
Google's ad tech take rates

Analysis of Google auction level data sets

RBB Economics, 20 October 2020

1 Introduction and summary

As part of its inquiry into digital display advertising technology services, the ACCC has expressed interest in assessing the proportion of advertiser spend retained by Google's (and others') buy-side and sell-side ad tech products and the proportion flowing through to publishers. In its 10 March 2020 Issues Paper seeking feedback on matters relevant to the inquiry, the ACCC states that it is "*directed to specifically consider the revenue and share of an advertiser's display advertising expenditure retained by ad tech*".¹

This paper makes use of three very large datasets from Google's ad tech 'intermediation' products, Google Ad Manager on the sell-side, and Google Ads and DV360 on the buy-side.

The first of these covers [REDACTED] billion ad requests from publishers using Google Ad Manager ("GAM"), originating from users in Australia between 17:00 (AEST) on Thursday, 23 July 2020, and 17:00 (AEST) on Thursday, 30 July 2020.² This dataset covers auction-level bids from all participants in the GAM Unified Auction, including Google Ads, DV360, third-party Authorized Buyers, and third-party Exchanges. The dataset contains [REDACTED] billion bids in total.

The second dataset contains Google Ads data from these same auctions, including both the bid into GAM's Unified Auction, and the payment charged to the advertiser if the bid from Google Ads won the auction. Similarly, the third dataset contains DV360 data from these

¹ Further, at a conference at the Australia-Israel Chamber of Commerce (Western Australia) on 6 August 2020, ACCC Chair Mr Rod Simms noted that "*Australian advertisers spent almost \$3.5 billion on digital display advertising in 2019. Yet we don't know how much of that figure flowed through to the online publishers, and how much was retained by the intermediaries.*" See <https://www.accc.gov.au/speech/the-acccs-digital-platforms-inquiry-and-the-need-for-competition-consumer-protection-and-regulatory-responses>.

² Further details on the composition of this dataset are provided below.

auctions, including the bid into GAM's Unified Auction and the fees DV360 charges the advertisers if the bid from DV360 won the auction.

From the first GAM dataset, we find that GAM's take rates according to the data are as follows:

- GAM's Ad Exchange take rate is [10-20]%;
- GAM's Open Bidding take rate is [5-10]%;

From the second and third datasets, Google Ads and DV360, respectively, we find that:

- Google Ads' take rate is 13%; and
- DV360's take rate is [5-15].

These datasets were made joinable for end-to-end analysis of fees taken at each step when either Google Ads or DV360 wins the auction for an ad request from a publisher using GAM. Overall, the aggregate take rates across buy- and sell-side are approximately 30% when Google Ads buys on GAM's Ad Exchange, and [20-30]% when DV360 buys on GAM's Ad Exchange.

These take rates are in line with the take rates referenced in publicly available sources, published both by Google,³ and third parties such as the UK Competition and Markets Authority ("the CMA").⁴

The results of our analysis, therefore, provide evidence against the proposition that Google may "*extract monopolistic rents in ad intermediation, by securing additional undisclosed margins on top of its disclosed commissions*" at any level of the ad tech supply chain in Australia. The CMA reached a similar conclusion with respect to the UK in its Online Platforms and Digital Advertising market study, based on analysis of analogous, but UK-specific, data provided by Google. After performing analysis to test whether Google realised "hidden" or otherwise supra-competitive fees, the CMA concluded that Google's take rates "*are broadly in line with (or slightly lower than)*" the market-wide average take rates in the UK.⁵

The CMA went on in its report to consider an allegation by News UK that Google Ads has an informational advantage when bidding into Google's auction. According to News UK, "*this allows Google Ads to shade its bids in the UA such that the Google Ads winning margin (its winning bid minus the maximum of the second highest bid or floor price) is likely to be systematically lower than that of other DSPs.*"⁶ As such, the CMA tested whether, according to the UK-specific data, there was a suggestion that Google Ads "*was systematically able to win with a lower margin over the second highest bid (which might have indicated that they*

³ See <https://blog.google/products/admanager/display-buying-share-revenue-publishers>

⁴ CMA's Final Report, [Appendix R](#).

⁵ CMA's Final Report, [Appendix R](#), paragraph 76.

⁶ CMA's Final Report, [Appendix R](#), paragraph 23.

were able to use their data advantage to extract additional hidden fees).⁷ To do so, the CMA analysed the difference between the winning bid and the second highest bid for auctions won by each buyer in the GAM Ad Exchange, respectively. The CMA's hypothesis was that if Google buyers hold a systematic informational or data advantage in the auction that allows hidden fees to be taken, one would expect to observe a systematically lower margin of victory for Google buyers *vis-à-vis* non-Google buyers. The CMA “*did not find clear evidence that Google’s winning margins were systematically lower than non-Google DSPs*”.⁸ The CMA goes on to state: “*We found that Google’s average winning margin was similar to that of non-Google DSPs. Overall, this evidence does not indicate that Google is currently extracting significant hidden fees.*”⁹

We have also sought in this paper to confirm this finding holds in Australia, by replicating the CMA’s analysis of the margin of victory for different buyers in the GAM auction. We find that a similar picture emerges in Australia as that found by the CMA in the UK. Our analysis of Australian data, therefore, corroborates the CMA’s conclusion that there is no evidence to suggest that Google Ads or DV360 have a systematic advantage over other bidders when bidding in GAM’s Ad Exchange, or that Google is extracting hidden fees.

