

S. HRG. 118–112

COMPETITION IN THE DIGITAL ADVERTISING ECOSYSTEM

HEARING BEFORE THE SUBCOMMITTEE ON COMPETITION POLICY, ANTITRUST, AND CONSUMER RIGHTS OF THE COMMITTEE ON THE JUDICIARY UNITED STATES SENATE ONE HUNDRED EIGHTEENTH CONGRESS

FIRST SESSION

MAY 3, 2023

Serial No. J-118-15

Printed for the use of the Committee on the Judiciary



www.judiciary.senate.gov
www.govinfo.gov

U.S. GOVERNMENT PUBLISHING OFFICE

53–539

WASHINGTON : 2025

COMMITTEE ON THE JUDICIARY

RICHARD J. DURBIN, Illinois, *Chair*

DIANNE FEINSTEIN, California	LINDSEY O. GRAHAM, South Carolina,
SHELDON WHITEHOUSE, Rhode Island	<i>Ranking Member</i>
AMY KLOBUCHAR, Minnesota	CHARLES E. GRASSLEY, Iowa
CHRISTOPHER A. COONS, Delaware	JOHN CORNYN, Texas
RICHARD BLUMENTHAL, Connecticut	MICHAEL S. LEE, Utah
MAZIE K. HIRONO, Hawaii	TED CRUZ, Texas
CORY A. BOOKER, New Jersey	JOSH HAWLEY, Missouri
ALEX PADILLA, California	TOM COTTON, Arkansas
JON OSSOFF, Georgia	JOHN KENNEDY, Louisiana
PETER WELCH, Vermont	THOM TILLIS, North Carolina
	MARSHA BLACKBURN, Tennessee

JOSEPH ZOGBY, *Chief Counsel and Staff Director*

KATHERINE NIKAS, *Republican Chief Counsel and Staff Director*

SUBCOMMITTEE ON COMPETITION POLICY, ANTITRUST, AND CONSUMER RIGHTS

AMY KLOBUCHAR, Minnesota, *Chair*

SHELDON WHITEHOUSE, Rhode Island	MICHAEL S. LEE, Utah, <i>Ranking Member</i>
CHRISTOPHER A. COONS, Delaware	CHARLES E. GRASSLEY, Iowa
RICHARD BLUMENTHAL, Connecticut	JOSH HAWLEY, Missouri
MAZIE K. HIRONO, Hawaii	TOM COTTON, Arkansas
CORY A. BOOKER, New Jersey	THOM TILLIS, North Carolina
PETER WELCH, Vermont	MARSHA BLACKBURN, Tennessee

KEAGAN BUCHANAN, *Democratic Chief Counsel*

WENDY BAIG, *Republican Chief Counsel*

CONTENTS

OPENING STATEMENTS

	Page
Klobuchar, Hon. Amy	1
Lee, Hon. Michael S.	3

WITNESSES

Alford, Roger P.	7
Prepared statement	41
Responses to written questions	47
Henderson, Todd	13
Prepared statement	54
Responses to written questions	60
Kint, Jason	11
Prepared statement	65
Responses to written questions	70
Lynn, Barry C.	9
Prepared statement	75
Responses to written questions	97
Srinivasan, Dina	6
Prepared statement	100
Responses to written questions	224

COMPETITION IN THE DIGITAL ADVERTISING ECOSYSTEM

WEDNESDAY, MAY 3, 2023

UNITED STATES SENATE,
SUBCOMMITTEE ON COMPETITION POLICY, ANTITRUST,
AND CONSUMER RIGHTS,
COMMITTEE ON THE JUDICIARY,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:32 p.m., in Room 226, Dirksen Senate Office Building, Hon. Amy Klobuchar, Chair of the Subcommittee, presiding.

Present: Senators Klobuchar [presiding], Blumenthal, Hirono, Booker, Welch, Lee, Hawley, and Tillis.

OPENING STATEMENT OF HON. AMY KLOBUCHAR, A U.S. SENATOR FROM THE STATE OF MINNESOTA

Chair KLOBUCHAR. All right, I call to order this hearing of the Subcommittee on Competition Policy, Antitrust, and Consumer Rights on “Competition in the Digital Advertising Ecosystem.” I’d like to welcome our witnesses, and thank Senator Lee, and his staff, for their work in planning this hearing. He cares a lot about the major bill that’s the subject of this hearing, in addition to many other pieces of legislation.

We are living in a time of rapid innovation and technological change that is reshaping our economy and transforming how we interact with each other. And we are now seeing how quickly things can change when we leave here. We’re having a briefing on artificial intelligence systems, and I think we all know that it’s all tied up in the discussions that we have today.

Now advertising, which is really at the center of this market, digital advertising pays for many of the apps and websites we use throughout the day to read the news, look up recipes online, and stream movies. And like much of the digital economy, there is a lack of competition in digital advertising markets that it has been harmful to small businesses and computers.

