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21st Century Trust Busting and Tail Risks

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21st Century Trust Busting and Tail Risks

Investment Implications of the Possible End of Google's Ad Tech Monopoly

On the eve of Google's first trial versus the DOJ, in which the government is arguing that the company's search business is an anti-competitive monopoly,[1] we are more struck by the allegations in a second suit. This second suit brought by the DOJ, which alleges that Google's dominant ad tech business is an anti-competitive monopoly,[2] should go to trial around January 2024. As we'll explain below, this is the trial to watch. We believe it has not only a higher probability of success, but also the potential for a greater financial impact on Google, as Google's ad tech stack powers the rest of its advertising ecosystem.

Amazingly, most investors seem to be uninterested in analyzing the risk/reward to Google's business should the DOJ prevail in either of these suits. We've seen plenty of investment theses recently presented by sophisticated managers highlighting Google's moat as a *de facto* monopoly without any consideration of what might happen should that no longer to be the case. And while some investors are choosing to look this drastic potential change right in the eye, we believe they're applying elements of historical legal precedents incorrectly, leading to an intriguing endgame that Mr. Market isn't properly discounting.

So, if you read this intro and immediately think "The DOJ successful in breaking up Google? That's never going to happen!" or you're a shareholder in Google unsure of the trial outcomes, then this letter is for you (especially if you're a name-brand investor in Google with a history of successfully hedging tail events in your portfolio).

♦

Most investors know the definition of "tail risk": a low-probability event with a large financial impact. But we think Google's tail risk is best articulated in a scene from the classic movie *Star Wars: A New Hope*, just before a rebel attack squadron destroys the Death Star:

> *OFFICER: "We've analyzed their attack, sir, and there is a danger. Should we have your ship standing by?"*
>
> *GRAND MOFF TARKIN: "Evacuate? In our moment of triumph? I think you overestimate their chances!"*

To be clear, the DOJ is the rebel squadron, Google is the Death Star, and the market's attitude on the matter is expressed by Grand Moff Tarkin.

It's striking, then, that in the case of Google, so many observers ascribe a probability of zero to a very plausible event currently playing out in front of the whole world. Many of the investor reactions we've heard are typified by Tarkin's quote above: "It'll never happen!" Such a reflexive, even visceral, human response with minimal factual investigation signals to us that the probabilities priced into the digital advertising sector are most likely off. That is not to say the DOJ's trials are slam dunks, but we'd argue the odds of success are far above the 0% currently priced into the shares of Google and the "open internet" ad tech businesses that would benefit if Google's monopoly came to an end. In fact, based on the evidence that has come out in the last 18 months, we'd argue a breakup isn't just possible, it is probable. Nevertheless, the market is assigning no chance of success.

[1] *United States v. Google LLC*, No. 1:20-cv-03010 (D.D.C. Oct 20, 2020). https://www.justice.gov/opa/press-release/file/1328941/download
[2] *United States v. Google LLC*, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023). https://www.justice.gov/opa/press-release/file/1563746/download

If this all still sounds crazy, stay with us. Within the following pages, we're going to establish the legitimacy of the current DOJ's arguments by reviewing several past antitrust successes while anonymizing the companies involved, to avoid triggering any biases that might obscure the true nature of the anti-competitive actions listed.[3] These brief reviews are by no means complete histories, legal or otherwise, but should be sufficient to simply illuminate the risks to Google given that its business structure, strategy, and behavior over the last decade are remarkably similar to those of broken-up monopolies of the past.

After we've built a foundation pointing towards a probability of success above 0%, we're going to look at Google's actual anti-competitive behavior, followed by a few scenarios showing what a digital advertising world might look like without Google's stronghold on the market.

As the first trial proceeds, we believe investors will begin to realize the higher probability of "trust busting" and the subsequent investment implications. However, the second trial, alleging digital advertising monopolization, should be the one that truly opens investors' minds to the possibility of a breakup, given the strength of the arguments and preponderance of evidence.

Should both trials end with Google's ad tech or search monopolies still intact, there remains a plethora of legislative and judicial avenues currently being explored that would result in the same outcome: the company's economic engine being split into smaller, less powerful parts. Importantly, the ad tech business helps monetize Google's other businesses at zero cost, and a separation would create diseconomies of scale, lowering their margins than what the whole of Google generates today.

Most important, regardless of the outcome, there are companies that should benefit in the years ahead from a less-aggressive Google.

I. Anonymized Assessment of Past Antitrust Cases Reveals a Recurring Behavioral Fact Pattern

Before we begin, to aid readers in their search for a pattern in the antitrust cases below, the actions taken by these firms should be judged by a standard known as the Rule of Reason. First formulated in an old Supreme Court antitrust ruling, the Rule of Reason provides, as succinctly stated by the Federal Trade Commission, that "[I]t is not illegal for a company to have a monopoly, to charge "high prices," or to try to achieve a monopoly position by aggressive methods. **A company violates the law only if it tries to maintain or acquire a monopoly through unreasonable methods.**"[4] What counts as unreasonable? In practice, courts determine the legality of a business practice used to achieve or maintain a monopoly – i.e. its "reasonableness" – by weighing its pro- and anti-competitive effects under the Sherman Act.[5] This process has been the underpinning of antitrust law enforcement since 1911.[6]

So, what tactics do we see below that restrict competition and benefit only the monopoly?

[3] Ironically, anonymizing data while still being able to identify individuals without their knowledge is also how Google operates.
[4] https://www.ftc.gov/enforcement/anticompetitive-practices
[5] The DOJ's arguments are focused on Section 2 of the Sherman Act, which deals with unilateral action to "acquire or maintain monopoly power through improper means."
[6] https://www.justice.gov/atr/speech/file/1237731/download

Case Study 1: Company A – A network advantage aggressively wielded

Company A was a vertically integrated provider of a technological service and sold all the necessary components needed to use its network. It had a competitive advantage in one segment of a growing market with many players. Given Company A's advantage in one subsection of the market, many other independent players used A's network as an interconnect to provide their own customers a better service. Company A, recognizing this weakness of others' networks, proceeded to disadvantage the independent companies and their customers to the point of financial emergency. Once an independent firm became desperate to sell out, Company A swooped in and purchased it at a depressed valuation and almost immediately improved service to the "new" customers. This was rinsed and repeated until Company A's network grew to the point it ran into antitrust problems. Given the early stages of the technology that underpinned A's services, regulators and politicians were slow to realize the company's market power.

After negotiations, a solution was agreed upon with the Attorney General: No antitrust enforcement would occur so long as Company A stopped acquiring competitors and fairly provided interconnection services to them. The government liked this solution because A's services and technology were important to the country. Regulators had been concerned that breaking up the company might degrade those services and limit the spread of the technology.

With the government placated, the company proceeded to blatantly ignore its deal with the government: It continued acquiring independents in the same way it had been doing all along. Years later, with the help of lobbyists, the government passed a law essentially giving Company A immunity from antitrust suits so long as its services were provided across the country as a public good (although Company A was banned from cross-ownership of assets or services that used similar technology). Over the following years, Company A purchased the remaining independent networks in the name of improving service to the public.

After years of unfettered monopolistic dominance, a few problems became evident. First and most obvious, there were no alternatives for customers. Second, prices rose regardless of the economic cycle. Third, the company couldn't meet growing demand, so customer service deteriorated. And fourth, only Company A's hardware was allowed on its network, stifling technological innovation.

Eventually, several small competitors emerged to provide niche services and hardware to those in Company A's network, nibbling away at the periphery. Company A responded aggressively, leaning into exclusive dealing (forcing suppliers to conduct business only with A) and preferencing its own services even when there was an alternative. Only after several successful lawsuits were the competitors able to maintain viability. However, from Company A's perspective, these lawsuits amounted to mere "speeding tickets" – its market share was still well above 90%.

Ultimately, a seven-year antitrust case against Company A culminated in its breakup into several regional, "horizontal" businesses, splitting services in the market. This result was due in part to political and legal pressure, but also to Company A wanting to pursue new technology markets, which it had been prohibited from doing under an earlier antitrust settlement. Importantly, the remaining businesses were essentially regional monopolies, but were mandated to provide equal access and interconnection among their networks.

Following the breakup, Company A saw its virtually 100% market share decrease by about 15%, to the benefit of small competitors. (Its remaining 85% share was split among the seven new regional companies.) A's profit margins decreased by 75%, even as its regional spinoffs continued to purchase hardware and interconnection services.

Importantly, the breakup was a legal and market success as competition increased. Unsurprisingly, after years of market dominance, Company A was ill-equipped to deal fairly in a "free market," and never came close to regaining its former technological, cultural, or economic dominance. However, with access to a growing technology trend, the parent company of A was able to add a growth vector to its impaired legacy business following the breakup.