In short, the CMA’s analysis provided authoritative verification of the position set out in Google’s blog post, “*How our display buying platforms share revenue with publishers*”, that when Google’s buy-side and sell-side products are used together, Google retains approximately 30% of advertiser spend.¹⁰ The analysis presented in this paper confirms this conclusion holds in Australia.

Before setting out the details of our analyses below, Section 2 provides an overview of the interactions between different ad tech intermediaries, and each of these datasets. Section 3 then proceeds with analyses of the take rates achieved by each of these ad tech products in turn. Section 4 provides an analysis of the winning margin. Finally, our concluding remarks are set out in Section 5.

2 Data overview

Before presenting the results of our analysis, in this section we discuss the data in detail.

In the context of the CMA’s Online Platforms and Digital Advertising market study, Google built a large auction-level dataset concerning queries originating from users in the UK. From our discussions with Google, we understand that the process to build this dataset was very complex.¹¹ As a result of these significant efforts, Google was also able to reuse the existing knowledge and code in order to build an analogous dataset for Australia.¹²

⁷ CMA’s Final Report, [Appendix R, paragraph 76](#).

⁸ CMA’s Final Report, [Appendix R, paragraph 76](#).

⁹ [CMA Final report, paragraph 5.242](#).

¹⁰ See <https://blog.google/products/admanager/display-buying-share-revenue-publishers>

¹¹ [REDACTED]

¹² [REDACTED]

Google began by extracting a dataset containing all ([REDACTED] billion) queries (excluding spam events) originating from users in Australia from 17:00 (AEST) on Thursday, 23 July 2020, to 17:00 (AEST) on Thursday, 30 July 2020, that resulted in GAM successfully serving an ad impression from Google Ads, DV360, Third-Party Authorized Buyers, or a buyer on Open Bidding partners. It covers all open auction web traffic, and each query in the dataset represents an auction for online ad space, i.e. a publisher selling its ad space to advertisers. For each query, the dataset contains all bids that were submitted to the GAM auction, i.e. the winning bid as well as any losing and rejected bids. In total the dataset contains approximately [REDACTED] billion bids. Google then prepared two supplementary datasets with information from (i) DV360, and (ii) Google Ads, respectively, showing the advertiser payments relating to winning bids in the GAM auction dataset.¹³

For the analyses that follow, we have combined these separate sources. For ease, we refer to the final data as “the combined dataset”. The extent of the information available in the combined dataset regarding each bid therefore depends on: (i) whether or not the bid won the auction; and (ii) whether or not the demand source that submitted the bid was a Google demand source (Google Ads or DV360).

For winning bids, the combined dataset contains the bid that was considered in the GAM auction (which subsequently became the publisher payout),¹⁴ and in addition provides the payment made to GAM by the winning Authorized Buyer (Google Ads, DV360, or a Third-Party Authorized Buyer) or Open Bidding partner. In addition, for winning bids that came through Google demand sources (i.e. DV360 or Google Ads), the payment made by the advertiser to that demand source is also provided. For winning bids that came through DV360, in excess of the advertiser payment made to DV360, any fees paid by the advertiser to third parties, for services such as audience lists, are also included.

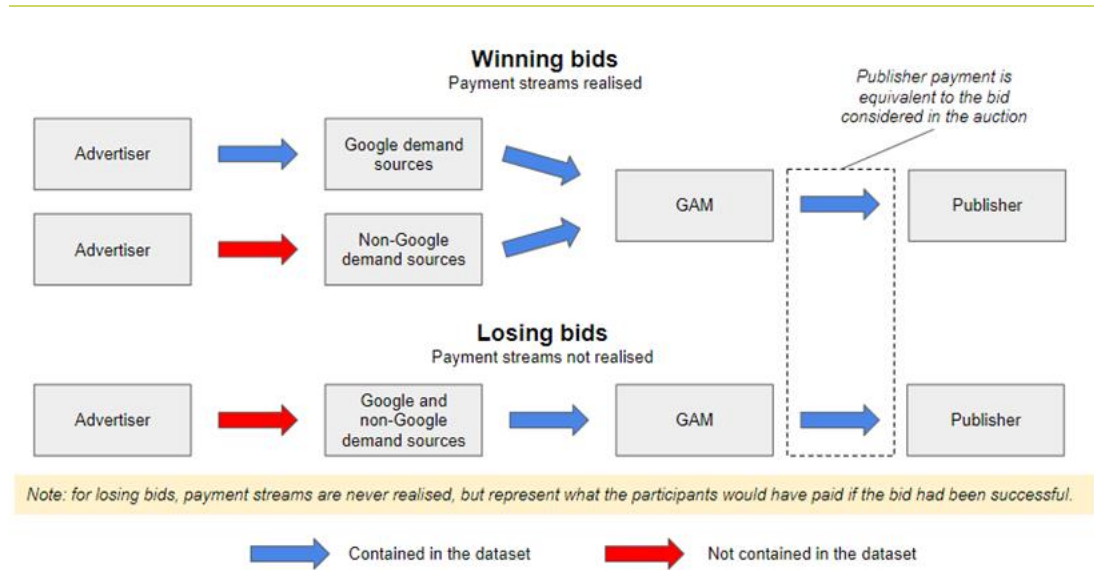
For losing bids, the combined dataset contains the bid that was considered in the GAM auction (which, similar to the winning bids, represents the *proposed* payment to the publisher), as well as the *proposed* payment to GAM by the Authorized buyer (if the bid were to win).

