY CONTROLS THE PUBLISHER AD SERVER, AD EXCHANGE AND ADVERTISER AD NETWORK MARKETS

113. By any measure, Google is the largest provider of ad tech services across the entirety of the ad tech stack, and has a substantial degree of market power in the Publisher Ad Server, Ad Exchange and Advertiser Ad Network markets. Indeed, Google's pervasive and persistent market power has enabled it to

implement programs and policies that have distorted competition within the relevant markets by, among other things: steering users to its own ad tech tools through an improper tie; impeding its customers from working with rivals; and, otherwise denying rivals scale necessary to compete effectively.

114. Google's dominance in each market is exacerbated by the different markets' interconnectedness within the ad tech ecosystem, and the compounding effects of scale and network effects. In other words, Google's substantial market power in each relevant market is mutually reinforcing of its position across the other ad tech markets, such that its power in any given market is stronger than if it were only dominant in a single market.

115. To date, Google's ability to exercise its market power has not been meaningfully constrained by either existing or potential competition. Barriers to entry and expansion are high across the ad tech stack. Though the costs of offering an ad tech service vary depending on the tool and the circumstances, there are certain associated costs that are generally understood to always be high. These include the costs for housing any requisite data centres, internet and cloud computing costs, research and development costs, regulatory and compliance costs, partnership and integration fees, maintenance costs, marketing and user acquisition costs, and staffing costs.

116. Additionally, there are several common structural barriers that have and are likely to impede any meaningful entry or expansion. These include access to a sufficient volume of first- or third-party consumer data, which established firms use to optimize auctions and improve targeting and campaign effectiveness on behalf of their advertiser and publisher customers, creating a competitive advantage. It also includes access to sufficient scale and diversity to make it possible to integrate with other ad tech services and meet a minimum value proposition for potential advertisers and publishers.

117. Lastly, Google's tie across the ad tech stack further deters entry. Google's substantial market power has enabled it to engage in conduct that has imposed barriers to effective competition. Industry participants recognize that Google has made it near impossible, under current conditions, to gain sufficient scale to compete meaningfully or pose a serious competitive constraint on Google.

1. Google is dominant in the Publisher Ad Server market

118. Direct and indirect indicia of Google's substantial market power demonstrates that Google substantially or completely controls the Publisher Ad Server market in Canada.

a) Direct indicia of substantial market power

119. Google itself considers DFP dominant, internally describing it as: "the *de facto*, preferred ad server of choice for 90% of publishers", "must call" for publishers, and having a "monopoly on the ad server".

120. Google is generally able to dictate the terms upon which it sells or supplies its DFP product and services. Google's 2019 introduction of UPR is an illustrative example. This change degraded a highly valued functionality of DFP by impairing publishers' ability to set lower price floors for rival (i.e., non-Google) ad exchanges compared to AdX. Internally, Google acknowledged that this feature was valuable to publishers who were "willing to tolerate some revenue loss in exchange for reduced dependence on Google as a whole" and appreciated that its removal would not be well-received. Nevertheless, Google implemented UPR. Though unhappy, publishers did not switch away to another publisher ad server, largely because there are simply no viable alternatives.

121. Further, in a 2019 internal analysis, Google concluded that DFP could profitably impose a price increase of "10% or more", further reflecting its position of dominance in this market.

b) Indirect indicia of substantial market power

122. Google's DFP has an estimated 90%+ share of the Publisher Ad Server market in Canada, as measured by impressions transacted. This share is stable, having been above 90% since at least 2019.

123. Google faces weak competitive constraints due to high barriers to entry, high switching costs, and the prevalence of publishers who "single home" (i.e., use only one publisher ad server). Google's market power is evidenced by, and persists despite, its intentional degradation of its publisher ad server services.

124. Google's market power in the Publisher Ad Server market is enhanced by the tie it has created and maintained between Google Ads, AdX and DFP. DFP is the only publisher ad server that provides unrestricted access to real-time bids from AdX, which in turn is the near-exclusive source of Google Ads' unique, must-have advertiser demand. The Google Ads/AdX tie gives DFP a unique advantage over all other publisher ad servers, and (by necessity) makes it the default publisher ad server for publishers. DFP has a 100% adoption rate amongst large publishers in Canada.

125. Google's position in this market is further reinforced by DFP being the industry-leading "full stack" ad server. Web publishers with a range of ad format inventory for sale will prioritize a publisher ad server that is able to serve different ad types.

126. Publishers lack countervailing power against Google's market dominance, as no single publisher or group constitutes a significant portion of Google's revenues.

127. As described above at paragraph 115, there are significant barriers to entry and expansion in ad tech markets, including the Publisher Ad Server market. Among other things, these barriers include the costs and time of building the requisite infrastructure, developing and maintaining publisher relationships,

accessing ad exchanges and advertiser demand and scale. Google states that DFP's "global footprint across ad serving and access to inventory is the largest by far".

128. The prevalence of single-homing publisher ad servers and high switching costs create additional barriers to entry and expansion, and thereby further maintain Google's market power. In the words of a former Google executive, "[n]othing has such high switching costs. […] Switching platforms is a nightmare. Takes an act of God to do it." Due to the central role played by a publisher ad server, multi-homing or migrating ad servers is impracticable. In terms of switching, Google and publishers recognize that the process is complex, disruptive, lengthy and expensive.

129. The Publisher Ad Server market has seen no significant entry or expansion by rivals in several years. To the contrary, there has been considerable exit and consolidation. The few remaining rival publisher ad servers survive by competing on the market's periphery and do not constrain Google's unbridled ability to exercise substantial market power.

2. Google is dominant in the Advertiser Ad Network market

130. Direct and indirect indicia of Google's substantial market power demonstrates that Google substantially or completely controls the Advertiser Ad Network market in Canada.

a) Direct indicia of substantial market power

131. Google Ads can dictate the terms upon which it sells its services, and has itself described its advertiser demand as "captive" and acknowledged that it has "virtually no margin or inventory sourcing constraints".

132. Google targets a 15% margin for its Google Ads product when it bids into an AdX auction. In 2014, Google Ads profitably imposed a fee increase of more than 5% without meaningful constraint from advertisers switching to alternative

products. On several occasions, Google has experimented or simulated material fee increases (e.g., 15% raised to 20%) and concluded that raising its margins would increase profits. For example, in 2018 Google performed simulations demonstrating Google's ability to profitably increase margins on AdX from 15% to 20%. However, it ultimately decided not to impose the increase, not because it was concerned about advertisers switching away from Google Ads, but rather due to reputational and legal concerns.