Today’s hearing is about the consequences we are seeing from the unchecked consolidation and a reluctance to enforce the anti-trust laws, and it’s about what we can do about it.

Although Facebook and Amazon have significant ad businesses, there is one company that dominates digital advertising like no other, and that is Google. The ad technology ecosystem connects advertisers like your local coffee shop with publishers like your favorite online newspaper via systems that price and sell ad space and place display ads on websites.

Within that ecosystem, Google dominates the market for platforms and services on the publisher side, that would be the ads that publishers want to place, as well as the advertiser side. So you have the coffee shops that want to put the ads in, and then you have your local newspaper that's displaying the ad. So they dominate both sides as well as the ad exchanges that connect them. So it's like a three-pronged—and I can see the witnesses nodding, I must be getting something right—a three-part domination.

Google has a 90-percent share of the service that publishers use to sell space on their sites. It has a 40-percent share of the services that advertisers, like the coffee shop, use to buy ads, and it has a 50-percent share of the market for ad exchanges that connect those advertisers and the publishers. This end-to-end control gives Google unique access to information about virtually all digital ad transactions and allows it to extract a higher percentage of revenues than they would be able to get in a competitive ad technology market.

For example, publishers using Google AdSense to sell their ad space must give Google 32 percent of the revenue generated. That's a pretty big cut. Research has suggested that Google may be taking between 30 and 70 percent of every advertising dollar spent by advertisers using its services, depriving providers of original content that are, in fact, struggling to receive their own compensation.

This includes many of our news outlets. We have a separate piece of legislation Senator Kennedy and I have on negotiating news content rates, something that's worked successfully in Australia.

But the other piece of this is just the overall advertising market that involves news organizations and many other sites. Google's ability to take a large share of the revenues generated by publishers' ad space is contributing to the near collapse of advertising-based revenue models for many news organizations.

And this threatens more than competition. It threatens the viability of a free and independent press, which is essential to our democracy. And it is especially hurting the small local radio, TV, and newspapers. Google's market dominance, combined with its huge advantage in consumer data, gives it the market power to exclude its ad tech rivals and maintain its monopoly power.

This strategy has been very lucrative. As they say, "Follow the money." Last week, Google announced first-quarter results that included, in just ad revenue, \$55 billion—not million—\$55 billion dollars in ad revenue in the first quarter. And you wonder why we are losing what will be a third of the Nation's newspapers in just over a decade? You can look right there: \$55 billion. That is where the revenue has shifted.

And when you don't get paid for your content, and you're not able to crack into this trio of monopolies with the publishers, and the advertising, and the people in-between, it's a recipe for disaster.

It was about \$100 million less the \$55 billion, than in the first quarter last year. But \$100 million is about a rounding error when you look at numbers that big. What I bring that up for is that it shows that it is consistently that high.

The Justice Department recently brought a case claiming that Google has engaged in anticompetitive conduct to establish and

maintain monopoly power in these ad technology markets. State attorneys general have also taken action, brought a case, but we know that there are difficult cases to win, which is why this conduct has continued.

We all saw what enforcers are up against last week when the D.C. Circuit upheld the dismissal of New York's Federal antitrust claims against Meta, citing the Supreme Court's decision in *Trinko*. One of our arguments here, my arguments maybe, not Mike's, is that the Supreme Court decisions have narrowed the possibility of bringing these kinds of cases, which is another argument for making some changes to the laws.

The good news is that there is a bipartisan desire to take action. Last Congress we passed the bipartisan bill Senator Grassley and I led, that Cicilline and Buck led in the House, to modernize the merger filing fees to make more resources available to the antitrust agencies.

We also passed the bill that Senator Lee led, and I was the Democratic lead, to empower State antitrust enforcers. And when these bills were included in the end-of-year funding bill, Senator Lee and I led an amendment to ensure that the merger fee reforms took effect this year. That passed with an 88-to-8 vote. It's just happy memories of the end of the year, I'm sure you're remembering this—me calling you at midnight, texting you at 6 a.m.

[Laughter.]

Chair KLOBUCHAR. Okay. To address the issues we are discussing today, I'm working with Senator Lee on the AMERICA Act to improve competition and transparency in ad technology markets. This legislation is a key part of the work this Committee has been doing over the last few years to rein in the market power of a handful of online gatekeepers that are dominating our digital economy.

I would note some other bills. The American Innovation Choice Online Act that Senator Grassley and I have introduced, making it the first tech competition bill last year voted out of the Committee since the dawn of the internet. We did the same with the Open App Markets Act, something that Senator Blackburn and Senator Blumenthal are leading, along with myself. And then I mentioned already the Journalism Competition Preservation Act.