Figure 1 below provides an overview of the payment streams observed in the combined dataset.

¹³ Advertiser payment information is not observed by GAM. As such, Google was required to liaise with its buy-side product teams in order to obtain the extra information on buy-side advertiser payments to DSPs. Google initially sought to combine these data sources at the request of the CMA in the context of its online platforms and digital advertising market study. The CMA required both the payment into the GAM auction by DSPs *and* the advertiser payment to Google’s DSPs in order to check Google’s take rate in cases when both Google’s buy-side products and Google’s SSP were used.

¹⁴ Bids in the GAM auction are compared post-GAM revenue share.

Figure 1: Overview of payment streams in the combined dataset



Source: Google

Note: As discussed above, Google supplemented the GAM auction data with two data sets including the advertiser payment to Google demand sources from Google Ads and DV360, respectively. In the chart this is the box and arrow on the top left-hand side.

We note that information on the payment made by advertisers to Google demand sources is not passed on to GAM (this payment information is invisible to Google Ad Manager as far as Google demand sources are concerned, just as it is for any other demand source). As such it is only by compiling data from different sources that it is possible to provide the holistic view from advertiser payment to publisher pay-out for transactions involving Google's demand sources. As noted above, this has been a bespoke analysis for the purposes of competition investigations and is not conducted in the normal course of business.

In addition, we have run some checks on the data, and confirmed that the combined dataset is consistent with the way the GAM auction works.¹⁵ [REDACTED].

- [REDACTED]^{16,17}
- [REDACTED]^{18,19}

Further summary statistics are presented in Annex 1.

3 Detailed analyses of take rates for Google’s ad tech products

In this section we analyse Google’s take rates implied by the combined dataset. For each of the sell-side and buy-side products, we show that *average* take rates are consistent with

¹⁵ [REDACTED]
¹⁶ [REDACTED]
¹⁷ [REDACTED]
¹⁸ [REDACTED]
¹⁹ [REDACTED]

publicly available sources and provide information on the *distribution* of these take rates across auctions.

In addition, for the segment of auctions where the winning bid went through both Google's sell-side and buy-side products, we put forward total take rate statistics.

Before presenting this analysis, it is important to note that these take rates are not profit margins, as they do not account for any costs incurred by Google for delivering the services of GAM, DV360 and Google Ads. The take rates do, by definition, account for Traffic Acquisition Costs ("TAC"). These figures do not, therefore, shed light on the profitability of GAM, DV360 or Google Ads.

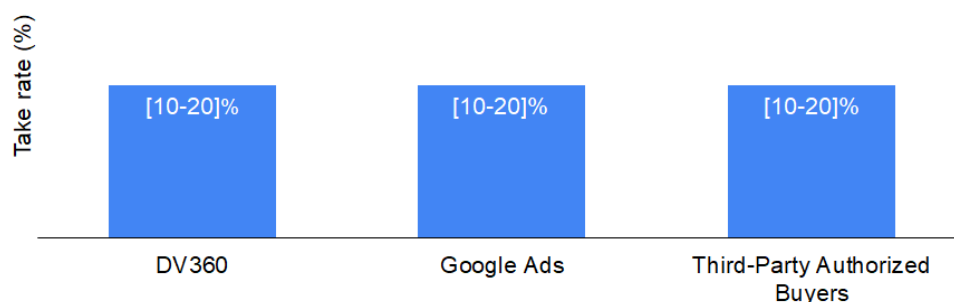
3.1 Sell-side take rate analysis

3.1.1 GAM Ad Exchange

GAM retains a revenue share for facilitating an auction amongst Authorized Buyers (formerly known as the AdX auction).

The average GAM take rate for the auctions in the combined dataset in which the winning bid went through either Google or Third-Party Authorized Buyers in the GAM auction was [10-20]% across all demand sources.²⁰ This is in line with publicly available sources such as the CMA's Final Report and Google's blog posts.^{21,22} Figure 2 below shows GAM's average realised auction take rate in the combined dataset, broken down by its three demand sources: DV360, Google Ads, and Third-Party Authorized Buyers. In each case the take rate is [10-20]%. As such, the data shows GAM's average revenue share does not materially vary depending on the demand source.

Figure 2: Weighted average GAM auction take rate, by demand source



Source: Google

²⁰ The take rate for GAM is defined as (payment to GAM - payment to publisher) / (payment to GAM). This calculation includes the GAM take rate in cases when Google and Third-Party Authorized Buyers won the auction.