133. Google's market power is further evidenced by the fact that it can offer advertisers an inferior quality advertiser ad network, without losing a meaningful number of advertisers. For example, Google has long restricted Google Ads' ability to bid into rival ad exchanges, at a cost to advertisers in the form of inferior matches, but at a benefit to AdX (and Google) – as one Google executive described it: "artificially handicapping our buyside (GDN) to boost the attractiveness of our sell-side (AdX)".

b) Indirect indicia of substantial market power

134. Google Ads has a market share of at least 70% in the Advertiser Ad Network market in Canada, as measured by impressions.

135. As with the Publisher Ad Server market, Google faces weak competitive constraints in the Advertiser Ad Network market due to high barriers to entry, high switching costs, and the prevalence of advertisers who "single-home" (i.e., use one ad buying tool). Google's market power is evidenced by, and persists despite, its intentional degradation of its advertiser ad network.

136. Google's market power in the Advertiser Ad Network market originates from its pre-existing relationship with advertisers that purchase search advertising. At Google Ads' inception, Google was able to leverage its significant position in general internet search to convert its largest-in-the-world, unique source of advertiser demand over to its web advertising business. Today, Google's search advertising service is provided through Google Ads. This means any advertiser

purchasing search advertising through Google Ads can readily and easily also purchase web advertising through the same tool.

137. This scale and diversity in demand, in turn, has given Google Ads significant advantages over its competitors, and made entry or expansion into this market difficult, bordering on impossible. It has also had the resulting effect of further driving publisher supply towards Google Ads. As Google describes, Google Ads "reaches over 95% of global internet users and is the world's largest ad network".

138. Many advertisers (and most small advertisers) only use one ad buying tool (e.g., advertiser ad network) for their web advertising needs. Using one advertiser ad network is less costly than multi-homing and simplifies any needed or desired ad management functionality. Consequently, for single-homing advertisers who advertise on Google search and also want to transact in web ads, there are no realistic alternatives to Google Ads. The scale and diversity of Google's integrated ad tech products means that Google can offer these advertisers (large and small) unparalleled advantages in the form of publisher supply and access to data.

139. As described above, there are significant barriers to entry and expansion in ad tech markets, including the Advertiser Ad Network market. Among other things, these barriers include access to publisher inventory — necessary for attracting advertisers and compelling them to connect to a new buying tool — and sufficient access to data to facilitate optimal matches for their advertising customers.

140. For web publishers, Google Ads represents a unique, "must have" source of advertising demand without which they would face a significant drop in revenue. Internal analysis conducted by Google in 2014 found that publishers would lose over 60% in revenue from AdX without Google Ads. As one Google executive described, Google Ads demand is: "a substantial source of diversified

demand in the Canadian market, and on its own larger than the sum of all demand on other exchanges. AdWords is incredibly successful in driving auction intensity, which equates to higher bids and yield for publisher inventory".

141. The Advertiser Ad Network market has seen minimal entry or expansion over the past decade. To the contrary, there has been considerable consolidation, as well as exit by large tech firms like Meta.[9] The few rival advertiser ad networks that remain do so by competing on the market's periphery and do not constrain Google's ability to exercise market power.

3. Google is dominant in the Ad Exchange market

142. Direct and indirect indicia of Google's substantial market power demonstrates that Google substantially or completely controls the Ad Exchange market in Canada. In the alternative, Google has a strong market position in the Ad Exchange market in Canada.

a) Direct indicia of substantial market power

143. AdX can dictate the terms upon which it sells its services, and has been able to charge supra-competitive fees for over a decade, despite most ad exchanges offering lower fees or reducing their fees (as described in paras 216-217).

144. Google's ability to charge supra-competitive fees on AdX is primarily a result of AdX's unique access to Google Ads demand (as described in para 161).

145. Google's market power is also evidenced by the fact that it can restrict the use of its ad exchange to bolster its position in the Publisher Ad Server market (as described in para 166).

[9] In 2020, Meta's advertiser ad network (Facebook Audience Network or "**FAN**") stopped bidding on open web ad inventory, but continues to bid on in-app ad inventory.

b) Indirect indicia of substantial market power

146. AdX has a market share of at least 50% in the Ad Exchange market in Canada, as measured by impressions transacted. This market share is nearly 6 times higher than its next closest competitor (as described in para 46).

147. Additionally, as described in paragraph 66 of the Application, Google faces weak competitive constraints in the Ad Exchange market due to high barriers to entry resulting from scale and network effects. Rival ad exchanges do not constrain Google's ability to exercise its market power (as described in paras 216-217).

C. GOOGLE HAS ENGAGED IN A PRACTICE OF ANTI-COMPETITIVE ACTS

148. For over a decade, Google has pursued a systematic campaign of interrelated and interdependent anti-competitive actions, designed to and with the effect of facilitating the exercise of new or increased market power and entrenching and enhancing its existing market power in the relevant markets. By leveraging its market power in one market to strengthen its position in others, Google has been able to purposefully and effectively reduce advertiser demand and publisher inventory supply available for rivals in the targeted markets. This not only diminishes the competitiveness of its rivals but also discourages new entrants from entering the market. Additionally, due to indirect network effects and the benefits to users for different ad tech products to interoperate, weakening competitors in one market also reduces the appeal of non-Google alternatives in other ad tech markets.

149. Though Google has taken various anti-competitive actions and implemented a number of anti-competitive programs, which changed and evolved over time, all these actions and programs have a unifying quality: they were all intended to exclude Google's rivals and potential rivals across the ad tech stack and, more generally, to have an adverse effect on competition.

150. Google began to leverage its position across markets soon after it acquired DoubleClick in 2008, which included DFP and AdX. Almost immediately, Google began tying those products to Google's advertiser ad network, Google Ads. By conditioning effective access to any one of its ad tech tools on the use of its other tools, Google began locking-in publishers.

151. Subsequent to the tie being put in place, Google undertook a series of actions designed to further distort competition and entrench its dominance across the ad tech stack. Using DFP's market power, Google undertook to systematically advantage its ad tech tools and steer transactions away from rivals. Google did this in several ways including:

    a) DFP granting AdX advantageous access to its ad inventory over rival exchanges through its Dynamic Allocation feature, which gave AdX an exclusive "first look" and later "last look" bid advantage;

    b) using negative take rates to steer impressions towards Google Ads and away from other AdX buyers through a program Google internally called Project Bernanke (as detailed below, at paragraphs 179-185); and

    c) implementing Unified Pricing Rules, which restricted publishers' ability to price AdX differently from rival ad exchanges.

152. Along the way, Google purposely identified, restrained, and deprecated innovative technologies that stood to benefit publishers and advertisers, but threatened its dominance.