I know that on this Committee, we are ready to stand up for American consumers, small businesses, and innovation. I see Senator Booker and Senator Welch here, two examples of people who are willing to take on consolidated power in many ways across the economy. We have other examples that I've mentioned on the Republican side. We thank Senator Durbin and Senator Graham for their leadership on these issues, having voted, both of them, or been Co-Sponsors of a number of these bills.

I want to introduce the witnesses before turning it over—maybe I'll let Senator Lee make a opening statement. Then I'll introduce the witnesses.

**OPENING STATEMENT OF HON. MICHAEL S. LEE,
A U.S. SENATOR FROM THE STATE OF UTAH**

Senator LEE. Thank you, very much. Two-and-a-half years ago, when I was Chairman of this Committee—this Subcommittee at

the time, we held a hearing to explore a number of competition concerns rising in the digital advertising market. At the time, it wasn't clear exactly what the solution was, but we wanted to understand the problem before we figured out what solutions might exist.

And since then, it's become more clear. And here we're going to discuss that today. The solution lies in the Advertising Middlemen Endangering Rigorous Internet Competition Accountability or AMERICA Act. This is one of the acronyms of which I'm most proud with legislation.

Very grateful, not only to my excellent team in helping to put this together, I'm also very grateful for my Co-Sponsors, starting with my lead Democratic Co-Sponsors, Senator Klobuchar. We've also got Senators Cruz, Blumenthal, Rubio, Warren, Schmitt, Hawley, Kennedy, Graham, and Vance. And we're just getting started. We'd love to get Senators Booker and Welch on board with us, as well, and hopefully today's hearing will help with that effort.

Now, some may be asking: Why focus on this? Why all this fuss just about digital advertising? After all, this isn't necessarily the most high-profile market. Consumers don't necessarily lay at wake at night ruminating over whether their favorite website is earning enough money from selling digital advertisements, or whether the shoes that they just bought online might have been a little bit cheaper if the manufacturer had saved a fraction of a penny on 1,000 impressions last month that they paid for in their advertising budget.

Instead, we do lay awake at night worrying about other things. We spend a lot of time as Americans worrying about things like how Big Tech firms sometimes track our location—at all times, following us to work, to school, on dates, to church, to the doctor, everywhere else in-between. And we worry about large trillion-dollar corporations that control our phones, our watches, our movies and our music, our wallets, our books, our thermostats, appliances, home security systems, cars, even baby monitors, fitness routines, and a whole lot more.

We worry about Big Tech firms giving computers to schools to give to our children, whom they then track and monetize by feeding them endless streams of social media, pornography, and other mindless entertainment, shaping their thoughts and psyches, sometimes with devastating or even deadly consequences.

We worry about how these companies might use artificial intelligence to shape and influence how we think, feel, and interact and communicate with the rest of the world, ensuring it's only in ways that are profitable for them, of course.

But the fact is that all of this technological and financial hegemony rests on one thing: digital advertising. Because digital ads are how you turn data into money. This is the lifeblood of the tech sector in many respects.

That's why the first step toward reining in the power and the predation of the monopolist tech companies is to bring transparency and competition into the digital advertising market.

This is a—this is an important thing. Without that, you can't really do that. This is the lifeblood of the tech economy, which is

why the AMERICA Act does what it does to rein in the power and the predation of these companies.

Now, the Department of Justice, along with 33 States and Territories and numerous businesses, have all seen some of the same problems and have brought antitrust lawsuits trying to address these issues in court. Antitrust litigation, of course, can be an effective tool to bringing an end to significant intractable competition problems.

But these sorts of things take a long time. This litigation will likely take many years to complete. And even assuming that enforcers are successful at the end of the day in that litigation, it's only going to result in an injunction that applies to a single firm. Congress could solve the problem tomorrow and do so in a way that ensures today's monopolist isn't necessarily replaced by tomorrow's monopolist doing the exact same thing.

I'm very grateful to our panel of witnesses here to educate us and enlighten us on these issues, and I look forward to our conversation and ultimately to helping advance the AMERICA Act one step closer to the President's desk. Thank you.

Chair KLOBUCHAR. Thank you, Senator Lee. I was just noting with our great staff here, Avery, and Mark, and Keagan, that we don't usually have any natural light in these rooms. So we can say we're shedding light on this very important issue as the curtains are open for the first of many, many hearings.

Okay, I'm going to introduce our witnesses here today. I want to also thank Senator Hirono who's with us, who's been an early leader on a number of these bills.

With us today are Dina Srinivasan, who is a lawyer and a fellow with the Thurman Arnold Project at Yale University. She's also the author of "Why Google Dominates Advertising Markets: Competition Policy Should Lean on the Principles of Financial Market Regulation."

Also, Professor Roger Alford. He is a law professor at Notre Dame Law School, where he teaches about international antitrust issues and is a former deputy assistant attorney general for international affairs.

Barry Lynn is with us, a frequent flyer on this Committee. He is the executive director of the Open Markets Institute, a non-profit research and policy group that focuses on addressing monopoly power and modernizing our antitrust laws.