²¹ "Goggle (sic) Ad Manager (Authorised Buyers/AdX) operating as an SSP has an average take rate of between [10-20]%. This is similar to the average takes rate (sic) of other SSPs." See CMA Report, [Appendix R, paragraph 11](#).

²² See <https://blog.google/products/admanager/display-buying-share-revenue-publishers>.

In addition, an analysis of the sell-side take rate distribution shows that the GAM auction take rate is very close to the [10-20]% average in the vast majority of cases across demand sources, as illustrated Figure 3 below.

Figure 3: Distribution of GAM take rate per auction, by demand source

[REDACTED]

Source: Google

3.1.2 GAM Open Bidding

Like other ad exchanges, GAM's auction offers policies and protections for publishers regarding, for example, ad quality, privacy standards, and pricing rules. Open Bidding does not offer these protections, because it is assumed that the exchanges that participate will themselves offer these to publishers. Reflecting the difference in the service provided, GAM retains a revenue share of 5% for facilitating the integration of third-party exchanges through Open Bidding, as set out in the CMA's Final Report.²³

The average GAM take rate for the auctions in the combined dataset in which the winning bid went through third-party exchanges participating in Open Bidding was approximately [5-10]%. This is in line with the revenue share previously made public in the CMA's Final Report.

Figure 4 below shows that the take rate is close to the [5-10]% average in the vast majority of cases.²⁴

Figure 4: Distribution of GAM Open Bidding take rate per auction

[REDACTED]

Source: Google

3.2 Buy-side take rate analyses

3.2.1 DV360

The average DV360 take rate for the auctions in the combined dataset in which the winning bid went through DV360 was [5-15]%.^{25,26,27}

Figure 5 below shows the distribution of the DV360 take rate in the combined dataset.

²³ "If an SSP using Open Bidding wins the final auction for the ad impression, Google charges it 5% of its bid, which increases to 10% for app and video inventory." See [CMA Final report, paragraph 5.225](#).

²⁴ Specifically, [REDACTED]% fall outside the range of [REDACTED]% to [REDACTED]%. We have investigated these outlier cases in detail. We found that the vast majority are driven by low value auctions that are susceptible to rounding issues. If we account for these potential rounding issues we find that [REDACTED] wins fall in the ranges of [REDACTED]% to [REDACTED]% and [REDACTED]% to [REDACTED]%.

²⁵ Specifically, the take rate in [REDACTED]% of the auctions falls between [REDACTED]% and [REDACTED]%.
²⁶ [REDACTED]

²⁷ As noted by the CMA, these take rates are broadly in line with non-Google intermediaries: "On the demand side, the Google take rate for DSP services is [5-15%] for DV360 and between [10-20%] for Google Ads. These average take rates are comparable with the average take rate of other DSPs." See the CMA report, [Appendix R, paragraph 11](#).

Figure 5: Distribution of DV360's buy-side take rate per auction

[REDACTED]

Source: Google

3.2.2 Google Ads

Google Ads retains a varying take, given by the difference between the payments received from advertisers and the amount it paid to GAM's exchange and/or third-party exchanges. The average take rate in 2019, as a percentage of advertisers' spend on Google Ads, was approximately 14%, according to a blog post by Google.²⁸ Similarly, the CMA found that Google Ads average take rate was approximately 12%.²⁹

The average Google Ads take rate for the auctions in the combined dataset in which the winning bid went through Google Ads was 13.0%.³⁰ This is slightly lower than stated in Google's blog post, but slightly higher than stated in the CMA's Final Report. This is expected, given Google Ads' take rate can vary over time due to the nature of its business model as described below.³¹

Google Ads charges advertisers mainly on a CPC basis; other cost types include charging on a CPA (when advertisers pay for every ensuing action: "Cost per Action") or CPM (when advertisers pay for every view: "Cost per Active View") basis.³² Advertisers compete in a modified second-price auction held by Google Ads. Google Ads then uses an algorithm to transform the winning advertiser's second-price CPC, CPA or CPM bid into a first-price CPM bid to submit into the GAM auction and other exchanges.³³

Google Ads commits to make a payment into the relevant auction for every impression it wins, whereas advertisers pay only when the relevant impression leads to a click/action/active view. Google Ads offers this model because some advertisers, given their particular goals, have a preference for only paying when a user interacts with an ad. Publishers, however, generally prefer to be remunerated every time an ad is shown on their website or app.

²⁸ See <https://blog.google/products/admanager/display-buying-share-revenue-publishers>.

²⁹ As noted by the CMA, these take rates are broadly in line with non-Google intermediaries: "On the demand side, the Google take rate for DSP services is [5-15%] for DV360 and between [10-20%] for Google Ads. These average take rates are comparable with the average take rate of other DSPs." See the CMA report, [Appendix R, paragraph 11](#).