153. Google's conduct has had (and is having) the intended effect of distorting competition and foreclosing to rival ad tech providers important access to transactions, scale and customers necessary to mount effective competition against Google's dominance. Each of DFP, AdX, and Google Ads have as a result become the default tools for publishers and advertisers — not because the

tools are superior to those of Google's rivals, but because Google has been able to leverage its market power in each market such that using its suite of tools became the only viable option for a significant majority of publishers and advertisers.

154. The conduct described herein constitutes a practice of anti-competitive acts that Google has and continues to engage in to preserve and enhance its dominant position across the ad tech stack.

1. Google locks publishers into its ad tech tools

155. Before its acquisition of DoubleClick in 2008, Google already had a large captive base of advertiser demand through its position in search advertising. With the acquisition of DoubleClick, Google added DFP and its sizeable pool of publishers to its customer base, and AdX, a then-nascent ad exchange. Not long thereafter Google began taking steps to lock publishers into its publisher ad server, DFP. This was done to secure its position not only in the Publisher Ad Server market, but also to cement its place in the Ad Exchange market.

156. Google knew that by leveraging its market power in the Publisher Ad Server market, it could strengthen its position in the Ad Exchange market. In effect, Google left publishers and advertisers with no choice but to transact through Google's own ad tech stack, and not with its rivals. The actions taken by Google to tie its products together manifested in two ways, as described below.

a) Google conditions access to Google Ads demand on the use of AdX

157. Since 2008, Google has substantially restricted advertisers using Google Ads from bidding on rival ad exchanges' inventory. If publishers want access to the millions of advertisers who use Google Ads' to purchase web advertising, they have no choice but to auction their inventory through AdX. Google thereby

coerces publishers into using AdX, not because it is the superior product, but because failing to do so means losing access to essential advertiser demand.

158. Google possesses the technology to enable Google Ads to bid on rival exchanges. However, Google understood that denying access to its unique advertiser demand would hinder its rivals' ability to compete on the merits. Without this access, publisher payouts on rival exchanges would dwindle, making those platforms less attractive to publishers. By conditioning access to Google Ads' demand on the use of AdX, Google deprived rival ad exchanges of the necessary transactions and scale to compete meaningfully and also raised barriers to entry. As one Google executive described: "I believe if we keep AdWords [Google Ads] demand to ourselves, it will be hard for another marketplace to develop even if they have lower margins".

159. Without the tie between Google Ads and AdX, Google understood that publishers would avail themselves of rival ad tech tools. In 2011, Google conducted an experiment to assess what would happen if it allowed its advertisers to bid freely into rival ad exchanges (i.e., if Google had to compete on the merits). The outcome revealed that AdX would "lose 20 to 30% of its publishers", and DFP would "lose 20% of its publishers". Google understood that "if publishers can gain the same AdWords RTB demand from any yield management/exchange partner, there is a risk that many publishers would terminate their AdX relationship in favor of their preferred alternate vendor".

160. Google has maintained this tie, despite recognizing that its Google Ads advertisers have unspent advertising budgets and that opening up bidding to other ad exchanges could increase their access to inventory (and increase Google's revenue). Despite this clear benefit to advertisers (and revenue boost for Google), Google instead prioritized a long-term strategy of consolidating its market power across the ad tech stack by excluding rivals, which it knew would have an adverse effect on competition, and position Google for greater profits in a less competitive environment at the expense of its advertisers. The buy-side

of Google's business which runs Google Ads was unhappy with this strategy. As one buy-side Google executive said: "[m]ore importantly, we do not like the idea of AdWords being given a disadvantage compared to the other buyers in order to strengthen the publisher pitch (e.g. uphold the 20% margin)".

161. Google recognized that by allowing Google Ads advertisers to bid freely on other ad exchanges, AdX would be forced to compete on the merits and be unable to sustain its supra-competitive fees. As one Google executive stated: "we are NOT seeing pressure on the AdX 20%, but I am making a statement that it is because it provides nearly exclusive access to GDN demand. If GDN bought liberally through all 3PEs [third party exchanges], I think the 20% would crater. What I am suggesting is that 'comparing two bids and running an auction' is proven to not be worth 20%".

162. In 2016, Google began allowing a limited portion of its advertiser demand to bid outside of AdX. This initiative, known as AWBid, offered some marginal benefit to Google Ads advertisers by allowing them to (minimally) access inventory outside of AdX. However, Google implemented measures to disadvantage bids originating from Google Ads made on rival ad exchanges. Google Ads charges take rates between 32-50% on rival ad exchanges compared to 15% on AdX, effectively lowering bids on rival ad exchanges relative to AdX, to the detriment of its advertisers. Google knows that this asymmetrical fee structure will result in bids made to rival exchanges being less competitive, resulting in those exchanges winning fewer auctions, and consequently being less attractive to advertisers and publishers.

163. Despite the introduction of AWBid, Google continues to tell publishers that the only way to access the majority of Google Ads' demand is through AdX. Today, nearly 90% of Google Ads impressions are transacted on AdX.

b) Google conditions access to AdX on the use of DFP

164. The second part of the tie involves Google conditioning real-time bids from AdX on the use of DFP. Specifically, if publishers want to receive real-time bids from AdX (and critical access to Google Ads' unique advertiser demand) they must use DFP. Publishers using other publisher ad servers are effectively locked out of accessing real-time bids from AdX. This restriction effectively forces publishers into adopting DFP as their publisher ad server, undermining rival publisher ad servers' ability to attract publisher customers and thereby gain scale and meaningfully compete. In essence, publishers are compelled to use DFP not because it offers superior functionality, but because publishers require the must-have advertiser demand on Google Ads that is accessible through real-time bidding from AdX. By doing so, Google has leveraged its market power throughout the ad tech ecosystem to maintain, entrench and enhance its dominance.

165. The ability to receive and compare real-time bids from ad exchanges is crucial for publishers. Real-time bidding enhances revenue by allowing publishers to sell ad inventory at variable prices as it becomes available. Recognizing this, Google tied DFP to real-time bidding from AdX, effectively "locking in" publishers to DFP. By restricting real-time bidding from AdX, Google discourages the use of rival publisher ad servers, harming their competitiveness and ability to attract and retain customers.

166. Google has technology to enable real-time bids from AdX to rival publisher ad servers with "minimal effort", which would have resulted in increased revenue for AdX, but chose not to use it in order to maintain DFP's market position. In the words of one Google executive, enabling real-time bids from AdX to rival publisher ad servers would "delete one of the major arguments to use [DFP]".