Jason Kint is the CEO of Digital Content Next, a trade association serving digital content companies, and is chairman of TrustX, a cooperative digital advertising marketplace.

Last, but not least, Todd Henderson is a law professor at the University of Chicago, my alma mater. Thank you. Professor Henderson's research interests includes corporations, securities regulation, and law and economics.

If the witnesses could please stand and raise your right hand?
[Witnesses are sworn in.]

Chair KLOBUCHAR. Thank you. You can be seated, and I will now recognize the witnesses for 5 minutes of testimony each. Ms. Srinivasan, please, begin. Thank you.

STATEMENT OF DINA SRINIVASAN, THURMAN ARNOLD PROJECT FELLOW, YALE UNIVERSITY, NEW HAVEN, CONNECTICUT

Ms. SRINIVASAN. Thank you, Senator. Chair Klobuchar, Ranking Member Lee, and distinguished Members of the Subcommittee, thank you for the opportunity to testify before you today. The AMERICA Act is really just a simple piece of legislation that'll fix a major problem at the heart of online markets. The problem that the bill aims—I'm sorry. The problem that the AMERICA Act aims to fix is simple. You see, entire sectors, as we've discussed already, of the U.S. economy depend on being able to buy and sell online ads.

And this includes entrepreneurs who might buy ads to reach new customers and grow their businesses, and it includes content creators and media businesses selling ads to fund their operations and to keep their subscription prices for consumers low. It's an industry today that is not small. It's worth hundreds of billions of dollars.

Now, people used to buy and sell ads in person. Say the local owner of a restaurant calling his newspaper and haggling over price. That is no longer the case.

Today, as we've begun to discuss, ads are bought and sold at lightning speed on sophisticated exchanges. Ad companies have modeled their exchanges after stock exchanges that we're familiar with, like the New York Stock Exchange.

So now the owner of the local restaurant must go and use an ad broker, just as he'd have to go use a stockbroker, like Fidelity, to buy ads from his newspaper that are now trading on exchanges. And he must trust his broker to act in his interest and to fetch him a good price.

The problem today is that the companies that operate the new ad exchanges and brokers operate without any of the common-sense rules that Congress has enforced on Wall Street for nearly a century. There are no rules that manage conflicts of interest. There are no rules that require brokers or exchanges to be open, honest, and transparent with their own customers. The industry is most certainly not policing itself. That's the essence of the problem.

I'd like to share a few concrete examples of what's wrong with the picture. The company that owns the major ad exchange, also operates on the sell side, also operates on the buy side, and also sells advertising itself. They don't even bother keeping the different divisions internally separate from one another.

So imagine that restaurant hands \$1,000 to its broker to go buy ads for its business, and that broker turns around and uses its customer's money and information to trade against that customer, to force ads to clear on its own exchange, even though that decision is bad for its customer and costs its customer more money.

For many years on the other side of the equation, websites and apps were at the mercy of the largest broker using deceptive tactics and exploiting information advantages when routing trades to exchanges, resulting in those websites and apps making up to 50 percent less revenue than they otherwise would. This might sound abstract, but imagine for a minute if The Washington Post is suddenly making 50 percent less revenue than it otherwise would.

As Senator Klobuchar mentioned, the harmful behavior not only hurts the bottom line of these online businesses, but it has broader

implications to institutions critical to the strength of our democracy.

In dollars and cents terms, the burden on the public is real. Financial exchanges charge far less than 1 percent on a typical stock trade. In advertising with no rules, no transparency and runaway conflicts of interest, the broker's exchanges and exchanges in the middle, take anywhere between 30 to 50 percent of each and every trade.

Now, there's nothing inherently wrong in a capitalist society with exchanges and brokers charging what the market will bear. The problem, instead, is that in advertising they are only charging that much because they're not managing their conflicts, they're trading on inside information, and they're not being open, honest, and transparent with their own customers.

Those practices impede the process of competition itself, and they cause prices to soar. And when the cost to buy and sell ads soars, that increases the prices of all goods and services being advertised.

One thing that I thought might be helpful to mention is, sometimes these things, again, are abstract, and we might think stock exchanges are different than—or, stocks are inherently more important than stocks, but entrepreneurship, the last time I checked, was a fundamental source of wealth creation for Americans, and advertising is really a critical part of that.

Thank you for your time today, and I look forward to answering your questions.

[The prepared statement of Ms. Srinivasan appears as a submission for the record.]

Chair KLOBUCHAR. Thank you, very much. Professor Alford?

**STATEMENT OF ROGER P. ALFORD, PROFESSOR OF LAW,
UNIVERSITY OF NOTRE DAME, NOTRE DAME, INDIANA**

Professor ALFORD. Thank you, Senator Klobuchar. I've actually read your book, and I'm a huge fan of that book and the work that you're doing with respect to antitrust initiatives. And——

Chair KLOBUCHAR. And I assume you've read Senator Booker's book, as well, and——

Professor ALFORD. I've read that. And——

Chair KLOBUCHAR [continuing]. Senator Lee's book, what happens——

Senator BOOKER. That was the most obsequious comment I've heard in 10 years as a Senator.