³⁰ In order to be conservative, Google Ads take rate figures do not include 'CPA_TO_CPM' bids (impressions where the advertiser is charged by specified user-actions and the publisher is paid by impressions). This is because advertiser payments for these bids sometimes occur days after the impression was served, and are therefore sometimes missing from the combined dataset (if the payment occurred after 17:00 30 July 2020 AEST). Including these data in the calculation of Google Ads take rate would produce a (potentially misleading) lower estimate. This applies to all Google Ads buy-side take rate figures calculated from the combined dataset and presented in this paper.

³¹ [REDACTED]. In a similar regard, the CMA noted that given Google Ads' business model "we would expect there to be variation in the Google Ads margin across publishers." See CMA Report, [Appendix R, footnote 10](#).

³² In the combined dataset, [REDACTED]% of Google Ads's wins were on a CPC basis. Around [REDACTED]% were wins on a CPA basis and [REDACTED]% were on a CPM basis.

³³ Google Ads also offers a model where advertisers bid on a CPM basis in the Google Ads auction. However, in this data set the vast majority (approximately [REDACTED]%) of Google Ads bidding are on a CPC-to-CPM, CPA-to-CPM or CPM-to-CPM basis. Given this, we do not draw a distinction between these Google Ads cost types and Google Ads CPM business models in this analysis.

The majority of Google Ads transactions in the data are on a CPC basis (close to [REDACTED]%). Clicks are, however, a rare event. Therefore, in cases when Google Ads bids on a CPC-to-CPM basis it makes a loss in the vast majority of auctions that it wins. These are counterbalanced by the rare cases when a user clicks on an ad, resulting in Google Ads receiving payment from the advertiser. Google makes these transactions possible by investing significant resources in predicting the click through rate on advertisers' ads (the "pCTR"). This allows Google Ads to convert the advertiser's CPC from Google Ads into a CPM bid before the GAM auction. If Google systematically overestimates the number of clicks on ads, then Google will systematically overstate the advertisers' CPM bids, the result of which would be Google Ads paying publishers more than it charges advertisers in the aggregate. Google Ads is therefore taking on risk in order to facilitate transactions between on the one hand its advertisers that want to use a CPC model, and Google Ad Manager (as well as other exchanges) that use a CPM model on the other. The same logic applies when Google Ads bids on a CPA or CPMaV basis, except actions or active views trigger payments by advertisers in place of clicks.

Google Ads targets an aggregate rate of return for the service it provides, and its business model is evident in the data. Figure 6 below shows the distribution of absolute takes for auctions won by Google Ads over the period.³⁴ The orders of magnitude of takes are very different for cases when Google Ads realised a negative absolute take (when no user interaction occurred) and Google Ads realised a positive absolute take (when a user interaction occurred). [REDACTED].

Figure 6: Distribution of Google Ads' absolute take per auction

[REDACTED]

Source: Google

The figure shows that Google Ads made a loss in the vast majority of auctions it won, only recovering its lost revenues in a small portion of auctions when users interacted with the winning ad. Out of the auctions that Google Ads won, Google made a negative absolute buy-side return in [REDACTED]% of cases.

This is also clear from Figure 7 below, which shows the cumulative distribution of buy-side take rates when Google Ads won the GAM auction. In order to generate the cumulative distribution, absolute takes are calculated for the 1st percentile, then 1st and 2nd percentile, then 1st, 2nd and 3rd percentile and so on. These cumulative takes are then ranked from smallest to largest.

Figure 7: Cumulative distribution of Google Ads' absolute take per auction

[REDACTED]

Source: Google

³⁴ Given Google Ads does not receive payment from the advertiser in the vast majority of cases, a relative return would be undefined for the vast majority of auctions won by Google Ads. As such, our analysis of Google Ads' take rate has been conducted on the basis of absolute takes only.

When viewing the distribution cumulatively, it is apparent that Google Ads only recovers the losses in well over the [REDACTED]th percentile of auctions. As explained above, using these conversion mechanisms over the entire period covered by the combined dataset, Google Ads realised an aggregate average buy-side take rate equivalent to 13.0% of the total payments it received from advertisers, which is slightly lower than the figure published publicly (approximately 14% of the total payments received from advertisers in 2019 when buying on GAM³⁵), showing that the Google Ads take rate indeed varies over time due to the nature of its business model.

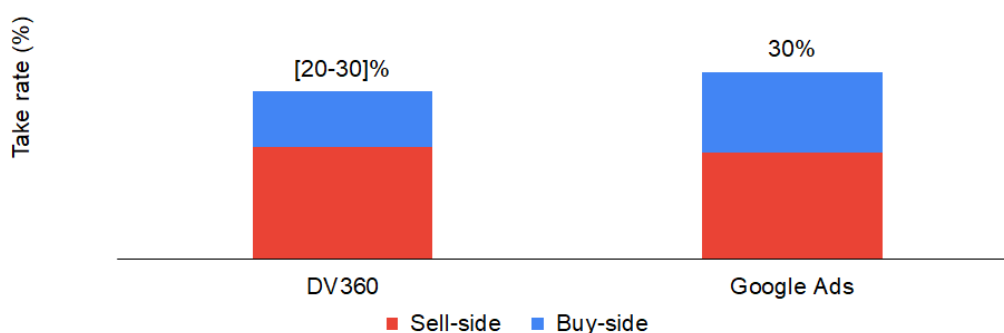
3.3 Total take rate analyses

In the case when Google’s buy-side products, Google Ads and DV360, win the GAM auction Google makes both a sell-side and buy-side take rate.³⁶

To combine both sell-side and buy-side take rates in this way combines take rates made under different pricing models used by Google’s buy-side and sell-side products. Nonetheless, our understanding is that the “total take” when both the buy-side and sell-side products are used may be of interest to the ACCC. With this in mind, in this section we present an analysis of Google’s total take for such cases, defined as the difference between the initial advertiser payment and the payment made to the publisher.³⁷

Figure 8 below sets out Google’s total take rate when the winning bid came through Google Ads or DV360.