167. In 2017, Google further solidified this approach by requiring publishers to sign a combined contract for both AdX and DFP. Google has maintained a

superficial method for publishers to access AdX through other publisher ad servers (referred to as "AdX Direct"), which Google internally acknowledges is simply a "concept for antitrust". However, Google, publishers and other market participants all agree that AdX Direct tags, which do not provide real-time bids from AdX, are not a viable option for publishers. Today, over 99% of AdX impressions are transacted via DFP.

c) Google's tie is intentional

168. Google has unlawfully tied its three distinct ad tech products together: its unique, must-have advertiser demand (on Google Ads) is accessible only through its ad exchange (AdX), while real-time bidding from its ad exchange is contingent upon using DFP, its publisher ad server. In other words, publishers must use both AdX and DFP or risk losing effective access to this must-have advertiser demand.

169. This tie was neither accidental nor designed to benefit its customers. It was intended to lock publishers and advertisers into Google's tools within the ad tech stack, and thereby create barriers to entry and expansion for rivals and potential rivals.

170. With this tie, publishers are deprived of the opportunity to access and compare real-time bids from multiple ad exchanges; and advertisers of the ability to bid into rival ad exchanges due to restrictions on Google Ads, which could lead to higher-quality matches. Google's actions are part of a coordinated and deliberate effort to compel both publishers and advertisers to use AdX and DFP, leaving them with no choice but to use only Google's ad tech products. As one Google executive put it: "they should realize that AdX is still the only source to get access to all of GDNs demand. If they chose another monetization partner they loose [sic] access to all of GDN."

171. Google's true intentions have been exemplified through its deliberate stalling, stifling and deprecating of innovative technologies that stood to benefit

publishers and advertisers, to maintain its tie. In 2011, Google acquired AdMeld and deprecated technology that could have facilitated real-time bids from AdX to other publisher ad servers, which it viewed as a "disintermediation" risk. In 2016, Google undertook to suppress the growth of header bidding technology, which stood to benefit advertisers and publishers. Google viewed the growth of header bidding as an existential threat to the "must call" status of AdX and DFP, because it had the potential to weaken the effects of Google's tie by aggregating enough advertiser demand and thereby diminish the need for publishers to use AdX and DFP. Google sought to protect its tie and remain the "only way to get Google demand" by not supporting header bidding or real-time bids from AdX to rivals' publisher ad servers.

172. By conditioning publishers and advertisers to transact through its ad tech tools, Google has stifled competition among publisher ad servers and ad exchanges. Rivals in these markets are denied scale/transactions (i.e., customers), making them less desirable alternatives to Google and less able to meaningfully compete. Publishers who use rival ad exchanges are unable to access Google's advertiser demand; as a result, these publishers are diverted away from rival ad exchanges and steered towards AdX. Similarly, the inability for publishers using competing publisher ad servers to access real-time bids from AdX corralled publishers away from rival publisher ad servers and towards DFP. Google's success was due to its anti-competitive tie, rather than the inherent merits of its products. As one Google executive described: "unlike our competitors, pubs have been viewing us as a necessary evil, instead of a responsive, innovative partner".

2. Google gives AdX a "First Look" and "Last Look" advantage

173. Since 2009, through a "feature" called Dynamic Allocation, Google leveraged DFP's substantial market power to funnel transactions to AdX, thereby further strengthening the position of its ad exchange, relative to other exchanges. This feature required publishers to offer their ad inventory to AdX before offering it

to rival ad exchanges. In effect, AdX was given a right of first refusal on all inventory, allowing it to "cherry pick" high value queries (i.e., inventory that advertisers were willing to bid more for), while leaving competitors with fewer and less desirable impressions, ultimately reducing publishers' and advertisers' incentives to work with rival exchanges.

174. Historically, publishers wanting to auction ad inventory to multiple ad exchanges used a method known as the "waterfall." Under this approach, publisher ad servers sent ad requests to exchanges sequentially, typically based on their average historical performance, until an exchange met the publisher's price floor.

175. Through Dynamic Allocation, AdX was given a "First Look" advantage. First Look gave AdX the right of first refusal on ad inventory by putting it at the top of the waterfall, regardless of where it would have ranked in the waterfall based on historical prices. Consequently, AdX could secure impressions even if there were other exchanges that were able to generate higher bids than AdX. As one Google executive indicated, that meant that "[p]ublishers lose every time the third-party exchange has higher payout than the average".

176. Google recognized that First Look would deprive rival ad exchanges of valuable inventory, adversely affecting their performance. This, in turn, would lead publishers to rank those rivals lower in the waterfall, resulting in a self-reinforcing cycle of diminished inventory for Google's competitors.

177. Partly to circumvent First Look, in or around 2015, publishers began adopting a technology called "header bidding." Header bidding allowed publishers to send ad requests and receive real-time bids from multiple ad exchanges outside of Google's DFP (and Dynamic Allocation). Header bidding involved embedding JavaScript in a website's code that, once a user visited the site, routed information about the website's ad space pre-selected ad exchanges simultaneously, before DFP was engaged and First Look executed. By

bypassing Google's First Look, publishers significantly increased participation in the market by third party ad exchanges. This led to a substantial increase in publisher ad revenue. As one Google executive described "[p]ublishers felt locked-in by dynamic allocation in DFP, which only gave AdX ability to compete, so HB [header bidding] was born. HB [header bidding] gives many publishers better yield, so it's a no-brainer for a publisher to adopt it".

178. With the introduction of header bidding, Google's First Look advantage became a "Last Look" advantage. Through Last Look, AdX was given a right of last refusal in respect of bids from rival exchanges. During the header bidding process, third-party ad exchanges submitted bids simultaneously and did not know what their rivals were bidding. But Google, through DFP, disclosed the highest real-time bid from the header-bidding exchanges to AdX, allowing AdX to use that bid as the price floor in its own auction. That way, Last Look enabled AdX to outbid competitors, only requiring a minimal increased margin. As described internally at Google: "AdX can observe all the other exchange bids, and can strategically lower its bid to be the smallest amount sufficient to win… This is referred to as the last-look advantage for AdX: Essentially, it can determine its bid after looking at the bids of other auction candidates".

179. Last Look allowed AdX to win inventory by bidding one penny more than the highest bid from rival ad exchanges. As a result, Last Look had no material benefit to publishers and publishers could not opt-out. As one Google executive described "last look…only benefits us [Google]". In fact, the removal of Last Look was one of the "biggest requests" Google got from the publisher community.

180. In 2014, Google introduced a program known as Sell-Side Dynamic Revenue Share ("**SSDRS**") to further bolster AdX's ability to win auctions by dynamically adjusting its 20% take rate. SSDRS, coupled with Last Look, allowed AdX to adjust its 20% take rate after seeing the highest competing bid from rival ad exchanges. For example, AdX could reduce its take rate (e.g.,

10%) to win an impression and increase its take rate (e.g., 30%) on another impression and maintain an average 20% take rate.