[Laughter.]

Professor ALFORD. And Senator Hawley's book, as well.

Senator BOOKER. Just want to mark my protest.

Chair KLOBUCHAR. And Senator Hirono's book.

[Laughter.]

Professor ALFORD. So I'm a conservative antitrust scholar and former deputy assistant attorney general in the previous administration, and I'm here today to speak in support of the AMERICA Act.

Let me begin by saying that everything about online display advertising is enormous. According to the DOJ's complaint filed in January of this year, publishers sell more than 13 billion advertisements every day. The daily volume of digital display advertise-

ments grossly outnumbers by several multiples the average number of stocks traded each day on the New York Stock Exchange.

Not only is the volume staggering, the margins are also staggering. While the New York Stock Exchange, as Dina just mentioned, makes less than 1 percent, less than \$5 on a \$100,000 stock trade, Google intermediaries make approximately 40 percent, or \$40,000, compared to the NYSE's \$5 on a \$100,000 ad campaign.

As a result of Google's revenue, it makes approximately \$280 billion a year, or \$767 million a day. It makes more revenue from ads in 1 week than Twitter makes in a year.

A third aspect about online advertising that it's enormous is the enormity of the problem. It is almost completely unregulated market, with neither litigation nor legislation curbing the harmful conduct. Nearly identical practices in financial markets would result in severe fines and even criminal sanctions in the case of insider trading, but are completely unregulated here.

Just as insider trading in the early 20th century was commonplace, according to one commentator historian, taken as a matter of course without indignation, without even a passing comment in the early 20th century, today we have the exact same problem in the display advertising markets. Google makes billions in revenue from its dominance at every level of the ad tech stack.

Some will tell you that these markets are competitive because they are vertically integrated. But vertical integration can be beneficial if it eliminates double marginalization. Here, Google is enhancing triple marginalization with high margins on the sell side, high margins on the buy side, and high margins on the exchange in the middle.

As introduced, the AMERICA Act prohibits entities with significant digital advertising revenue, only the largest of the large advertising players, from owning and operating entities across the ad tech stack.

In the digital ad tech market, there are several advantages to structural separation. Let me offer just a few.

First, structural separation recognizes the limits of regulatory behavioral remedies that are difficult to devise, implement, monitor, and enforce. The same reasons they prefer structural remedies in merger review is the same reason that it's important here.

Second, structural separation eliminates or minimizes the conflicts of interest, as Dina just mentioned.

Third, structural separation eliminates or reduces the risk of cross subsidizing and steering—steering products and services to your preferred exchange, rather than to a more competitive exchange.

Fourth, structural separation improves transparency and information flows.

And fifth, structural separation eliminates or reduces incentives to restrict competition.

Finally, let me close by emphasizing why conservatives should support the AMERICA Act. I want to emphasize that the legislation is consistent with conservative antitrust values, and the list of Co-Sponsors that have been garnered already just in this early stages of the bill underscores that point.

While litigation is appropriate to curb Big Tech abuse of power, it is not sufficient. I obviously am a strong supporter of litigation. I'm involved in the case brought by Texas against Google, but it is not enough. Attorney General William Barr, in his memoirs, has a whole chapter on Big Tech. And there are two reasons, according to Attorney General Barr, why targeted regulation of Big Tech is important as a complement to antitrust litigation.

And again, remember, this is after having brought the search case against Google and recommending the ad tech case. So according to Attorney General Barr, these markets have powerful network effects, prone to monopolization, and second, they impact not just competition, but the collection of personal data and the free flow of information.

According to his memoirs, let me just quote, "I have natural reservations about imposing a regulatory framework on market activities, as most conservatives do, but the reality is that some markets and market conditions require a degree of regulatory intervention. In this case of Big Tech's major platforms, it is hard to see how the challenges they pose to competition, privacy, and the free flow of information can be addressed in the absence of a regulatory framework."

I look forward to taking your questions. Thank you.

[The prepared statement of Professor Alford appears as a submission for the record.]

Chair KLOBUCHAR. Thank you, very much, for those startling statistics, Professor. Thank you. Next up, Barry Lynn.

STATEMENT OF BARRY C. LYNN, EXECUTIVE DIRECTOR AND CHIEF EXECUTIVE OFFICER, OPEN MARKETS INSTITUTE, WASHINGTON, DC

Mr. LYNN. Chair Klobuchar, Ranking Member Lee, Members of the Subcommittee, thank you for inviting me to speak on this extremely important topic. It's good to see you all, again. The AMERICA Act is a very smart idea that would do much to properly structure a market for online advertising.