Case Study 2: Company B – A cost-scale advantage to crush others

Company B started as a regional supplier of a commodity product with many new entrants in a growing market. Its competitive advantage lay in new and innovative ways to increase the productivity and efficiencies of its facilities, which made it the lowest-cost producer. From the beginning, the company leveraged its low-cost base to underprice competitors. Impaired competitors were either purchased for a low valuation or pushed out of business entirely.

Company B acquired not only direct competitors, but also suppliers and transportation networks for its products, eventually becoming vertically integrated. After purchasing a supplier, it often limited that supplier's production or directed its production solely to B. This tactic prevented competitors from fully utilizing their facilities and forced them to purchase higher-priced inputs elsewhere. In addition, Company B leveraged its ownership of transportation assets by forcing other transportation networks to take lower prices for B's larger volumes or lose out on business. Such arrangements were typically done in secret, at prices far below what competitors paid.

In less than a decade, B's national market share soared to roughly 90%, while in certain high-demand regions it reached 100%. In those regional monopolies, B raised prices when it could, subsidizing its strategy of undercutting competitors on price in other regions. Competitors criticized B's "exclusion of others from trade," while customers who used increasing amounts of B's byproducts complained of ever-increasing prices.

Eventually, Company B ran into antitrust trouble because of its predatory practices, despite its generous donations to various politicians. After two years of negotiating with the government, B was barred in certain states from secret deals with transportation firms and from acquiring more transportation assets itself. As the company ran into legal pressures, it moved its headquarters to a state with a more lenient regulatory approach.

A decade after the first legal action taken against the company, a state supreme court declared B to be an illegal monopoly and ordered its dissolution. However, B avoided this fate by reorganizing itself from a corporation into a holding company and once again relocating to yet another state – which conveniently adopted a law allowing a holding company to own stocks of other companies.

The federal government took a long time to deal with the abusive tactics of Company B, even as public sentiment bordered on outrage. Over the next 20 years, B's market share eroded to about 65%, as the company deemed it in its best interest to "play nice," allowing new entrants to grow in areas lacking a strong Company B presence. Nevertheless, the US Supreme Court finally ordered Company B to dissolve, ruling that "a company that is both large and a monopoly is not necessarily bad or illegal, but the use of certain tactics to attain or preserve its monopoly is illegal." A year later, B was broken up into 34 different companies.

While a legal success, the breakup into regional monopolies failed to spur increased competition and lower prices for consumers; it simply reduced the power of Company B.

Case Study 3: Company C – A network and cost-scale advantage purposely obscured

Company C is a provider of technology solutions acting as an intermediary for those in its network. Its competitive advantage began in an adjacent field, which it leveraged as it entered this new, intermediary-type market via large acquisitions. Given the infancy of the new market, antitrust concerns were present but negligible as regulators were unfamiliar with the technologies involved. Back then, C was quite innovative, and its technologies garnered widespread adoption to the benefit of its customers despite C being in a very competitive industry in which scale was one of the most important advantages. Very quickly, the company garnered a 60% market share, and its network generated a critical income stream for its customers.

Over the years, the company acquired more of its competitors and complementary point solutions to press its advantage, becoming vertically integrated. Market share across its ecosystem ranged from 90% in the most critical subsections of its network to 50% in other, less strategically important areas. During this period of expansion, C would purchase and integrate a firm only to then preference its own solutions and shut out third-party access. This tactic left what amounted to table scraps for competitors, giving them insufficient market access to achieve scale.

Aside from an obvious scale advantage, a secondary benefit appeared once C achieved dominant share throughout the whole intermediary process: financial gains through obscurity. By being the only player connecting customers and suppliers, C could preference its own tech, force customers to accept all its products as a bundle and keep critically important transaction data to itself – all while setting its own prices, with no one able to tell if those prices were fair.

New entrants targeted strategic components in C's network. They attempted to compete by being transparent on prices (showing others how C mischarged its customers), and purposely partnering with Company C's disadvantaged customers to achieve scale. One firm in particular achieved some success. However, C responded by acquiring the upstart at a price it couldn't refuse and shutting it down, maintaining a veil of obscurity around its market – a move that, as you'll see later on, was critical to C's continuing success.

Later, smaller competitors hurt by Company C's self-dealing attempted to disintermediate it by developing new network architectures. Company C responded aggressively with different market tactics. Once it figured out how to game the new networks' systems, it used its foothold to shut off 20% to 30% of the market for these smaller players almost overnight. From there, competition originally numbering in the hundreds of players dropped down to the tens. The remaining market serviced by these small players was left alone only because customers didn't want to be solely reliant on Company C for revenue.

In the end, any innovative attempts by competitors or coalitions of customers to develop alternative means of generating revenue were met with aggressive gamesmanship by Company C to maintain market control. As such, innovation in the industry to improve service and technology was roadblocked and the profitability of these competitors was impaired.

During this period of monopolization, Company C invested in related areas and leveraged its already-built intermediary network to monetize its new efforts. This strategy in effect made C's monopolized technology platform the economic foundation for almost all of its other revenue streams.

Abruptly, and ostensibly to provide increased transparency to investors, Company C changed itself from a corporation to a holding company. This not only simplified the reporting structure of its other business lines, but also allowed for a simpler "partition" of one business unit should it run into antitrust problems. Additionally, C ceased its serial acquisition behavior. These actions suggest to us that Company C realized it had crossed a threshold and its actions would raise antitrust issues, requiring new tactics to delay the consequences.

Nevertheless, lawsuits alleging antitrust violations by Company C continued to increase, as did fines against it for legal violations. The issues of the past and its unfair anti-competitive tactics remain even today, continuing to haunt the company. For example, European regulators have fined C over $8 billion for breaches in competition laws over the past decade, while US regulators have issued minimal fines. Additionally, C faces a $25 billion lawsuit in the UK. Even worse, EU regulators and the US DOJ in tandem lawsuits against C have argued that **the only remedy for its anti-competitive behavior is forced divestment.**

Case Study Learnings: History rhymes

For the readers who may not have already guessed, Companies A and B are AT&T and Standard Oil, respectively. And Company C? Well, that's Google.[7] In the two historical cases, we can see a pattern of aggressive self-dealing unfairly disadvantaging competitors, among other anti-competitive actions. We think the same pattern is evident in Google's behavior in the ad tech industry.

To put it into legal terms, the Rule of Reason – which, as explained above, provides that "[a] company violates the law only if it tries to maintain or acquire a monopoly through unreasonable methods" – seems to identify anti-competitive behavior in all three case studies. (In fact, the Supreme Court case that gave rise to the Rule of Reason was none other than *Standard Oil Co. of New Jersey v. United States*.)[8]

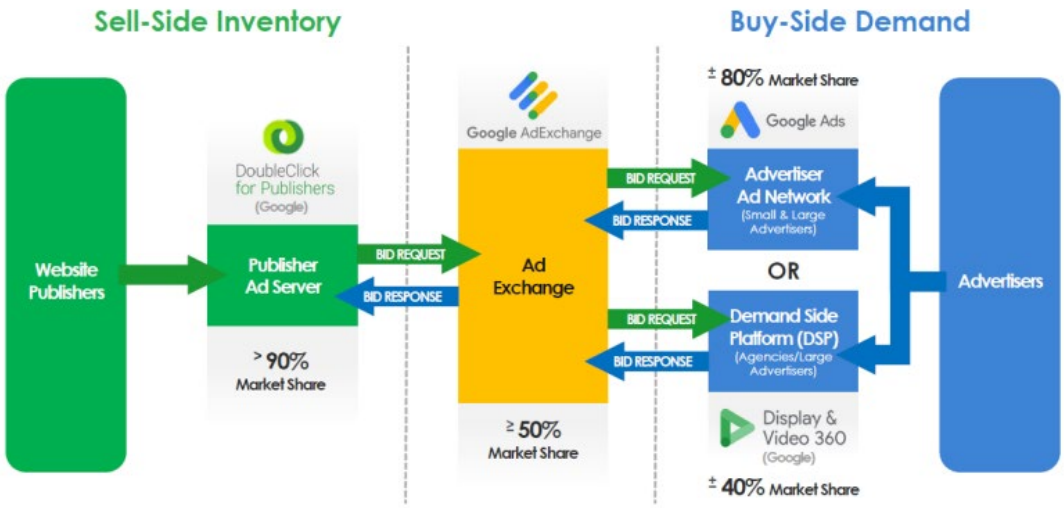
So, it stands to reason that to win its antitrust lawsuit against Google, the DOJ needs to convince the court that Google's actions to preserve its large market position (or monopoly) were more anti-competitive than pro-competitive, and thus unreasonable – and illegal.

Don't believe Google would act in such a nefarious manner? The following sections provide just a few specific examples that get right to the heart of the matter.

[7] Yes, we did imply earlier that all three case studies involved *past* antitrust cases. Surprise!
[8] 31 S. Ct. 502 (1911).