181. Rival exchanges could not compete with AdX because they did not have AdX's Last Look advantage and the ability to thereafter adjust their take rates through a program such as SSDRS. As a result, Google's AdX was able to win more auctions at the expense of its rivals, not because AdX was a better product, but because it was able to leverage its market power to deprive rival exchanges of critical transactions, scale, and customers, as well as distort competition. Google internally acknowledged that SSDRS was "just yet another way for AdX to exploit the last look advantage", which other ad exchanges could not replicate because, unlike AdX, they could not see bids from other ad exchanges.

182. Google understood that Last Look conferred an unfair advantage to AdX and was met with criticism from publishers. Nevertheless, Google recognized that in a header bidding environment, Last Look gave AdX "a significant informational advantage". Through Dynamic Allocation and the related First and Last Look features, Google restricted publishers' ability to multi-home and denied rivals essential revenue and scale, thereby reinforcing its market power across the ad tech stack — regardless of the impact these "features" had on ad matching quality for its customers.

183. As previously described at paragraph 165, Google also intentionally suppressed and deprecated innovative technologies that stood to benefit publishers and advertisers, including those aimed at facilitating real-time competition between ad exchanges, such as AdMeld's RTB technology, and later header bidding. Header bidding increased publisher revenue by as much as 20-40% by enabling real-time competition between ad exchanges. Yet, instead of embracing this innovative technology from which their publisher customers stood to gain, Google took steps to stall and suppress the growth of header bidding to protect the unfair advantages Dynamic Allocation bestowed on AdX.

184. In 2019, Google moved to a unified first price auction and got rid of its Last Look advantage. Internally, Google acknowledged that this was done proactively and bundled with other beneficial changes for Google (e.g., Unified Pricing Rules, described below beginning at paragraph 186) to avoid being forced by regulators to remove Last Look under disadvantageous terms.

3. Google uses negative take rates to win more auctions

185. In 2013, Google realized that other ad buying tools were lowering their take rates to win more impressions, resulting in a "worrisome" trend of other ad buying tools on AdX growing at the expense of Google Ads.

186. In response, Google introduced a program it referred to internally as Project Bernanke,[10] which adjusted Google Ads' fixed take rate of 14% to win more ad impressions, while maintaining an average take rate of 14% per publisher.[11] This secret program allowed Google Ads to bid such that it earned a lower margin (including using negative take rates) in certain competitive auctions, and a higher margin in non-competitive auctions.

187. Google's manipulation of its bids was done covertly and with the intention of reinforcing its dominant position in the relevant markets. Through Project Bernanke, Google steered more ad spend towards Google Ads and AdX, and away from rival buying tools and ad exchanges. In instances where Google took a negative take rate to boost its bid above the advertiser's maximum willingness to pay, Google's advertisers were winning impressions that another advertiser, using a different ad buying tool, might have valued more highly and but for Google's take rate manipulation, would have won. In some instances, Google Ads lowered its take rate by as much as -300% to inflate bids on AdX relative

[10] Project Bernanke was named after former US Federal Reserve Chairman Ben Bernanke, because it allowed Google to win more impressions through "quantitative easing" on AdX.
[11] As a precursor to Project Bernanke, Google ran Dynamic Revenue Share ("**DRS**"), which also adjusted Google Ads' fixed take rate of 14% per impression to win more ad impressions, while still maintaining an average take rate of 14% per publisher. With DRS, Google would lower its take rate to zero in some instances but, in contrast to Project Bernanke, never lower than zero.

to other ad exchanges. It also meant that publishers were being given distorted market signals in that in some cases the prices that they were receiving for their inventory did not reflect advertisers' willingness to pay.

188. Internally, Google initially estimated that Project Bernanke would reduce the number of auctions rival ad buying tools won on AdX by 18% and rival spend on AdX by 8%. In practice, Google later realized that Project Bernanke was exceeding its expectations and had resulted in boosting Google Ads win rate by 20% (at the expense of rival buying tools).

189. Google Ads' use of negative take rates reduced price competition and the ability of rival ad buying tools to compete for and win ad impressions, making them less attractive to advertisers. By allowing Google Ads to win more high value impressions than it would have otherwise won, Project Bernanke reinforced Google Ads' market power and by extension, the market power of AdX and DFP.

190. Under the initial version of Project Bernanke, Google Ads targeted an average take rate on a per publisher basis. In a later version, called Global Bernanke, Google Ads began to target an average take rate across all AdX publishers, creating pools of "winning" publishers on whose inventory Google would charge a less than average a take rate and "losing" publishers on whose inventory Google would charge a more than average take rate. Through Global Bernanke, Google exploited captive publishers it deemed to be "non-competitive" due to their lower quality inventory by charging them take rates above average and using those funds to subsidize "competitive" publishers with higher quality inventory.

191. In 2019, the mechanics of Project Bernanke were adjusted to function in a first-price auction. Today, this updated form of Project Bernanke is referred to as The Alchemist. The Alchemist continues to target an average take rate and

continues to use negative take rates to advantage Google Ads relative to rival ad buying tools.

4. Google restricts publishers' ability to transact with rival exchanges on their own terms

192. In 2019, Google began leveraging its market power in the Publisher Ad Server market to reinforce its position in the Ad Exchange market by removing publishers' ability to set lower price floors for rival (i.e., non-Google) ad exchanges compared to AdX through a program called UPR. Google came to the realization that for the reasons set out below, publishers were setting higher price floors for AdX, which led to rival exchanges winning more impressions. To thwart their publisher customers initiative, Google unilaterally imposed UPR, forcing publishers to set the same price floor across all exchanges for any given impression.

193. Prior to UPR, DFP had offered functionality that allowed publishers to set different price floors for different ad exchanges and demand sources. Publishers valued and used this functionality for a number of reasons, including to adjust for ad quality, revenue diversity (i.e., not being overly reliant on Google) and to increase yield.

194. To limit the number of low-quality ads showing up on their websites, publishers could set a high price floor for certain exchanges associated with lower quality ads. Google was aware that publishers used high floors on AdX to reduce the risk of lower quality ads coming from Google Ads. As one Google executive described: "[a] publisher might set a lower floor for HB [header bidding] knowing that the risk of low-quality creatives coming through that channel is much lower than the risk of similar creatives coming through AdX (mostly because of AdWords)".