Figure 8: Weighted average total take rate for winning bids from DV360 and Google Ads



Source: Google

³⁵ See <https://blog.google/products/admanager/display-buying-share-revenue-publishers>.

³⁶ Google also realises both a buy-side and sell-side take rate when Google Ads or DV360 wins on a third-party exchange participating in Open Bidding. However, given the buy-side take rate in these cases is not observable in the combined dataset, it is not possible to include these cases in our analysis.

³⁷ Total take rates are shown relative to the advertiser payment in the analysis that follows. The relative take rate would herefore, be: (absolute sell-side return + absolute buy-side return) / (advertiser payment). In order to break out the sell-side take rates in this graph the relative sell-side take rate is calculated as: (absolute sell-side return) / (advertiser payment). Note this definition of sell-side take rates is different from the sell-side take rate defined in the sell-side sub-section.

For both DV360 and Google Ads, Google’s weighted average total take rate is approximately 30%: [REDACTED]% when the winning bid came through Google Ads and [REDACTED]% when the winning bid came through DV360. This is consistent with publicly available sources, stating Google retains less than 31% of the advertiser’s payment for the ad inventory before passing the remainder on to the publisher.^{38,39}

We now turn to analysing the distribution of total take rates per auction, for cases when DV360 and Google Ads won the GAM auction, respectively.

Figure 9 below shows the distribution of total take rates for Google in the cases when DV360 won the unified auction.

Figure 9: Distribution of Google’s total take rates when the bid came through DV360

[REDACTED]

Source: Google

The distributions show that approximately [REDACTED]% of DV360 wins realised a take rate between [20-30]% and 31%.

Finally, in Figure 10 below we show the distribution of total absolute takes for cases when Google Ads won the GAM auction.⁴⁰

Figure 10: Distribution of total absolute takes when the winning bid came through Google Ads

[REDACTED]

Source: Google

Furthermore, Figure 11 below shows the cumulative distribution of absolute total take rates for Google in the cases when the winning bid came through Google Ads.⁴¹ Consistent with the analysis of Google Ads’ buy-side takes, in order to generate the cumulative distribution absolute takes are calculated for the 1st percentile, then 1st and 2nd percentile, then 1st, 2nd and 3rd percentile and so on. Google’s takes are then ranked from smallest to largest.

Figure 11: Cumulative distribution of Google’s absolute total take rates when the winning bid came through Google Ads

[REDACTED]

Source: Google

³⁸ “[W]hen Google Ads was used in connection with Google Ad Manager (AdX) the Google take was 30% on average. [...] [W]hen Google Ads was used in conjunction with Google Ad Manager (AdX) the Google take was 20%-30% on average.” See the CMA report, [Appendix R, paragraph 18](#). Furthermore, the CMA notes that “estimates for Google take rates when ads are purchased/sold through Google Ads/Google Ad Manager (AdX) are significantly lower than those suggested by some stakeholders, and broadly in line with what nonGoogle intermediaries charge for similar services.” See the CMA report, [Appendix R, paragraph 21](#).

³⁹ See <https://blog.google/products/admanager/display-buying-share-revenue-publishers>.

⁴⁰ [REDACTED]

⁴¹ The cumulative distribution is calculated in the same way as described for the buy-side takes analysis presented above.

In percentage terms, Google's average total take rate when Google Ads won the GAM auction was approximately 30% over the period. Out of the auctions that Google Ads won, Google made a negative absolute total return in almost [REDACTED]% of cases. Moreover, when viewing the distribution cumulatively, it is apparent that Google only recovers the losses it makes at well over the [REDACTED]th percentile of auctions.

Our analysis therefore shows that the take rates implied by the combined dataset are consistent with the take rates published publicly by Google. Moreover, although take rates vary to an extent on a per auction basis, in general auction-specific take rates are distributed as expected given the business models of Google's buy-side and sell-side products.

4 Analysis of the difference between the winning bid and the second highest bid: the winning "margin"

In this section, we check the difference between the winning bid and the second highest bid in the GAM auction for both Google and non-Google buyers. This analysis was conducted by the CMA in its Final Report in response to concerns raised around the allegation of the existence of an informational advantage for Google Ads.