II. Litany of Anti-Competitive Behaviors Google Employed to Maintain its Market Position

As a starting point, the graphic below shows the ad tech stack required to buy and sell ads digitally, along with Google's market share by percent of ad impressions (not revenue) shown in each part of the stack:



Source: https://www.justice.gov/opa/pr/justice-department-sues-google-monopolizing-digital-advertising-technologies

With that basic framework established, we can now dive into how Google engaged in unreasonable anti-competitive behavior to boost or protect its market share in various parts of this stack.

DoubleClick Acquisition – The start of Google's anti-competitive behavior

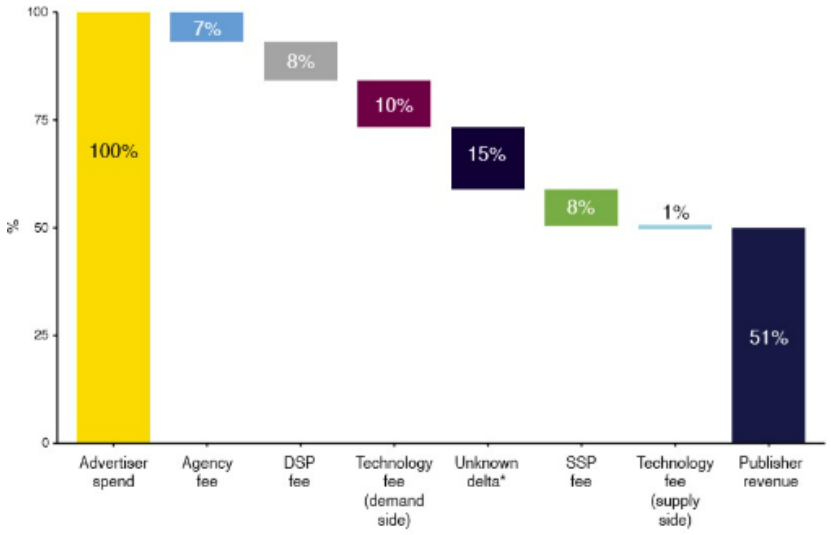
DoubleClick, the leading provider of ad server tools for online publishers to sell their display advertising on exchanges, was purchased by Google in 2008 for ~$3 billion. Even at the time of purchase, while the FTC cleared the deal, one Commissioner warned the merger would lessen competition and weaken consumer privacy protections. Following the DoubleClick acquisition, Google's market share in the ad server/exchange market doubled to ~55%.

According to the complaint in a suit brought by the DOJ against Google in early 2023,[9] the company had quickly started forcing publishers to license the company's ad server and ad exchange in order to do business with the large number of advertisers using Google as a middleman for buying ad inventory. This allowed Google to charge a fee on both the "buy side" and the "sell side" of a transaction, as well as to force transactions through its ad server so it could extract yet another fee.[10]

As a consequence of these actions, Google's ad server market share reached 90% just a few years after its DoubleClick acquisition. Even worse, no one outside Google had the ability to easily audit or monitor these fees, meaning its fee structure was essentially a black box to outsiders.

In fact, Google's ability to obscure its market was (and still is) so powerful that a third-party digital advertising study on intermediaries' fee transparency in 2020 could not account for ~15% of advertisers' or publishers' revenue:

[9] Complaint, p.37, *United States v. Google LLC*, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023).
[10] https://volodymyrbilyk.medium.com/understanding-ad-tech-d7a97302ef8e



Source: https://www.isba.org.uk/knowledge/programmatic-supply-chain-transparency-study

Notably, Google's competitors in the DSP (demand-side platform) end of the digital advertising space, where Google has only a 40% share, enjoy take rates of almost 20% – more than double the rates competitors eke out in the SSP (sell-side platforms, i.e. ad servers and exchanges) market, where Google has a 90% share and 20%+ take rates. Estimates in the DOJ suit put Google's overall take rate at ~35%,[11] whereas the transparency study mentioned above suggests the company's take rate is over 40% if the unaccounted-for 15% of advertiser spend is included.

AdMeld/Invite Media Acquisitions: Shutting down transparency efforts and competition

Invite Media was a company that developed an ad buying tool enabling large advertisers to purchase ad space on multiple ad networks at the same time. Instead of buying ad space through Google or Yahoo networks separately, these advertisers could use Invite Media to compare ad prices across different platforms in real time. Naturally, seeing Invite Media as a potential threat, Google acquired it in 2010 and promptly integrated the company's service into its own DV360. This move gave DV360 access to a much larger network of advertisers – advertisers who now couldn't compare ad prices across networks or determine if their money was going towards Google's ad inventory or to a separate publisher's. (If that wasn't anti-competitive self-dealing, we don't know what is)

In fact, Invite Media saw the writing on the wall when it came to competing with Google and realized the only way to win was to get bought out by it. While the companies were finalizing the deal, Invite went on a two-day cash spending spree, paying for ads without waiting for checks to come in. It then paid off its outstanding bills, thereby trimming its assets to just below a certain level at a certain point in time to avoid FTC pre-merger review.[12]

Another acquisition exhibiting the same characteristics was Google's 2011 purchase of AdMeld, whose advertising tool helped big publishers identify and compare the best ad prices offered by advertisers on competing ad exchanges. AdMeld was founded with a specific purpose: offering transparency and competitive services outside Google's ad tech stack. Had it succeeded, it would have forced Google's ad exchange to compete against multiple players, most

[11] Complaint, p.23, *United States v. Google LLC*, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023).
[12] https://www.bloomberg.com/news/articles/2020-02-26/google-takeover-target-trimmed-assets-to-avert-ftc-review

likely not just by lowering its prices, but also by providing transparency about its pricing structure. Instead, Google made the company a buyout offer it couldn't refuse and integrated AdMeld's functionality into its own AdX exchange. Regulators approved the deal since Google's ad sales were not as large as those of Facebook or Yahoo.[13]

As usual, Google stated publicly that it would preserve publishers' access to other ad exchanges via AdMeld's tech. Then, upon AdMeld being integrated with Google, former AdMeld customers ended up able to access only AdX, and thus unable to compare prices or have a competitive alternative. Google knew this move would hurt publishers. As a Google manager wrote at the time, "Our goal should be all or nothing – use AdX as your [exchange] or don't get access to our [advertising] demand."[14]

In sum, these two transactions are clear examples of Google's pattern of buying out competitors while intentionally obscuring its anti-competitive behavior in order to gain more share in, and power over, the digital advertising market – just as AT&T and Standard Oil used comparable tactics to dominate their markets, as detailed above.

Header Bidding: A threat undermined by Google's anti-competitive behavior – Jedi Blue, Project Bernanke, and more

"Header bidding" is an auction-style method for digital ad sales that allows for simultaneous bids on ad inventory outside the ad server. Once the auction is concluded, a request is sent to the ad server to deliver the winning bidder's ad. (Everyone bids; Google's dominant ad server just delivers the ad on the website.) It differs from "waterfall bidding," in which ad impressions are auctioned to direct sales channels in descending order of the perceived value of each channel inside the ad server. (Google chooses its best clients for the best inventory, and then everyone else gets the leftovers.) Because Google is the dominant ad server on the web, waterfall bidding ensured its control of the ad sales process. The invention of header bidding was an attempt by open internet ad tech firms and publishers to wrest control of the ad server and ad exchange process from Google.

Would Google play fair this time around? No, not at all.

Seeing this threat, Google and Facebook (which was a very large potential user of this new tech for mobile ads) secretly made a deal in 2018: Google would pay Facebook above-market prices, offer it lower take rates, and provide it better data flows for advertising auctions, so that Facebook could publicly support header bidding while doing nothing to actually disturb Google's Open Bidding system. The existence of this scheme, which Google internally dubbed "Jedi Blue," was alleged in detail in an unsealed, previously redacted complaint from an antitrust lawsuit brought against Google by multiple US states in a federal district court in New York.[15]

With headlines in the news saying "Jedi Blue – Facebook and Google Collusion," almost no one seemed to notice an explosive set of details within the court documents concerning "Project Bernanke." Launched in 2013, Project Bernanke changed the rules on AdX to take extra money from advertisers by selectively charging higher take rates on the highest-value ad inventory and simultaneously disadvantaging any publisher using a competitor's solution. In

[13] Side note – if you are taking a ~40% cut of 70%-90% of all ad transactions on the internet, while companies like Facebook/Yahoo book 100% of the ad revenue, of course you'll show less revenue as the intermediary. Google's revenue from their ad tech business is essentially a publisher or advertisers COGS.
[14] Complaint, p.9, *United States v. Google LLC*, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023).
[15] Second Amended Complaint, pp.72-84, *In re Google Digital Advertising Antitrust Litigation*, No. 1:21-md-03010-PKC (S.D.N.Y Oct 22, 2021). https://storage.courtlistener.com/recap/gov.uscourts.nysd.564903/gov.uscourts.nysd.564903.152.0.pdf

effect, it created "helicopter money" for Google, generating an increase in profits by 30% while increasing total ad exchange revenue by less than 10%. (In fact, the name Project Bernanke was a jokey reference to how then-Federal Reserve Chairman Ben Bernanke had earned the nickname "Helicopter Ben" for his quantitative easing initiatives.) With 90% of the ad server market under its control, Google pushed these algorithm changes through with no notification. Publishers who moved to another ad server after seeing a drop in revenue risked losing real-time access to bidding information on AdX – and up to 40% of their ad revenue, according to Google's own estimates.[16] **These allegations were so shocking that the judge in the multiple-state antitrust suit mentioned above allowed Google to refile its Project Bernanke-related documents under seal.** (It was further alleged that Google restricted publishers from accessing data on their users, while mining that same data for its own interests. Only Google was capable of such a feat, since it owned the technology behind every step in the digital advertising process.) Project Bernanke and its 2014 sequel "Project Bell" are referenced in the DOJ's complaint in its ongoing ad tech lawsuit against Google.