We at Open Markets strongly support this idea and commend Senator Lee for working to restore traditional common-sense regulation, and to ensure transparency and eliminate conflicts of interest.

Open Markets also supports the ideas behind the America Innovation and Choice Online Act and the Journalism Competition and Preservation Act.

We view these as vital also to rebuilding a more competitive and open internet and more democratic markets for news and debate. That said, we do not believe these ideas, even taken together, are sufficient to address the full array of threats posed by the power and control concentrated in Google, Facebook, Amazon, and Microsoft.

None, for instance, addresses the power of the middlemen to manipulate what citizens read or whether they read at all. Consider Facebook's dramatic reason shift from news to video. None deals with the use of platforms to censor and manipulate debate. Consider Elon Musk's seizure of Twitter and his gleeful use of that platform to silence critics.

None deals with the routine extortion by these gatekeepers of every company and individual who depends on them to get to market a form of theft that is often booked as advertising.

The people in this room and the wider community fighting to protect democracy from monopoly have made great advances these last 7 years in understanding the nature of the threats posed by monopoly power and control, and the source of monopoly, and the ideas of Robert Bork and his allies in building enforcement capacity, and the ability to cooperate across the aisle, and bringing lawsuits to limit the powers of these corporations.

But the time has come to admit one big failure, which is, to recognize that corporations like Google and Amazon have today become essential infrastructure for communications and commerce. This failure has allowed these corporations to develop business models based on forcing users to pay them to open the gates to the market for goods, for news, for ideas.

In short, we allowed these corporations to develop forms of political power that are overtly autocratic in nature and that pose far graver threats to democracy and liberty than any plutocrats of the gilded age.

That's why Open Markets believe it is so critical that enforcers in Congress move now to impose a system of non-discrimination on these gatekeepers, one that will require them to provide essentially the same service to every individual and business who depends on them.

This principle of absolute equality of treatment traces to the Declaration of Independence. It is a core goal of the Constitution. It is the practical foundation for how Americans regulated every network, monopoly, and other powerful gatekeeper throughout our history.

Senator Sherman, in a speech backing the bill that bears his name, explained why: It is the right of every man to work, labor, and produce in any lawful vocation, and to transport his production on equal terms and conditions and under like circumstances.

This is industrial liberty and lies at the foundation of the equality of all rights and privileges. But in the 1980s and 1990s, Bork and other radical pro-monopoly actors, overturned these principles.

Today we face the consequences. And now, the reckless and chaotic imposition of generative AI by Google and Microsoft threatens to make these threats worse.

The good news is, we have an almost all-purpose solution. One the American people has proven time and again in use on technology after technology, the railroad, the telegraph, electricity, broadcast, the internet itself.

In November 2017, Senator Franken, when he was a Member of this Committee, pointed in the right direction: "As tech giants become a new kind of internet gatekeeper," he said, "I believe a basic principle should apply here. No one company should have the power to pick and choose which content reaches consumers and which doesn't."

The time has come to take up Senator Franken's mission and finish the job of making Google, Facebook, and Amazon safe for American democracy and American liberty.

[The prepared statement of Mr. Lynn appears as a submission for the record.]

Chair KLOBUCHAR. Thank you, very much, Mr. Lynn. Mr. Kint?

**STATEMENT OF JASON KINT, CHIEF EXECUTIVE OFFICER,
DIGITAL CONTENT NEXT, NEW YORK, NEW YORK**

Mr. KINT. Thank you, Madam Chair, Ranking Member Lee, and Senators. My name is Jason Kint. I'm the CEO of Digital Content Next. DCN is the only trade organization dedicated to serving high-quality digital content companies that manage trusted direct relationships with both consumers and advertisers.

Our membership includes more than 60 media companies and thousands of brands from every segment of the market, from large to mid-size companies, some who have been around just less than a decade, others for more than a century, all creating original news and entertainment over the internet.

Our members include The New York Times, Wall Street Journal, Washington Post, Disney, Paramount, Philadelphia Inquirer, Vox Media Group, The Daily Caller, The Financial Times, among others.

As background, I spent my first 20 years of my career running major digital media businesses, beginning with the very advent of the web in the early 1990s.

Our DCN members create trusted original content funded primarily through advertising.

Yet, while advertising is woven into everyone's digital lives, most people have only a vague idea of how it works, including how closely its plumbing has evolved to resemble a stock exchange.

In barely three decades, digital advertising has quickly evolved into a high-speed marketplace in which a variety of pricing, placement, targeting, and auction levers are pulled in milliseconds as we go about our digital and physical lives.

This is now the largest advertising market, trading at more than \$200 billion of advertising per year in the U.S., executed in real time entirely by machines.

And, like in the financial markets, brokers buy or sell on behalf of clients. To guard against fraud in the stock exchange, Congress enacted common-sense rules nearly a century ago. These rules prohibit the biggest companies from operating on both sides of the market. These rules also require transparency and impose a duty on brokers to get the best deal for their client.