In particular, according to the CMA, News UK submitted that "*one of the reasons they consider that Google Ads is able to extract significant 'hidden fees' is because it is able to win impressions in the Google Unified Auction (UA) at a small margin above the second price bid (or floor price if there is no other bidder in the auction)*".⁴² News UK submitted that Google Ads has "*an informational advantage over other DSPs as it has access to superior data which allows it to more accurately anticipate when it will be the only bidder exceeding the floor price in the UA compared with other DSPs*", and that "*this allows Google Ads to shade its bids in the UA such that the Google Ads winning margin (its winning bid minus the maximum of the second highest bid or floor price) is likely to be systematically lower than that of other DSPs.*"⁴³

In response, the CMA tested whether, according to the UK-specific data, there was a suggestion that Google "*was systematically able to win with a lower margin over the second highest bid (which might have indicated that they were able to use their data advantage to extract additional hidden fees).*"⁴⁴ To do so, the CMA analysed the difference between the winning bid and the second highest bid ("margin of victory") for auctions won by each buyer in the GAM Ad Exchange. The CMA's hypothesis was that if Google buyers hold a systematic informational or data advantage in the auction that allows hidden fees to be taken, one would expect to observe a systematically lower margin of victory for Google buyers *vis-à-vis* non-Google buyers.

⁴² CMA's Final Report, [Appendix R, paragraph 22](#).

⁴³ CMA's Final Report, [Appendix R, paragraph 23](#).

⁴⁴ [CMA Final report, paragraph 5.242](#).

The CMA concluded based on its analysis that “...the evidence does not clearly support Google Ads having a systematic advantage over other bidders” when bidding in the GAM auction.⁴⁵

Given that, as set out by Google, GAM shares identical information on previous auctions - so called minimum-bid-to-win data - with Google Ads, DV360 and non-Google buyers, the lack of support for the contention that Google Ads has a systematic informational advantage over other bidders is in line with expectations.⁴⁶

In what follows we seek to test whether a similar conclusion can be reached based on Australian data.

The table below shows the average difference between the winning bid and the second highest bid in the combined dataset, broken down by demand source: DV360, Google Ads, Third-Party Authorized Buyers and Open Bidding partners. We note that the second highest bid will be the floor price whenever there are no competing bids above the floor price. We present the mean and median margin of victory, both in absolute and relative terms (i.e. as a proportion of the second highest bid).

Table 1: Average margin of victory, by demand source

| DSP | Mean winning margin (USD Cents) | Median winning margin (USD cents) | Mean winning margin (% of second ranked price) | Weighted mean margin (% of second ranked price) | Median margin (% of second ranked price) |
|-------------------------------|---------------------------------|-----------------------------------|--|---|--|
| DV360 | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Google Ads | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Third-Party Authorized Buyers | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |
| Third-party Exchange | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] | [REDACTED] |

Source: Google

Consistent with the CMA’s own findings, these figures indicate that, in absolute terms, Google Ads has a lower mean margin of victory than other demand sources, while its median margin of victory is similar.⁴⁷ As a proportion of the second highest bid, Google Ads has the highest margin of victory across demand sources. As posited by the CMA, this may be due to the fact that Google Ads tends to bid for and win lower value inventory (see also the distribution of publisher pay-out figures in Annex 1).⁴⁸

⁴⁵ CMA’s Final Report, [Appendix R, paragraph 28](#).

⁴⁶ See, for example, Clearing up misconceptions about Google’s ad tech business, Bitton & Lewis.

⁴⁷ “Google Ads had a much lower mean winning margin than all other types of bidder” and “the median winning margin for all types of bidders are [also] very similar”. See the CMA report, [Appendix R, paragraph 26](#).

⁴⁸ “in proportional ... terms Google Ads has ... both the largest mean and median winning margins of any type of bidder. This may be because Google Ads typically bids for lower valued inventory”. See the CMA report, [Appendix R, paragraph 26](#).

The figures below show the distribution of the margin of victory when Google Ads, DV360, third-party Authorised Buyers, and Open Bidding partners win respectively.

Figure 12: Distribution of margin of victory, by demand source

[REDACTED]

Source: Google

Overall the picture that emerges is consistent with that found by the CMA, which led it to conclude that *“the evidence does not clearly support Google Ads having a systematic advantage over other bidders”*.⁴⁹

5 Conclusion

As noted in the introduction to this paper, the ACCC has noted in the Issues Paper at the outset of its Ad Tech Inquiry that it has been *“directed to specifically consider the revenue and share of an advertiser’s display advertising expenditure retained by ad tech”*.⁵⁰ In this paper, we have sought to investigate this key issue raised by the ACCC when opening its ad tech inquiry. In order to do so, we have presented an analysis of auction-level data related to Australian users.

Our analysis shows that the take rates according to the data are in line with Google’s explanations of its take rates to date and the analyses independently set out by the CMA. Moreover, when replicating the CMA’s margin of victory analysis, we find no evidence to suggest that Google buyers enjoy a systematic advantage in the GAM auction.