In late 2022, in the multiple-state antitrust lawsuit, the Jedi Blue deal was ruled lawful: Both Google and Facebook were determined to have acted in their own separate interests, instead of colluding for a common purpose. (The deal is still at issue in a separate lawsuit against Facebook in California.)[17] **However, the judge ruled that the plaintiffs "plausibly alleged" that a number of Google practices concerning its operation of ad servers and exchanges are anti-competitive.** As such, the suit has been allowed to go forward. That New York judge just might end up agreeing with us that there's something to these allegations of anti-competitive behavior after all.

As another sign of interjurisdictional communication, the NY judge dismissed only those claims that were not included in the DOJ's first lawsuit – i.e., the claims about Jedi Blue.[18] In early 2023, the DOJ filed the ad tech antitrust suit with the Jedi Blue-related allegations added back in, but citing only Google's actions, *not* the Jedi Blue deal itself. Additionally, not long after the DOJ announced the ad tech lawsuit, the UK's Competition and Markets Authority (CMA) announced it would no longer pursue a collusion case against Facebook and Google.[19]

It seems that regulators have learned that while suing Google over its alleged collusion with Facebook is a nonstarter, Google's *actions taken as part of any such collusion* may represent illegal anti-competitive behavior.

And what became of header bidding? Did it open up the ad tech market as hoped? As you might expect, the answer is no. So, what happened?

Google's ad server has a "last look" ability, which lets the company place its own winning bid to its ad server even after an ad auction is run. When header bidding threatened this "last look," Google publicly dropped the feature, only to replace it with a dynamic algorithm that used its ad server data advantage to accurately estimate competitors' bids. The result was as though "last look" never left. After all that, Google could *still* choose who won an auction.[20]

Are you starting to see a pattern here? Well, hold on – we're not done yet.

[16] https://adtechexplained.com/google-project-bernanke-explained/
[17] *Klein v. Meta Platforms, Inc*, No. 3:20-cv-08570 (N.D. Cal. Dec 23, 2020). https://www.courtlistener.com/docket/18714274/klein-v-facebook-inc/
[18] https://www.hausfeld.com/en-us/what-we-think/perspectives-blogs/doj-s-ad-tech-antitrust-lawsuit-some-comments-on-google-s-public-response/
[19] https://techcrunch.com/2023/03/10/uk-retreats-from-jedi-blue-antitrust-collusion-case-against-google-and-meta/
[20] Complaint, p.113, *United States v. Google LLC*, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023).

Project Poirot: Clearly identifiable damages to competitors

The advent of header bidding clearly presented a threat to Google's dominance, as it appears there were several initiatives to block or limit its use. These included not only Jedi Blue and Projects Bernanke and Bell, but also "Project Poirot."[21] Launched in 2017, Poirot's purpose was to use Google's DSP to shift transactions away from ad exchanges (SSPs) using header bidding and towards AdX. It aimed to do this by artificially manipulating bids sent to rival exchanges so AdX could win the transactions. (All of Google's DV360 advertisers were automatically opted into Project Poirot without their knowledge or consent, so it's no surprise that only 1% of them opted out.) In essence, advertisers thought they had access to numerous ad exchanges to bid for ad inventory, but because of the auction-manipulating Poirot software lurking in Google's black box, Google was able to reduce bids to other competitors by as much as 40%. Poirot resulted in DV360 increasing spend through AdX by roughly 7%.

The scheme was so successful that Google decided to ramp it up with "Project Poirot 2.0" in 2018, reducing advertiser bids to other exchanges by as much as 90% and all but ensuring AdX won every transaction. This move had a significant impact on SSPs that ran header bidding on ad servers. Google's own internal estimates of Poirot 2.0's impact showed that it reduced advertising spend by roughly 40% for OpenX, 30% for Xandr (now Microsoft), 25% for PubMatic, and 20-25% for Rubicon (now Magnite).

Google's internal estimates were pretty much spot-on: Once Poirot 2.0 was implemented, OpenX suffered a 30% year-on-year decline in advertiser spending overnight – an impairment so severe it resulted in layoffs.[22] We might not be legal experts, but we think it's pretty clear that these losses are textbook examples of damages to competitors resulting from an intentional, and unreasonable, anti-competitive act.

Project Narnia: Little-known data initiative removing privacy limits, with possibly big implications

Thus far, we've looked at Google behavior that was anti-competitive on its face. However, we think something should also be said about "Project Narnia," which shows that the ad tech stack goes beyond a simple line item on Alphabet's income statement as Google Networks. Narnia raises privacy issues more than antitrust concerns; it's mentioned in the DOJ ad tech suit only once.[23] However, it links all of Google's properties together. Severing this link would have considerable implications not only for Google's ad tech business, but also its other businesses including Search, Gmail, YouTube, and so on. Let's explain.

Back when Google began its acquisition spree in 2008 by buying DoubleClick, it had privacy initiatives that prohibited it from combining user data obtained by its various different services. For example, Gmail data couldn't be used to deliver a targeted ad on YouTube, or vice versa. However, the more data Google has about its consumers, the better it can target them, increasing the value of an ad, and the more it can earn for auctioning and delivering the ads. Therefore, in 2016, Google launched "Project Narnia," stripping out those internal privacy policies to allow the combination of all user data (including non-Google website data) into a single user identifier.

[21] Complaint, p.90, *United States v. Google LLC*, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023).
[22] Complaint, p.99, *United States v. Google LLC*, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023).
[23] Complaint, p.14, *United States v. Google LLC*, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023).

Narnia turned Google's ad tech business into the connective tissue among its various business units. It expanded Google's "data moat," but more importantly it's proof positive that Google's ad tech business helps monetize the company's other properties. If a forced divestment means that Project Narnia and this interconnection goes away, Google's other business units would have to (1) open their inventory to third parties (open internet SSPs and DSPs) (2) invest to enable third party interconnection and (3) pay fair prices to process their ad inventory that cost it nothing before. This increased infrastructure cost would introduce diseconomies of scale and lower margins on Search, YouTube and other properties.

We're not the only ones to have noticed this issue. *The Wall Street Journal* did, too:

> *[Google's] "Network" business – the parts that mostly relate to brokering the buying and selling of ads on other websites – generated about $31.7 billion last year, or about 12% of its revenue. Analysts say it is one of the least profitable areas of Google's business. But Google's ad tools also play a larger role in the company's overall $209 billion ad business. They steer a large chunk of money toward Google-owned properties such as YouTube and Search, and supply data on web users that help those properties refine their pitches to advertisers, ad industry executives and analysts say.* [24]

The same article quoted The TradeDesk CEO Jeff Green saying the following about Google's ability to share data among its business units: "It's all very important to them, and it's all integrated."

As the *Journal* correctly noted, **Google's ad tech business is deeply intertwined with its other business units, supercharging their respective monetization engines by (1) directing ad spend to them, (2) aggregating data to increase consumer targeting efficiency and (3) doing it for zero cost.**

Forcing Google to divest its ad tech assets may have negative knock-on effects on its other, arguably "over-earning," business units. A possible interconnection impairment should be considered by investors when assessing the value of a broken-up Google. **How much would it cost Search, YouTube, and other properties to monetize their ad inventory if they had to pay full prices to ad tech providers? What would the costs and diseconomies of scale be to build out ad tech infrastructure at these properties? Would Search, YouTube, *et al* have to open to other SSPs/DSPs? What would the value of ad inventory at these properties be if Google weren't setting its own (likely elevated) prices? Would demand for advertising be the same on these properties if the ad tech advantages were curtailed?** These are clarifying questions Google's investors should be asking the company. It could be a major issue, or just a minor one – but only Google knows for sure.

But if this was immaterial, wouldn't they have stated it plainly already? Once again, Google's actions tell the tale better than words ever could.

To that last point, the *Wall Street Journal* recently uncovered large-scale ad fraud at Google: The company overcharged advertisers (including American Express, Disney, Johnson & Johnson, and others) on almost 80% of video ad placements to third-party sites by collecting full revenue on ads that were muted or auto-played.[25] The advertisers involved were issued a "credit" as a *mea culpa*.