195. Google was also aware of publishers using price floors to diversify their revenue streams, promote competition and reduce their reliance on AdX. In

explaining why some publishers choose to place higher floors in AdX, one Google executive described: "[p]ubs are also rationale [sic] when they decide to diversify their source of revenues. It help [sic] them to keep Google at bay and put pressure on us (similar to any industry)."

196. Google adopted UPR knowing that it would be viewed as a loss of functionality by publishers and that it could negatively impact publisher revenue. Realizing this, Google decided to bundle its launch of UPR with other changes to make it more "stomachable" and mask the negative effects. Google was aware that the removal of its Last Look advantage was going to have a negative impact on AdX, so it bundled it with the launch of UPR to offset the effects.

197. As expected, publishers were unhappy with the loss of control resulting from UPR, but had little recourse as they could not afford to lose access to Google Ads demand and had no viable alternatives to DFP. Despite complaints from publishers – for example, due to an increase in bad ads (i.e., fraudulent and/or spam ads) – Google did not afford publishers the option to opt-out of UPR. Publishers were captive and Google knew it.

198. Through UPR, Google has abused its market power in the Publisher Ad Server market by degrading the quality of DFP and taking away a feature that publishers valued. Google did not improve AdX or reduce its take rate to better compete with rival ad exchanges. Google unilaterally restricted the ability for publishers using DFP to set different price floors for ad exchanges for its own gain.

199. UPR denies publishers the ability to prioritize their preferred ad exchanges and deprives rival ad exchanges of the ability to differentiate their services on non-price dimensions and gain scale. Google's internal analysis confirmed that UPR had a negative effect on rival ad exchanges, which began losing share, and led to more spend flowing through AdX.

D. GOOGLE'S PRACTICE LESSENS AND PREVENTS COMPETITION SUBSTANTIALLY

200. Google's practice of anti-competitive acts, as described above, has had, is having and is likely to have the effect of preventing and lessening competition substantially in the Publisher Ad Server, Ad Exchange and Advertiser Ad Network markets in Canada. But for Google's practice of anti-competitive acts, the Publisher Ad Server, Ad Exchange and Advertiser Ad Network markets would be substantially more competitive, including by way of lower prices, enhanced innovation and higher service quality.

201. In the absence of Google's practice, significant new entry and expansion into the Publisher Ad Server, Ad Exchange and Advertiser Ad Network markets would likely have occurred or would likely occur in the future. Google's conduct has raised barriers to entry and expansion, deprived rivals of scale and insulated it from competition, enabling it to exercise a materially greater degree of market power, through materially higher prices and materially lower levels of service quality, than would otherwise prevail in the absence of Google's practice.

202. Enhanced rivalry from new entry and/or expansion would likely have resulted and would in the future result, in substantially more competitive Publisher Ad server, Ad Exchange and Advertiser Ad Network markets in Canada. The ability of publishers and advertisers to seek publisher ad server, ad exchange and advertiser ad network alternatives to DFP, AdX and Google Ads respectively would likely have resulted and would in the future result in materially lower prices and materially greater service, product quality and innovation.

203. Google's conduct has undermined the ability for publishers and advertisers to make informed choices and exacerbates problems of adverse selection in the auction process, leading to lower quality matches.

204. But for Google's practice, publishers and advertisers would benefit from greater choice, more innovation and lower prices. Google's conduct restricts the ability of publishers and advertisers to effectively multi-home, limiting their ability to take advantage of higher-quality and/or lower-priced services. Because of Google's conduct, advertisers pay more for advertising and publishers receive less. Google's practice has intentionally stalled, stifled and deprecated innovative technologies that stood to benefit publishers and advertisers to preserve and enhance its market power.

1. Publisher Ad Server market

205. But for Google's practice of anti-competitive acts, barriers to entry and expansion in the Publisher Ad Server market would have been lower and significant entry and expansion, or the threat of significant entry and expansion, would likely have occurred. New entry would lead to more vigorous competition in the Publisher Ad Server market, offering publishers higher-quality and more innovative services, including better functionality and controls.

206. Google's practice has virtually eliminated the ability of rival publisher ad servers to attract and retain publishers — allowing DFP to entrench its market power, leaving few viable competitors. The Publisher Ad Server market has seen no meaningful entry and several exits in the past decade. Those firms that have exited found that publishers wanted to use their publisher ad server, but could not forgo access to AdX due to, among other things, the commercial imperative to have access to Google Ads demand and the data-rich environment created by AdX's scale. Those firms which remain in the market today are small and struggle to gain and maintain publisher customers without effective access to AdX and Google Ads demand.

207. But for Google's conduct, barriers to switching in the Publisher Ad Server market would have been substantially lower and publishers would have availed

themselves of higher-quality or lower-priced alternatives. Google's tie increases barriers to publishers switching away from DFP as publishers are unable to forgo access to AdX. As a result, rates of switching in Canada are very low.

208. Google is not forced to compete through new, improved and innovative products and services. Publishers have been faced with reduced product quality and functionality in the Publisher Ad Server market, for example through the elimination of the ability to set price floors to manage their inventory the way they prefer, with no recourse. Publishers view Google not as an innovative partner, but instead as a "necessary evil".

2. Ad Exchange market

209. But for Google's practice of anti-competitive acts, barriers to entry and expansion in the Ad Exchange market would have been substantially lower, allowing rival ad exchanges to gain the scale necessary to effectively compete and offer publishers and advertisers lower-priced and higher-quality services. Publishers and advertisers, who have been subject to higher take rates, poorer quality matches and lower levels of innovation, would have gained the ability to effectively multi-home ad exchanges and realize the benefits of doing so.

210. Google's practice has restricted the ability of publishers to effectively multi-home ad exchanges and forced more ad sales to flow through AdX than would have otherwise prevailed in a competitive market. This has deprived rival ad exchanges of the ability to gain sufficient scale to meaningfully compete and collect data, which is critical to optimizing and improving their auctions. Over time, the impact of that reduced volume has been compounded by indirect network effects, making rival ad exchanges less attractive to both advertisers and publishers.

211. AdX has benefitted from the preferential treatment which Google has afforded it, at the centre of Google's ad stack between Google Ads and DFP, which has

artificially suppressed the competitive process, depriving rival ad exchanges of scale and publishers of revenue.

212. In 2019, when Google finally got rid of its Last Look advantage, Google's internal analysis found that the elimination of Last Look would create a more competitive environment with third parties, whose share of ad spend would increase while AdX's share of spend would decrease, and increase publisher yield. For example, one internal analysis conducted by Google found that the removal of Last Look would result in a 7% decrease in impressions for AdX. However, the implementation of UPR together with the elimination of Last Look led to *more* ad impressions being diverted from other ad exchanges to AdX, all without AdX having to compete harder on price, quality or innovation and without the support of publishers. One internal analysis estimated a 32% increase in impressions won by AdX as a result of UPR.