The analysis draws a line under several allegations against Google:

- Google does not *“extract monopolistic rents in ad intermediation, by securing additional undisclosed margins on top of its disclosed commissions.”*⁵¹
- It is not the case that *“Google is able to extract a high margin precisely because of its vertical integration”*.⁵²
- It is not the case that *“Unified Pricing Rules enable Google Ads to increase its hidden margin”*.⁵³

Overall, the CMA’s finding that Google’s aggregate take rate *“is broadly in line with (or slightly lower than) our aggregate market-wide fee estimate”*, supports the standard

⁴⁹ See the CMA report, [Appendix R, paragraph 28](#).

⁵⁰ Further, at a conference at the Australia-Israel Chamber of Commerce (Western Australia) on 6 August 2020, ACCC Chair Mr Rod Simms noted that *“Australian advertisers spent almost \$3.5 billion on digital display advertising in 2019. Yet we don’t know how much of that figure flowed through to the online publishers, and how much was retained by the intermediaries.”* See <https://www.accc.gov.au/speech/the-acccs-digital-platforms-inquiry-and-the-need-for-competition-consumer-protection-and-regulatory-responses>.

⁵¹ Damien Geradin and Dimitrios Katsifis, *“Trust Me, I’m Fair”*: Analysing Google’s Latest Practices in Ad Tech From the Perspective of EU Competition Law (Oct. 7, 2019), <https://www.ssrn.com/abstract=3465780> [hereinafter Trust Me, I’m Fair], paragraph 10.

⁵² Damien Geradin and Dimitrios Katsifis, *“Competition in ad tech: A response to Google”*, 3 June 2020 Submission before the Australian Competition and Consumer Commission.

⁵³ Damien Geradin and Dimitrios Katsifis, *“Competition in ad tech: A response to Google”*, 3 June 2020 Submission before the Australian Competition and Consumer Commission.

economic view that integration of complementary products tends to give rise to incentives to charge lower, not higher, prices.⁵⁴ The analysis presented here suggests Google's take rates in Australia are similar to those in the UK and should assist the ACCC in reaching a similar conclusion to the CMA regarding Google's take rates.

⁵⁴ [CMA Final report, paragraph 5.242.](#)

A Summary statistics of the data

The combined dataset consists of auctions that resulted from queries by Australian users to websites (publishers) from 17:00 (AEST) on Thursday, 23 July 2020, to 17:00 (AEST) on Thursday, 30 July 2020. This annex sets out some summary statistics relating to the combined dataset.

The data set consists of a total of approximately [REDACTED] billion unique auctions, distributed across eight calendar days in July 2020.

Table 2: Number of unique auctions per day

| Date | Weekday | Time observed | Number of auctions |
|--------------|-----------|---------------|--------------------|
| 23-07-2020 | Thursday | 17.00-23.59 | [REDACTED] |
| 24-07-2020 | Friday | 0.00-23.59 | [REDACTED] |
| 25-07-2020 | Saturday | 0.00-23.59 | [REDACTED] |
| 26-07-2020 | Sunday | 0.00-23.59 | [REDACTED] |
| 27-07-2020 | Monday | 0.00-23.59 | [REDACTED] |
| 28-07-2020 | Tuesday | 0.00-23.59 | [REDACTED] |
| 29-07-2020 | Wednesday | 0.00-23.59 | [REDACTED] |
| 30-07-2020 | Thursday | 0.00-17:00 | [REDACTED] |
| Total | | | [REDACTED] |

Source: Google

The number of auctions per hour varies according to the time of day. Intuitively, there are relatively few auctions at night (when the number of queries is lower), and relatively more auctions during typical waking and working hours. The below figure sets out a breakdown of the number of auctions by hour for one day in the data set (24 July 2020).

Figure 13: Number of auctions by hour on Friday 24 July 2020 (AEST)

[REDACTED]

Source: Google

Multiple bidders (advertisers) can participate in each auction, represented by various demand sources, including Google demand sources (“Google Ads” and “DV360”) as well as Third-Party Authorized Buyers and Open Bidding partners. Each of the latter two categories contains a number of DSPs and SSPs/Ad Exchanges, respectively.

Below we provide summary statistics on:

- the number of bids per auction; and
- the distribution of publisher payouts.

Of the over [REDACTED] billion auctions in the combined dataset, just over [REDACTED]% generated more than one bid. As shown in the figure below, the most common number of bids in an auction is [REDACTED], and [REDACTED]% have [REDACTED] or more bids. On average, the combined dataset contains [REDACTED] bids per auction.

Figure 14: Distribution of total number of bids per auction

[REDACTED]

Source: Google

The average payment made to publishers on the basis of the auctions in the combined dataset is [REDACTED] USD cents, with [REDACTED]% of the auctions resulting in a payment to publishers between [REDACTED] USD cents and [REDACTED] USD cents.⁵⁵ The following figure sets out the full distribution of publisher payouts (for winning bids only).

Figure 15: Distribution of publisher payouts

[REDACTED]

Source: Google

The figure below shows the distributions of publisher payment by winning demand source.

Figure 16: Distribution of publisher payments, by winning demand source

[REDACTED]

Source: Google

⁵⁵ Although the industry tends to work with prices on a CPM basis, given the auction-level detail in the combined dataset we discuss prices in USD cents throughout this paper. For comparison, 0.08 USD cents is equivalent to 80 USD cents (CPM).