[24] https://www.wsj.com/articles/why-google-plays-down-its-ad-tech-business-but-is-determined-to-keep-it-11667292084
[25] https://www.wsj.com/articles/google-violated-its-standards-in-ad-deals-research-finds-3e24e041

Finally, if both Google's Search and ad tech are broken up, the diseconomies of scale from uncoupling the ad tech stack would likely more than offset any major positives from breaking up Search (such as the termination of $20 billion-plus annual payments to Apple for making Google Search the default on the iPhone).

♦

While the initiatives described above are perhaps the most clear-cut, flagrant examples of Google's anti-competitive behavior, there are plenty of other allegations in the DOJ's complaint that should concern both Google and its investor base. By owning and operating assets that span the digital advertising sector from buy side to sell side, Google for over a decade extracted welfare from publishers and advertisers alike. Furthermore, its actions to maintain its stranglehold on this unregulated market stifled competition and innovation, and arguably even hurt entirely separate industries, such as the news media. For example, Gannett has sued Google, arguing that its domination of digital advertising has contributed to the decline of local news coverage.[26]

Are these actions illegal? We'll know when the ad tech trial concludes in 2024, but the points above make a compelling case that Google may be acting unreasonably to widen and maintain its monopoly. If you've been reading along, we think you'll agree with us that this isn't a particularly high bar to clear.

As noted before, the DOJ is not the only entity pursuing antitrust remedies against Google. We've seen some degree of communication among US states, the DOJ, the European Commission (EC), and the UK's Competition and Markets Authority (CMA). In addition, the EC on June 14, 2023, released a statement that it had informed Google of its view that it had breached EU antitrust rules, and the only remedy would be divestment of its ad tech properties.[27]

If the pace of past antitrust cases is any guide, a trial could take several years. However, the DOJ suit is being argued in the Eastern District of Virginia, also known as the "Rocket Docket,"[28] which has a hard 90- to 120-day discovery period and rarely gives continuances, resulting in an average trial time of three to six months. In fact, the DOJ and Google both believe the Search trial, starting this month, could last less than three months.[29] Moreover, the last few years have seen a step change improvement in the sophistication of regulators' legal arguments about, and technical understanding of, Google's business. For the above reasons, a trial may therefore conclude faster than many think.

With Google's motion to transfer and dismiss the lawsuit declined, and with expert discovery ending on January 12, 2024, the DOJ's ad tech trial should start potentially as early as February 2024 and conclude by mid-2024. The bottom line is that this trial almost certainly won't take years to reach a conclusion. It's already been years in the making. We should have a line of sight on a trial outcome and any investment implications by mid-to-late summer 2024.

And how is the ad tech trial's discovery process going? It seems Google is spending its time targeting Jonathan Kanter, the US Assistant Attorney General for Antitrust, alleging his past work and public remarks are evidence of bias against the company.[30] We think that's a long shot, and a distraction from the merits of the case, since the investigation of Google's conduct has spanned the tenures of *two* Assistant Attorneys General, from 2017 to 2021.

[26] https://www.nytimes.com/2023/06/20/business/media/gannett-google-lawsuit.html
[27] https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3207
[28] https://www.ojp.gov/ncjrs/virtual-library/abstracts/rocket-docket
[29] https://www.cnbc.com/2020/12/18/doj-case-against-google-likely-wont-go-to-trial-until-late-2023-judge-says.html
[30] https://www.cnn.com/2023/08/31/business/google-doj-antitrust-chief/index.html

As far as other potential avenues to forced divestment, we don't even address in this note (for what should be obvious reasons) the bipartisan antitrust legislation currently on hold in Congress.[31] If the American Innovation and Choice Online Act gets out of committee and passed into law, it would apparently call for remedies similar to those sought by the DOJ and the EC.

Interestingly, Google had approached regulators in mid-2022 with a plan to "partition" elements of its ad tech business and house them as standalone units in its parent holding company, Alphabet.[32] As mentioned above, Google was prepared to make this offer because it had already transformed into a holding company in 2016. Careful readers will notice that this tactic is straight out of Standard Oil's playbook: It, too, transitioned to a holding company in order to argue that it was just a collection of standalone companies. The DOJ certainly noticed, as it rejected Google's proposal out of hand.

III. Breakup Implications: The Possibilities from Industry to Investments

If you've read this far, we hope you'll agree that the question "Is the probability of a Google breakup greater than 0%?" should be answered with a resounding "Yes!" So if the probability of a breakup increases, or if divestment actually occurs, who stands to benefit? What does a breakup mean for the ad tech industry and Google?

Not having seen a substantive analysis to date, we think it's worthwhile to at least consider the implications of a breakup. (There's wisdom in the Boy Scouts' motto "Be Prepared.") And after all, this is a business where the best returns come from variant perceptions coming true. If the majority dismiss even entertaining the arguments we present below (which appear plausible to us), those arguments are, by definition, variant perceptions. Given the disparity between perception and reality that we've uncovered, we don't need all that much to come true for us to come out ahead. With our views on potential outcomes (even the lower probability ones discussed here) already established, we need only watch for signs of which one is likely to come true in order to take quick, decisive action. So, let's take a look at a world in which Google is split up and see what we can figure out:

Open Internet Ad Tech: Massive beneficiaries

To start, it should be stated Google is a standout business and investment, hands down. For many, it may be the cornerstone of an investment portfolio. The risk of *not* owning it can be substantial. The old saying "Nobody gets fired for buying IBM" certainly rings true for Google today. While it's a great business, we're of the opinion that the pendulum may have swung too far in one direction.

However, if Google is indeed headed for antitrust remedies up to and including a breakup, its past is certainly not going to be prologue. Therefore, the risk of owning a basket of ad tech beneficiaries is probably far less than that of owning Google alone. Everyone appears focused on the positives of a breakup, but there are negatives as well – and the variance of outcomes is wider than most expect. As we will soon show, the negatives for Google could be substantial, albeit not existential. Looking away and thinking everything will be okay is not a plan that should satisfy investment committees or clients.

[31] https://www.americanprogress.org/article/evaluating-2-tech-antitrust-bills-to-restore-competition-online/
[32] https://digiday.com/media/what-if-google-parts-ways-with-its-ad-stack/

Following a breakup, a multi-year market impairment would be gone for the ad tech industry, particularly the sell side (and publishers). The beneficiaries listed in the following subsections exhibit impressive incremental margins, and any gains in market share would cause their earnings to soar. Furthermore, given the permanent improvement in customer stickiness, market power, and operational stability, it also follows that these businesses would be worthy of higher valuation multiples in lock step.

So, is this opportunity worthy of your time? What are the probabilities and payoffs we could see? We think a piece of advice from Amazon CEO Jeff Bezos is particularly apposite here: "Given a 10 percent chance of a 100 times payoff, you should take that bet every time."

♦

With this big picture in mind, let's drill down a bit deeper. Advertising technology is embedded in many digital businesses, but for simplicity we're going to focus on Google and the open internet players, who are providers of intermediary services for ads on the internet (the programmatic ad market ex-Search). For instance, Amazon and Facebook provide ad tech services primarily for their own properties, not the open web. Amazon is reportedly building publisher tools, but again only for its own properties.[33] Notably, Facebook had ambitions for the open web, but discovered that any full-stack ad tech strategy "is subject to one bottleneck and intermediary – Google."[34]

Sell Side: Most important assets and relationships are Google's

In Google's infancy, the SSP market contained hundreds of players. Without a competitive ad server alternative, however, the ranks of large open internet players dwindled to Magnite (MGNI), Xandr (MSFT - Microsoft), PubMatic (PUBM), OpenX (private), IndexExchange (private), TripleLift (private) and Nexxen (TRMR - Tremor SSP/DSP). Today, only two pure-play SSPs are publicly traded, and there's a "long tail" of minor players. Google's dominance, along with SPO (Supply Path Optimization), a plan by advertisers and publishers to rid the system of excess suppliers and fees, pressured a lot of the smaller players into closing shop. Indeed, the DOJ suit focuses on the sell side of the industry, as that's where Google has the largest market share (90%) in the most critical asset (ad servers), and where the most evidence has accumulated regarding anti-competitive behavior to maintain its position.

Of all the assets in the ad tech stack, the ad server is the most important because it creates customer stickiness – the "last mile" of an ad's journey to a website, and an SSP's most direct connection to publishers. There are many other ad servers in the market, but with tiny share. They're inconsequential.