213. Google's anti-competitive practice has resulted in price competition in the Ad Exchange market being significantly diminished. Despite efforts from rival ad exchanges to gain share by differentiating their services and/or lowering their take rates, AdX has been able to maintain a supra-competitive take rate all while continuing to gain share. Over time, as ad exchanges that reduce their take rate and/or innovate in order to win more impressions are unsuccessful in doing so, their incentive to continue to reduce their take rate and/or innovate is diminished, to the detriment of publishers and advertisers.

214. But for Google's practice, prices in the Ad Exchange market would be substantially lower and publishers and advertisers would be free to avail themselves of higher-quality or lower-priced alternatives.

215. Google's distortion of the competitive process via Dynamic Allocation, Project Bernanke and UPR has had and continues to have the effect of forcing more transactions through AdX than would otherwise prevail in a competitive

market. Those transactions are then subject to AdX's supra-competitive take rate, which means that advertisers pay more, and publishers receive less.

216. Google's internal predictions that header bidding would challenge the "must call" status of AdX and DFP (flowing from the tie with Google Ads) and drive down ad exchange fees to between 5-15% have not materialized because of actions taken by Google to blunt the competitive threat header bidding represented. AdX's take rate for open auction ad sales has remained remarkably stable at 20% and AdX continues to gain share. In 2022, AdX's market share was nearly 6 times higher than its next closest competitor. Google describes being at a "comfortable point when it comes to HB [Header Bidding]".

217. Google executives consistently describe AdX's take rate as significantly higher than its rivals and not justified based on AdX's functionality, with one Google executive describing that they are "continuing to extract irrationally high rent from the AdX". But for its exclusive access to Google Ads demand and ownership of the publisher ad server, AdX could not sustain a 20% take rate and publishers would shift spend to other ad exchanges. Internally, as Google acknowledges, AdX is more difficult to do business with than other ad exchanges and that without its exclusive access to Google Ads and privileged position within Google's ad stack, it would be forced to compete on service and would likely lose.

3. Advertiser Ad Network market

218. But for Google's practice of anti-competitive acts, barriers to entry and expansion in the Advertiser Ad Network market would have been lower, allowing new rival advertiser ad networks to enter the market and existing rivals to expand and gain the scale necessary to effectively compete and offer advertisers lower-priced and higher-quality services.

219. Google's practice has allowed Google Ads to entrench its dominance, making rival advertiser ad networks less attractive to advertisers.

220. Given that Google Ads is one of the largest buyers on AdX, the advantages enjoyed by AdX, such as First Look, Last Look and UPR, have also accrued to Google Ads. For example, the implementation of UPR resulted in the average price floor for Google Ads decreasing from over $3.00 to just over $1.00, thereby increasing the number of ad impressions Google Ads is eligible to bid on. This deprived rival advertiser ad networks of the ability to differentiate their services on non-price dimensions and gain scale, and restricted publishers' ability to use price floors to avoid low quality ads from Google Ads.

221. Project Bernanke, and particularly Google Ads' use of negative take rates, reinforced Google Ads' dominant market position. Google's distortion of the competitive process excluded rivals by reducing price competition with other advertiser buying tools. Google's use of negative take rates has allowed it to boost bids from Google Ads above its advertisers' maximum willingness to pay, allowing a Google Ads advertiser to win an impression that another advertiser, using a different advertiser buying tool, might value more highly. Google's records show that Project Bernanke increased Google Ads' win rate and "starved out some AdX buyers of growth". Google found that Bernanke would lead to a 23% reduction in impressions won by other buyers on AdX and a 10% reduction in spend.

E. CONCLUSION

222. An order of the Tribunal is necessary and appropriate in the circumstances, including for the following reasons:

    a) Google's practice has had, is having and is likely to have the effect of preventing or lessening competition substantially in the Advertiser Ad Network, Ad Exchange and Publisher Ad Server markets in Canada;

    b) an order, and more particularly, the relief sought by the Commissioner herein, is reasonable and necessary to overcome the

anti-competitive effects of Google's practice in the Advertiser Ad Network, Ad Exchange and Publisher Ad Server markets in Canada and to restore competition in the market;

c) an enforceable mechanism is necessary to prevent Google from engaging in the same or similar conduct likely to have the effect of preventing or lessening competition substantially in the Advertiser Ad Network, Ad Exchange and Publisher Ad Server markets in Canada; and

d) an order will indicate to the Canadian marketplace more broadly that the actions described by the Commissioner herein are anti-competitive.

F. RELIEF SOUGHT

223. For all the reasons provided above, the Commissioner seeks an order from this Tribunal:

a) pursuant to subsections 79(1), 79(2) and 79(3.1) of the Act:

i. requiring Google to divest Google's publisher ad server, DFP, and Google's ad exchange, AdX, along with any additional structural relief as needed to restore competition and overcome the effects of Google's anti-competitive practice in Canada;

ii. otherwise, prohibiting Google from continuing to engage in the anti-competitive practice described herein and from engaging in any other practices with the same purpose and effect in Canada; and

iii. requiring Google to pay an administrative monetary penalty in such an amount as the Tribunal decides is appropriate; ~~directing Google to pay an administrative monetary penalty equal to three~~

~~times the value of the benefit derived from Google's anti-competitive practice, or if that amount cannot be reasonably determined, 3% of Google's worldwide gross revenues;~~

a. directing Google to pay costs; and

b. such other relief as the Tribunal may consider appropriate.

DATED AT Gatineau, Quebec, this 28th day of November 2024.

Matthew Boswell
Commissioner of Competition
Competition Bureau
Place du Portage, Phase I
50 Victoria Street
Gatineau, QC K1A OC9

SCHEDULE "A"

CONCISE STATEMENT OF ECONOMIC THEORY

1. Google is dominant in three ~~two~~ markets: the market for the supply of publisher ad servers used by publishers to sell programmatic open web advertising (the "**Publisher Ad Server market**"), ~~and~~ the market for the supply of advertiser ad networks used by advertisers to buy programmatic open web advertising (the "**Advertiser Ad Network market**"), ~~. Google also holds a strong market position in other markets for the supply of ad tech tools used by both advertisers and publishers for programmatic open web advertising, including in~~ and the market for the tools that serve as the intermediary between the sell- and buy-side tools (the "**Ad Exchange market**").