In short, these are rules that every American can understand and support. Unfortunately, there are no common-sense rules in the digital advertising marketplace. As a result, the supply chain is murky and rampant with fraud, insider trading, and hidden fees. Ad tech companies often arbitrage over users' data to use on behalf of other clients or for their own profits.

Google, the most dominant company in the digital ad marketplace, enjoys a stranglehold over the entire supply chain since they offer the most popular software for advertisers to buy ads, for publishers to sell ads, and the most dominant exchange where bids are placed and winners are chosen.

Google's dominant position is so problematic that a group of bipartisan State attorneys general have filed suit to end the monopoly.

And earlier this year, the Biden administration's Department of Justice filed a similar suit, which was the result of an investigation by the Trump administration.

Perhaps the best illustration of Google's dominant position was the quote that's been mentioned in Government suits. Yes, a Google executive said the analogy would be if Goldman owned the stock exchange. I kid you not.

How that plays out in reality, in the lawsuit allegations and industry conversations, is when Google tells a publisher that, "Hey, if you want to have access to all this advertising demand over here that's your lifeblood, then you also have to give me access to all your user data and your browsing history across the website," a.k.a., "tying."

Digital advertising is a critical driver for our economy. That's why DCN wholeheartedly supports the AMERICA Act, which was introduced by Senator Lee and co-sponsored by many of the Senators mentioned. The bill would require transparency, promote competition, reduce obvious conflicts of interests, and stop market abuses by the most dominant companies.

The bill lays out basic common-sense rules for the digital advertising marketplace that, once again, all Americans can understand and support.

Ultimately, the focus of the discussion around this legislation will be the breaking up of Google. That will be the headline. Don't get me wrong, it's certainly a necessary and good idea.

But there will be also some who argue, "Why not just let the courts, let the antitrust lawsuits first follow through before we pass new laws?" Well, I have two reasons.

First, as it relates to Google, we don't have time for a long appeal process as they've increasingly sucked the oxygen and the potential for profits out of the news media industry.

Second, the legislation isn't merely about the behemoth. It also importantly addresses transparency and eliminates conflicts of interest for even the middle-sized ad tech companies, so that all brokers have to serve their clients' interests. By lowering costs for publishers and advertisers, the AMERICA Act will also lower costs for consumers, and it will help protect consumers' privacy.

As Senator Lee previously said, "This is not a bill that's either liberal or conservative. It's not Republican or Democratic. This is just a good business process bill."

We agree wholeheartedly. We applaud your work on behalf of the free and local press, small and large, old and new. Thank you for inviting me here to testify today. I look forward to answering any questions you have.

[The prepared statement of Mr. Kint appears as a submission for the record.]

Chair KLOBUCHAR. Very good, thank you. Professor Henderson?

**STATEMENT OF TODD HENDERSON, PROFESSOR OF LAW,
UNIVERSITY OF CHICAGO, CHICAGO, ILLINOIS**

Professor HENDERSON. Thank you for having me. It's a great honor to be here. I have three points to make for the Subcommittee today.

First, monopolistic markets are associated with rising prices and restricted output, but digital advertising has, in recent years, demonstrated the opposite, with ads becoming cheaper and more effective.

Second, ads are not stocks, and any claim that they should be regulated the way stocks are is based on a fundamental misunderstanding of how securities regulation works and why it exists.

Third, the divestiture portion of the Act may have perverse effects on competition and innovation. Congress should carefully consider what this market would look like if this bill is passed.

First, let me talk about the market for open display ads, which, it's worth noting, is a small part of the online ad market, which is, in turn, just a small part of the overall ad market, which is just an even smaller part of the overall marketing budget.

Senator Klobuchar mentioned \$55 billion for Google. That's a giant number. That's all of their ads, which include search and other things. The open display portion, which is what the AMERICA Act is about, is much, much smaller. I think it's about \$7 billion.

This market is dominated by a couple of big firms, Google and Facebook. But as Senator Lee has repeatedly warned, big is not necessarily bad. We have to understand why and what harms, if any, flow from bigness. Importantly, these intermediaries are vertically integrated and operate in two-sided markets, and they're trying to optimize across that entire operation of advertisers and publishers.

I understand why The Washington Post is upset that 50 percent of—they see a 50-percent reduction in their ad revenues, but there's advertisers and consumers on the other side. One has to think about the net effects on all sides of that market. When you do that, you can see in the last couple of decades, just in the last 10 years, digital ad spending has grown about 20 percent per year on average, and prices have fallen 4 percent per year on average.

These are consistent with a highly competitive market, and as the UK Competition Authority found, the 30 percent number or 70 percent number that Senator Klobuchar mentioned, Google's was at the industry average. The evidence needed for a massive remaking of a giant industry should be compelling and overwhelming, not based on anecdotes and hypotheticals.