Control of the ad server gives a company the ability to direct winning bids to its SSP of choice, which is how Google dominated the sell side. Google charges an abnormally low take rate at the ad server level, subsidized by the rest of its ecosystem, to undercut alternatives on price. This tactic (along with the anti-competitive ones listed above) has pushed most other SSPs to be ad networks/exchanges, still subject to the whims of the biggest ad server in the market, and largely commoditized except for the top three to five players. The winning strategy for these SSPs is to scale at low cost. However, scale is hard to come by for these companies, as advertisers and publishers realize they can reasonably only allocate small portions of their ad budgets and inventories to open internet channels to not rely

[33] https://www.businessinsider.com/amazon-is-building-a-publisher-focused-adtech-tool-to-compete-with-google-2023-8
[34] Complaint, p.82, *United States v. Google LLC*, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023).

solely on Google for ad revenue. Publishers are further disadvantaged as they're unable to put a moat around their business and data given that Google has already done so for themselves. These dynamics also result in lower ROI on ad spend for the open internet players. After years of take rate reductions, the SSP market has stabilized in the low 10-15% range. Thus, the average SSP take rate is well below the 20%-plus that Google's sell-side business successfully charges.

Buy Side: More competitive for big players, lower-end consumed by Google

The buy side has a wider spectrum of competition at the higher end of the market (Google's DV360 has "only" a 40%-plus share), but for smaller advertisers at the lower end, Google Ads crowds out the market with a share over 80%. The DSP market has been winnowed down to Google, The TradeDesk (TTD), and a handful of DSPs. There are two public pure-play DSPs, The TradeDesk and Viant (DSP). Here too, Google's DSP take rate is closer to 20%. TradeDesk claims to generate a roughly 20% take rate from advertisers, but some portions of its SaaS fees are included in this figure, so it's not a pure DSP take rate. Expert estimates put TTD's pure DSP take rate at 15%+.

Investors view these publicly traded DSPs as superior to SSPs – which is ironic, given that the main source of Google's ad tech dominance lies on the SSP side of the market. Perhaps Google's anti-competitive actions have impaired the sell side, which is why SSPs get a bad rap. (It's doubtful you could get these SSPs to admit this publicly, lest Google hear about it and decide to crush them. Another reason for their silence on the issue is that they're aggrieved parties in the ongoing lawsuits, providing information to the DOJ on incurred damages.) These factors are also why DSPs have market power over publishers and SSPs: They let Google dominate, while they tag along.

Market and Strategy Considerations: Market share up for grabs, take rates likely come down for Google

In simple terms, the Google Network (i.e. its ad tech stack) should generate ~$35 billion in revenue this year. Assuming roughly 55% comes from the SSP/ad server/exchange and 45% from the DSP, they should generate ~$19 billion and ~$16 billion, respectively.[35] The SSP total addressable market is roughly $25 billion (applying a blended take rate to ~$125 billion in programmatic ad spend ex-Search), putting Google's SSP at ~85% market share by revenue.[36] This aligns with the Advertiser Perceptions SSP Report, which claims that Google's SSP is used ~75% of the time.[37] The largest independent SSPs on the open web total ~$1.5 billion in revenue, as shown in the table below, equating to 6%-plus share. The "long tail" of undifferentiated SSPs is included to show the size of the total estimated SSP market. However, the majority of these companies should cede share to the top five over time regardless, courtesy of SPO.[38]

We believe the focus of antitrust remedies will be focused on the sell side, although we anticipate that a forced divestment would see a spin-off of Google's SSP and DSP operations into independent entities. Remedies could also

[35] Take rates: SSP: 20%+, DSP: ~20%.
[36] The DOJ defines market share by percent of ad impressions, but Google's market share by revenue is likely higher as it monetizes the majority of higher value inventory on the web and charges elevated take rates.
[37] https://www.adexchanger.com/online-advertising/google-reigns-supreme-in-latest-advertiser-perceptions-ssp-report-but-competition-is-tight-among-everyone-else/
[38] Supply Path Optimization is an industry term for efforts to eliminate marginal suppliers.

include a possible separation of the ad server business from the SSP, in whole or in part. Given the regulatory scrutiny around these assets, a strategic buyer would be unlikely.

Let us be clear: While these attractive structural changes in the market could occur, they would not happen overnight. However, the forward-looking stock market would likely price-in these positive changes before they transpire, given increasing visibility on an endgame with an outcome that could quickly become a slam dunk.

With that, we propose three scenarios in the table below, reflecting possible market share losses by Google's sell-side business of ~20%, ~30%, and ~40%, and assuming a spinoff as the most likely means of forced divestment:

Post-Breakup Market Share Scenarios								
	GOOGL SSP	**Xandr**	**MGNI - DV+**	**PUBM**	**TRMR - SSP**	**TripleLift**	**OpenX**	**Long Tail SSPs**
Revenue ($B)	$19.3	$0.4	$0.3	$0.3	$0.2	$0.2	$0.1	$2.0
Market Share	**85.4%**	**1.7%**	**1.5%**	**1.3%**	**0.8%**	**0.7%**	**0.3%**	**8.9%**
Share Ex. Google		27%	24%	20%	12%	12%	5%	N/A
Scenario 1								
Incremental Revenue ($B)	($3.85)	$0.7	$0.6	$0.5	$0.3	$0.3	$0.1	$2.0
Total Revenue ($B)	$15.4	$1.0	$0.9	$0.8	$0.5	$0.4	$0.2	$2.0
Market Share	**68.3%**	**4.6%**	**4.1%**	**3.5%**	**2.1%**	**2.0%**	**0.8%**	**8.9%**
Scenario 2								
Incremental Revenue ($B)	($5.78)	$1.2	$1.1	$0.9	$0.6	$0.5	$0.2	$2.0
Total Revenue ($B)	$13.5	$1.6	$1.4	$1.2	$0.7	$0.7	$0.3	$2.0
Market Share	**59.8%**	**6.9%**	**6.1%**	**5.2%**	**3.2%**	**3.0%**	**1.2%**	**8.9%**
Scenario 3								
Incremental Revenue ($B)	($7.70)	$1.7	$1.5	$1.3	$0.8	$0.7	$0.3	$2.0
Total Revenue ($B)	$11.5	$2.1	$1.8	$1.6	$1.0	$0.9	$0.4	$2.0
Market Share	**51.2%**	**9.2%**	**8.2%**	**7.0%**	**4.2%**	**4.0%**	**1.6%**	**8.9%**

While on the surface these figures may seem aggressive, keep in mind that Google's ad server share was ~25% prior to its purchase of DoubleClick in 2008, and it surpassed 60% by 2010. So, a remedy resulting in Google keeping a 60-70% share of the sell side doesn't seem unreasonable when that's still almost ten times the nearest competitor's share of less than 10%. Even in Scenario 1, a ~20% share loss from Google's SSP would leave it with more than four times the aggregate revenue of the top five independent SSPs.

Perhaps you just don't think Google could ever lose sell-side market share, even after a breakup. We'd argue that Google's ad tech units are not ready to compete with other, leaner SSPs simply because, for over a decade, they haven't been subject to the competitive feedback loops that hone performance and cultivate a culture with the skills to win. The company has spent its considerable resources on other ventures instead, garnering a reputation as innovative. However, that innovative nature doesn't apply to its ad tech business. In the always entertaining r/adops forum on Reddit, someone asked readers to "Name a few ad networks that are scams."[39] A portion of the top comment is as follows:

> *You mean the Google that will shift all your impressions to low quality in-app ads that you can't opt out of and can only exclude after the fact in a never-ending game of whack-a-mole?*
>
> *Or did you mean the Google that has completely outsourced its "customer service" making it nearly impossible to raise any real complaints about quality and you can never get more than 2% refund back on blatant fraud?*

[39] https://www.reddit.com/r/adops/comments/u7sp6r/comment/i5hxjcm/

> *Or did you mean the Google that keeps changing the definitions of its match types to force you to let Google choose when and where to serve your ads and expect you to do nothing but hand them money?*
>
> *Or the Google that has completely violated its own editorial policies and promotes its own offerings and products ahead of others in direct violation of Section 230?*

As they say, there's a grain of truth in every joke. To one of the entertaining points above, Google Ad Manager has no phone number or direct contact for publishers of any size, and its lack of customer service is a running joke in ad tech operations circles.[40] (We guess the only thing worse than Comcast's disastrous, Kafkaesque customer support[41] is none at all.) In fact, after its purchase of DoubleClick, the company didn't upgrade Google Ad Manager for over ten years! As a standalone business, Google's ad tech stack would likely have to undergo cultural and operational changes to adjust to a post-breakup environment. At a minimum, we'd imagine it would start by hiring customer support staff.

Additionally, Google's take rate of 20%-plus is between one and a half to two times what independent SSPs charge. With a level playing field and minimized data advantages, it would be untenable for the company to keep its high prices and expect to maintain market share.

So, with potentially billions in revenue up for grabs, we'd expect these other SSPs to pick up the slack, with their market shares rising from 1-2% up to possibly 10%. Further, there probably wouldn't be any new entrants because advertisers and publishers have spent the last few years pushing Supply Path Optimization, and it's doubtful they would entertain anyone new jumping in.