2. Through a series of interrelated and interdependent anti-competitive actions, which have had cumulative and synergistic anti-competitive effects, Google has unlawfully tied together its different ad tech products and hamstrung rivals' ability to compete on the merits. In particular, Google has:

    a) Made its advertiser ad network's unique, must-have advertiser demand available only to its own ad exchange, and in turn, compelled publishers to use its publisher ad server in order to access real-time bidding through its ad exchange;

    b) Used its dominant position within the Publisher Ad Server market to: (i) provide its own ad exchange preferential access to valuable ad inventory, and (ii) deny publishers the ability to shift ad inventory sales to non-Google ad exchanges to foster greater competition in the Ad Exchange market; and

    c) Artificially increased Google Ads' win rate on AdX by incurring losses on certain transactions which deprived rival ad-buying tools of scale, hindering their ability to compete.

3. In implementing these anti-competitive interrelated and interdependent actions, Google has been able to entrench its dominance, deprive rivals of scale, decrease incentives for innovation, insulate itself from competition, inflate advertising costs, and reduce revenues for publishers. Google's conduct, in whole or in part, has had (and, if left unchecked, will continue to have) serious consequences for publishers, advertisers, rivals, and ultimately consumers — manifesting in a substantial preventing and lessening of competition, the magnitude, duration and scope of which is compounded by the economies of scale and network effects endemic to ad tech.

4. Google Ads' advertising demand is comprised of many small- and medium-sized advertisers that value the advertiser ad network's ease of use, its data that Google provides to target audiences, and its ability to conduct effective search advertising. For many Google Ads advertisers, Google Ads is the only ad-buying tool they use to buy programmatic open web advertising. Given this fact, Google's advertiser ad network serves as a bottleneck – in order to access the total advertising demand from these advertisers, publishers need to ensure that their inventory is accessible to Google Ads.

5. The value that publishers place on this collective block of advertising demand provides Google with the ability and incentive to leverage its market power in the Advertiser Ad Network market into other areas of the ad stack such as the Ad Exchange and Publisher Ad Server markets. Google has done this through its tie: (i) providing full access to Google Ads' demand only to its ad exchange, AdX, and (ii) only permitting its publisher ad server, DFP, the ability to receive real-time bids from AdX. Because of the importance of the revenue realized from real-time bidding from the mass of advertisers that are only available from Google Ads, the tie strongly incentivizes publishers to adopt DFP to access AdX.

6. An ad tech tool's scale is a crucial factor in its ability to compete effectively with rivals. By strongly incentivizing publishers to use DFP and AdX to get

access to Google Ads' advertising demand, Google has deprived ad exchange and publisher ad server rivals of the ability to generate scale and become more effective competitors. In fact, given that publishers typically use only one publisher ad server to manage their inventory, Google's conduct has effectively made DFP the only publisher ad server that Canadian publishers use.

7. By leveraging its market power from the Advertiser Ad Network market into the markets for Ad Exchanges and Publisher Ad Servers, Google has increased barriers for firms wanting to enter or expand by providing programmatic web advertising services in these markets. To effectively compete, a firm would need to provide publishers access to a collective block of advertising demand that is comparable to that of Google Ads to induce them to adopt its ad exchange or publisher ad server. Establishing such a collective block of advertising presents a sizable barrier to entry.

8. Google's tie involving Google Ads, AdX and DFP, has allowed it to dominate the Publisher Ad Server market. The publisher ad server acts as the key piece of software that determines the winning advertiser for a particular publisher's impression. It therefore serves a critical decision-making role in the sale of a publisher's inventory. Google has used its dominance in the Publisher Ad Server market to favour AdX over rival ad exchanges. In particular, Google provided AdX with the opportunity of a "first-look" at a publisher's inventory when publishers were using a "waterfall" system to access exchanges. With a "first-look" at a publisher's inventory, combined with knowledge of the average value of bids that a publisher used to rank exchanges in its waterfall, Google was able to ensure that AdX won valuable impressions for prices no higher than needed to beat bid rival exchanges.

9. When publishers began transitioning from the "waterfall" system to "header bidding", Google used DFP to provide AdX a "last look" advantage over other ad exchanges. Header bidding provided a publisher the ability to receive real-time bids from competition among ad exchanges other than AdX. Google did

not participate in header bidding but instead used DFP to call AdX to fill a publisher's impression after it had sought real-time bids from rival exchanges through the header bidding process. AdX, aware of the highest bid from rival exchanges, was then able to win the impression with a slightly higher bid. Again, Google's use of DFP provided AdX with a clear advantage over rival exchanges in the ability to compete in buying publisher ad inventory.

10. Google also abused its market power in the Publisher Ad Server market by making technological changes to DFP so it no longer offered publishers the ability to set separate price floors for different ad exchanges. Publishers value the ability to set different price floors because this allows them the ability to shift sales to exchanges that provided volume rebates or provided other advantages such as superior ad quality. Because AdX is the largest ad exchange, it offers the "thickest" market for ad inventory as the number of ad buyers on AdX typically exceeds those on any other ad exchange for any given impression. This means that AdX typically offers higher prices for publisher impressions. By eliminating differential price floors (instituting what was known as Unified Pricing Rules), Google no longer allowed publishers to trade-off the ability to forego an immediate high price for selling inventory on AdX versus the benefits of shifting sales to other exchanges to promote longer term competition among ad exchanges. This clearly is to the advantage of Google, as it allows it to benefit from its scale advantage that it currently enjoys and prevents the ability of rival exchanges to gain scale through the actions of publishers.

11. In addition to its abuse of its dominance using DFP, Google also artificially inflates Google Ads' rate of successfully winning auctions on AdX by paying publishers more for their inventory than the maximum amount that Google Ads' advertisers are willing to pay. Google does this for impressions where it expects heavy competition from rival ad-buying tools. By paying publishers amounts exceeding advertisers' maximum willingness to pay, Google creates inefficiency due to impressions being served by advertisers who do not value

the impression the highest – something that auction mechanisms are typically designed to do. Furthermore, by increasing the number of impressions won by Google Ads, Google reduces the win rate, and hence scale, of other ad-buying tools which negatively impacts their ability to compete over time. Enhancing Google Ads' win rate on AdX may also shift sales that would otherwise have occurred on rival exchanges. This too, would serve to reduce the scale of competitor exchanges and negatively impact their ability to compete.

12. In summary, Google's interrelated and interdependent actions have had, are having, and are likely to have the effect of preventing and lessening competition substantially in the Publisher Ad Server, Ad Exchange and Advertiser Ad Network markets in Canada. But for Google's practice of anti-competitive acts, the Publisher Ad Server, Ad Exchange and Advertiser Ad Network markets would be substantially more competitive, including by way of lower prices, enhanced innovation, higher service quality and more efficient allocation of impressions.