All this change could yield massive improvement for almost the entire sell side. Our analysis assumes revenue accrues in proportion to these companies' ex-Google market shares. However, a disproportionate amount of revenue is likely to accrue to the larger players such as MGNI and PUBM, because scale begets scale in this industry. There is one possible exception that could be added to the mix: Xandr, which is prioritizing Microsoft's own properties,[42] could pivot back to the open web post-breakup. Finally, we assume the "long tail" SSPs merely maintain market share after a breakup, which is highly unlikely: As we've explained, their share should go to low single digits.[43]

Clues to these scaled SSPs' potential market positions post-breakup are few and far between, for reasons we've described above. However, when Magnite management was asked on its September 15, 2021, Analyst Day, "What would the market environment look like if there was no longer a large monopoly at the center of ad tech?" the CEO jokingly answered:

> *Well, it would create a nice opening for Magnite to become the new monopoly. No, I can't say that. The – it just would free up – listen, publishers are looking for trusted scaled folks that don't compete with them, right? And it's not that [an] alternative has never existed. […] There wasn't just enough scale or full stack capabilities. So now we have that full stack capability, it truly – it literally is the first time a publisher has a true alternative in [the] market.*

[40] https://www.reddit.com/r/adops/search/?q=google+customer+service
[41] https://www.theguardian.com/technology/shortcuts/2014/jul/17/comcast-customer-services-call-ryan-block
[42] https://www.adexchanger.com/platforms/microsoft-is-deprioritizing-third-party-ad-tech-amid-reorgs-and-layoffs/
[43] Regardless of antitrust actions, the diminishing "long tail" SSPs should cede most of their $2 billion in revenue to the top five SSPs revenue over time. A possible doubling of the top five's current revenue on that dynamic alone.

Moreover, we're not even considering the benefits that could accrue to SSPs with third-party cookies finally starting their march to full deprecation in early 2024.[44] This privacy law-induced phenomenon should give publishers increased negotiating power with advertisers, plus the ability to fully monetize their first-party data through SSPs. Google has delayed this change for years, trying different tactics to preserve its data advantage without running into further antitrust issues. A Google breakup would accelerate third-party cookie deprecation, speeding the power shift from DSPs/agencies to SSPs/publishers[45].

In addition, while most of Google's anti-competitive actions lie on the sell side (our focus in this analysis), we would expect The TradeDesk as well as other open internet players to also benefit from Google's reduced market power, albeit to a lesser degree.

Revenue aside, just opening the ad server market to competition would improve the entire SSP industry by giving customers a choice (which they clearly want), dispersing customer stickiness to other SSPs. This dispersion in turn would increase each sell-side company's revenue stability and visibility, improving its network/exchanges businesses, and thus warranting valuation at a higher earnings multiple.

If you don't believe changes in the ad server market are the key to an improved sell-side industry, we'll leave you with this quote from the former CEO of DoubleClick himself, David Rosenblatt: "My view is nothing really matters but the platform [i.e. the publisher ad server]. Nothing has such high switching costs. If there's a better network or exchange, you can just switch to it."[46]

Even if Google's standalone ad tech units don't lose share, the stripping out of their ad tech infrastructure would likely result in Search, *et al* making their ad inventory available to open internet players – and once the biggest "walled garden" of them all loses its wall, the open internet's addressable market should dramatically expand.

Finally, even if a breakup doesn't happen, Google is likely to become less aggressive in its marketplaces, benefiting open internet players. Microsoft's 2001 antitrust trial didn't result in a breakup of the company, but did make it "afraid," according to Michael Cusumano, a professor at MIT's Sloan School of Management. "Whether it's antitrust in the U.S. or in Europe, they seem to be slowly reacting to the world around them, rather than trying to get in there fast," he said at the time.[47]

Valuation Considerations: Massive rerate for SSPs, substantive improvement for DSPs, all other open internet providers win

Even with a lack of scale compared to Google, SSPs still generate upwards of 35% EBITDA margins and exhibit truly impressive incremental margins. Very few resources are required to process more ad transactions – just more computing power, with little to no increase in personnel. So, with the required technology infrastructure already in place, these companies have the ability to onboard a massive amount of revenue quickly and translate at least 50% (and most likely even more) of it to EBITDA. During periods of rapid increases in ad spending, both Magnite's

[44] https://techcrunch.com/2023/05/18/google-will-disable-third-party-cookies-for-1-of-chrome-users-in-q1-2024/
[45] Right now, publishers have little control over their data, as Google and other's third-party cookies can recreate the data on a person visiting their site. Shifting to first-party cookies would allow a publisher to ring-fence the data on their site, creating exclusivity and therefore value.
[46] Complaint, p.37, United States v. Google LLC, No. 1:23-cv-00108 (E.D.V.A. Jan 24, 2023)
https://www.justice.gov/opa/press-release/file/1563746/download
[47] https://www.seattletimes.com/business/microsoft/long-antitrust-saga-ends-for-microsoft/

DV+ segment and PubMatic have seen incremental EBITDA margins upwards of 70%. In our analysis, shown in the table below, we assume the lower end of their margin capabilities. (Magnite also has a CTV[48] division that's not included in this analysis because we're focused on open internet display and video ads.) Finally, we've included Xandr, which until only recently was operating in the open internet, as Microsoft could pivot the organization (again) should the status quo change:

Possible Incremental EBITDA Generation				
	Xandr	**MGNI - DV+**	**PUBM**	**TRMR - SSP**
Incremental Margins	50%	65%	60%	55%
EBITDA NTM ($B)	$0.15	$0.13	$0.08	$0.07
Incremental EBITDA ($B)				
Scenario 1	$0.3	$0.4	$0.3	$0.2
Scenario 2	$0.6	$0.7	$0.6	$0.3
Scenario 3	$0.9	$1.0	$0.8	$0.4

From the revenue gained in the market share analysis above, we can see that revenue loss from Google translates into massive EBITDA generation for the SSPs. For example, in Scenario 1 (20% share loss for Google), Magnite's DV+ and PubMatic could more than quadruple their current levels of EBITDA (incremental + current EBITDA). Even haircutting that by a factor of two (implying only 10% share loss for Google), these businesses could double their total EBITDA. Again, this might not occur overnight, but investors would still likely factor in greater visibility on this massive expansion in near-term earnings when they price the equity. If they do, MGNI (even in the smallest positive outcome listed) would trade below 2x EBITDA.

How do these large increases in EBITDA translate into higher equity valuations? First, we should determine a possible normalized EBITDA valuation multiple for these companies. Critically, the historical trading multiples of the pure-play SSPs, between 10x-15x in a normalized state, implicitly include a Google monopoly impairment to their businesses. On the buy side however, The TradeDesk, which has executed superbly against Google (albeit in a slightly less competitive DSP environment), has traded above 30x EBITDA for most of its public life.

If we assume a modest 25% uplift to historical SSP valuations resulting from a level playing field post-breakup, we could observe valuations in the ~15x EBITDA range. However, Tremor (now Nexxen) has a discount applied to its valuation for having both a SSP and DSP, a structure most advertisers and publishers eschew:[49]

Total Possible Equity Value Generation				
	Xandr	**MGNI - DV+**	**PUBM**	**TRMR - SSP**
Est. EV/EBITDA	15.0x	15.0x	12.5x	10.0x
Value Unlocked ($B)				
Scenario 1	$5.2	$6.0	$3.9	$1.7
Scenario 2	$9.1	$10.5	$6.9	$3.0
Scenario 3	$13.0	$14.9	$9.8	$4.4

[48] Connected TV, i.e. a television connected to the internet.
[49] The owner of both a DSP and SSP may have conflicts of interest because it might represent both the publisher and the advertiser in a given transaction.

As we can see, the gains to the SSPs, assuming modestly improved valuation multiples, equate to billions in equity value. This intuitively makes sense: Google Networks generates tens of billions of dollars of revenue with a valuation possibly in the hundreds of billions, while the independent SSPs' total revenue is closer to $1.5 billion with a total market capitalization of less than $5 billion. Little changes in a large company like Google translate into large increases for the SSPs – and by large, we mean several times their current market capitalizations, as shown below:

Equity Return Possibilities				
	Xandr	**MGNI - DV+**	**PUBM**	**TRMR - SSP**
Market Cap ($B)	$1.0	$1.2	$0.8	$0.3
Multiple of Market Cap				
Scenario 1	5.2x	5.0x	5.2x	5.8x
Scenario 2	9.1x	8.7x	9.2x	10.1x
Scenario 3	13.0x	12.5x	13.1x	14.5x
Probability-Weighted Multiple of Market Cap - Scenario 2				
5%	0.5x	0.4x	0.5x	0.5x
10.0%	0.9x	0.9x	0.9x	1.0x
15.0%	1.4x	1.3x	1.4x	1.5x
20.0%	1.8x	1.7x	1.8x	2.0x
100.0%	9.1x	8.7x	9.2x	10.1x

Even in the smallest share loss scenario presented, these beneficiaries could be worth over five times their current market capitalizations! However, Google breaking up is not a sure thing. The likeliness of its occurrence should be weighted probabilistically. As such, we've applied a range of percentages of antitrust success to Scenario 2. This should highlight the fact that even if the market prices in only a 5-10% chance of DOJ success, these companies could still double in value.

♦

Now, if you've been reading diligently along and noticed we haven't even come close to the 100-times payoff mentioned in the Jeff Bezos quote above, don't worry: We've discussed only changes in equity values. There's another way to hedge your Google position or invest in this asymmetric thesis: LEAPS call options.[50]

Fans of Joel Greenblatt's *You Can Be a Stock Market Genius* should be familiar with this strategy. Greenblatt's Gotham Capital, not thrilled with the 1:1 risk/reward ratio of Wells Fargo (WFC) stock in late 1992, found the two- to three-year LEAPS on WFC to be a much better play. They boasted an exceptional risk/reward ratio of "1 down to almost 5 up."[51] In another, more extreme example, Cornwall Capital (made famous in Michael Lewis's *The Big Short)*, having uncovered an asymmetric situation in CapitalOne in 2002, chose to execute one asymmetric bet on top of another by using LEAPS call options.[52]

Below are examples of two- to three-year LEAPS with out-of-the-money strikes that could easily be in-the-money should a few percentages of antitrust success get priced into the underlying companies:

[50] LEAPS stands for Long-term Equity APpreciation Securities. LEAPS options are publicly traded options contracts with expiration dates one to three years after issue. See https://www.investopedia.com/terms/l/leaps.asp
[51] Greenblatt, Joel. *You Can Be a Stock Market Genius: Uncover the Secret Hiding Places of Stock Market Profits*. Touchstone, 1999, p. 226.
[52] Lewis, Michael. *The Big Short: Inside the Doomsday Machine*. W.W. Norton & Company, 2010, p. 92.

LEAP Option Return Possibilities				
	Xandr	**MGNI - DV+**	**PUBM**	**TRMR - SSP**
LEAP Call Option	N/A	$0.80	$1.25	$0.25
Strike		$17.50	$25.00	$10.00
Share Price		$8.50	$14.25	$3.85
Option Values				
Scenario 1		$36.7	$68.6	$5.9
Scenario 2		$69.5	$125.6	$14.9
Scenario 3		$102.4	$182.6	$23.9
Option Returns (MOIC)				
Scenario 1		45.9x	54.9x	23.5x
Scenario 2		86.9x	100.5x	59.6x
Scenario 3		127.9x	146.0x	95.7x
Probability-Weighted Multiple of Market Cap - Scenario 2				
5%		4.3x	5.0x	3.0x
10.0%		8.7x	10.0x	6.0x
15.0%		13.0x	15.1x	8.9x
20.0%		17.4x	20.1x	11.9x
100.0%		86.9x	100.5x	59.6x

In the table above, the LEAPS call option payoffs range from 50x to over 100x, with enough of a time to expiration to account for a trial, ruling, and remedy in the DOJ's ad tech antitrust case against Google. Weighting these scenarios probabilistically, we see 10% probabilities of 100x payoffs – true to the Bezos quote.

Of the names listed, we believe Magnite (MGNI) has the most asymmetry to this thesis (as well as upside related to its CTV division, which is not included here), followed by a lesser opportunity in PubMatic (PUBM).[53] We also believe there is a modest opportunity in the DSP market with The TradeDesk (TTD).

If your concern is hedging an adverse impact to Google, we think investing in all these companies as a basket cleanly covers the risk.

Portfolio Considerations: A hedge to a core Google position or outright ownership

We believe that if you own a sizable position in Google (i.e. between 5% to 10% of your portfolio), that investment could be hedged with equity positions of 1.0-2.5% in independent ad tech companies, with SSPs being the most asymmetric. Even better, based on the option prices above, you could hedge any litigation fallout with a LEAPS position of less than 1% of your portfolio (given a 5 to 10% Google position) and still come out ahead. That's peace of mind for pennies on the dollar. We like to sleep well at night; we assume Google longs do too.

For example, let's imagine we're a name-brand investor with a $1.5 billion position in Google, roughly 10% of our portfolio. In fact, let's also say we have a talent for, and an impressive track record of, cleverly hedging tail risks in that portfolio. If Google is broken into several pieces, let's assume a relatively pedestrian 20% decline in the value of

[53] We exclude Nexxen (TRMR) as we believe it is not a great opportunity given its SSP/DSP combo likely limits its market share gain ability. It is included in our analysis simply for completeness, as it has a sizable SSP and is publicly traded with an option market.

the company *pro forma*, equating to a loss of $300 million due to the ceded ad tech market share and increased costs of monetizing its other properties without free ad infrastructure. Should this investor have a $150 million position in these SSPs, the gains he would receive would offset a $300 million loss by a factor of at least two ($650-$750 million). Due to the extraordinary asymmetry of the payoff involved, if you think only half of what we've discussed will come to fruition, a $150 million position would still offset the hypothetical decline in Google's valuation.

But why should this investor tie up $150 million in equity? He could create a $150 million notional position via LEAPS that would cost only tens of millions (a small fraction of the initial $150 million capital outlay contemplated above) and would protect his core Google position similarly.

The bottom line is that if hedging adverse outcomes is your goal, a basket of the names listed above makes sense.

For our part, Crossroads is invested in Magnite – but for none of the reasons discussed in this paper. We believe it's fundamentally mispriced on its own, which is a topic for another time. Still, given the relative cheapness of the options and its potential to be a 50- to 100-bagger, we're more than happy to take a flyer on a favorable outcome here. It's our kind of setup.

To quote our hypothetical Google investor above, "The best hedges are the ones you would invest in anyway even if you didn't need the hedge."[54]

It's not a given that a breakup would be entirely positive for Google, as we've shown. In either set of outcomes regarding Google and the ad tech industry, there's a cheap way to protect your downside and not risk being negatively exposed to a tail event. Additionally, with a less-aggressive Google on the scene, open internet ad tech businesses could exhibit solid returns on their own as the "long tail" SSPs rationalize.

At the moment, many of these firms are trading at low valuations with considerable investor antipathy. Thinking within a "cycle-aware" framework, we see these businesses as leading indicators coming into or out of recessions. Digital ad spending, while in a secular upward trend, is indeed cyclical: Advertising is the first expense cut in a downturn. With these firms already reflecting near-term ad spending concerns, any improvement in their outlook could generate considerable "torque" on a portfolio. And should one of the scenarios outlined above come even partly to fruition, this "torque" could be generated regardless of the economic or market cycle.

[54] If you haven't already guessed, our hypothetical Google investor here is Bill Ackman. https://twitter.com/BillAckman/status/1686906272937869312

IV. Conclusion: A Tail Event, A Variant Perception, and A Highly Asymmetric Thesis

We hope this thought piece has brought you a contrarian but plausible scenario regarding Google's antitrust trials. We haven't seen much discussion that really walks through the ad tech trial and its likely subsequent impacts for investors. The one-sided discourse suggested to us that there could be a sizable asymmetry in the market.

We hope you'll concur, after having read this piece, that (1) the DOJ's odds of success at trial are above 0%, (2) its possible success could have negative impacts on Google, and (3) its possible success could have positive impacts on Google's competitors. However, the stocks involved appear to have none of these possibilities priced in. As the trials start and the event paths become clearer, even small adjustments to the odds could generate large changes in the smaller ad tech companies' values. In the event of a Google breakup, the uplift to direct competitors' valuations, and to the ad tech industry as a whole, could be dramatic.

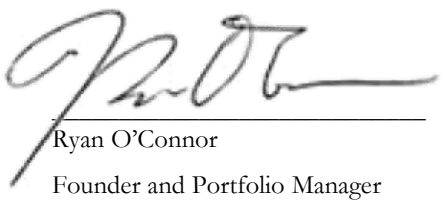
We've also given you a gameplan for exploiting certain breakup scenarios with cheap hedges, both at the equity and option level, should the DOJ be successful in ending Google's ad tech monopoly.

In closing, we'd like to share the following bit of wisdom from the trading great Richard Dennis. We think it applies not only to Google's current situation, but to investing in general:

> *You should expect the unexpected in this business; expect the extreme. […] If there is any lesson I have learned in this business, it is that the unexpected and the impossible happen every now and then.*[55]

As always, feel free to reach out to discuss this piece, as well as other opportunities we're seeing at Crossroads.

Sincerely,



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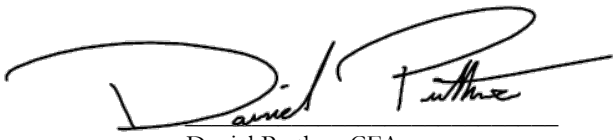

Daniel Prather, CFA
Director of Research

[55] Schwager, Jack D. *Market Wizards: Interviews with Top Traders.* Wiley, 2012, p. 99.

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We are long equities and LEAPS on Magnite (NASDAQ: MGNI).

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