Let me talk about the analogy to stock markets. The logic is simple, and we just heard it from Mr. Kint. Google should be barred from acting as a broker on its own exchange, just as Goldman Sachs is prohibited from owning the exchange on which stocks are traded. But this is factually false. Goldman Sachs does not own the New York Stock Exchange, but it does own a different exchange called SIGMA X.

If your broker recommends you buy a company's stock and you accept their recommendation, that broker can route your stock trade to the New York Stock Exchange, they can route it to their

own wholly owned exchange, SIGMA X. Or, even more remarkably, they could fill your order from their own inventory. About half of stocks are traded in venues owned by stockbrokers.

It's because of the lack of physical separation in stock markets that the SEC has adopted the best-interest rule. That's Rule 611 of the National Market Securities Rule passed in 2005. It's worth noting that, notwithstanding the fact that this has been a rule since 2005, it has required a massive bureaucracy inside of firms and in the Government to try to enforce it.

And yet only 43 percent of trades happen at the national bid offer price, which is the best-price rule. In fact, exchanges market to their customers tools that allow them to sell at something less than the bid ask, the national best price. So, invoking this in stock markets, is one thing where there is one price for Google, and that price is the same for every person on planet Earth at a particular time.

In contrast, in the ad markets, every ad, at every second, on every webpage, for every different person, is priced differently. Ensuring that stock market trading is fair is a monumental task for regulators. Doing this for online ads is unimaginable.

There's a bigger issue with the analogy. We have aggressive regulation of stocks because they are—the importance of stock prices to consumers and—stock markets are the nerve center of the capitalist economy. Stocks are the largest source of savings for individual Americans. And while advertising is important, it plays nothing like the role stocks do in our society.

The stock market, by the way, is also 700 times bigger than the online ad market—700 times bigger.

The last thing, and I have to close, I'm running out of time, is the net effect of this bill on competition might be really perverse. Amazon is building its own business internally. They did this and routed trades through Google. Once it got big enough, they stopped doing that because they built a rival business that was important.

Walmart and Target are doing the same thing. If you make it such that once you get to a certain size, then you have basically got to get rid of that business, you're going to impede companies from trying to build their own internal improvements. I'll close there.

I'll just say, I like the transparency aspect of this bill, and if my vote mattered, I would vote for that. The other parts are more troubling to me. Thank you.

[The prepared statement of Professor Henderson appears as a submission for the record.]

Chair KLOBUCHAR. Okay, thank you, very much. I'll get started. And I want to thank Senator Tillis and Senator Blumenthal for being here. And Senator Blumenthal, we mentioned your leadership on the App Store bill. Thank you.

As the daughter of a newspaperman, I have watched closely as local journalism has seen its content and ad revenue siphoned off by digital platforms like Google and Facebook. You mentioned this, Mr. Kint. How has Google leveraged its monopoly power to squeeze publishers like local newspapers out of ad revenue that they would receive if there was a competitive market?

Mr. KINT. Over time, Google and Facebook, in particular, have absorbed most of the internal growth in the industry, and they've done that by pervasive collection of data across the web.

Google has tags, and pixels, and listening devices basically on nearly 80 percent of the top one million websites.

Facebook does across 8 million plus websites, according to regulator data and research. So they're collecting and mining data across the web and using that to generate the most profits possible because they dominate the supply chain.

Chair KLOBUCHAR. Mm-hmm. From your perspective working directly with publishers, what are the biggest threats to publishers from a few tech giants controlling almost every aspect of the tech ecosystem? How are you addressing those threats?

Mr. KINT. Well, antitrust is, you know, key to us because most of the downstream harms that we've seen, whether it be, you know, lower quality content, disinformation, not being able to fund journalism in newsrooms, data abuse, concerns about censorship, and the way—those are all downstream harms from what's upstream, which is, you know, a perverse amount of market power by just a couple of companies.

And so anything in the area of antitrust or data protection that actually aligns the consumer's interests with the content and the news entertainment that they actually want to consume is very valuable.

Other legislation, like what you're working on with the JCPA, where there's a duty then to correct imbalances in bargain power, is also very important to the future.

Chair KLOBUCHAR. Okay, thank you. One of the concerns that we have discussed here, and I've heard from both publishers as well as advertisers, is that there's no way to verify limited data that Google and Facebook provide about where ads are shown, to whom, and for what price. Even you, Professor Henderson, that doesn't agree with this bill, have noted that transparency is a good thing.

One example of this, Facebook was sued by advertisers in 2018 for lying about how many people an ad could reach. What information about ads do you think should be provided to advertisers and publishers by ad platforms? And the secondary question, how has a lack of competition empowered Google and Facebook to limit transparency?

So why don't you get at that? Because I believe that this bill would help give advertisers greater insight into what's going on and whether their digital ad campaigns are even effective. It's hard to know. So anyone want to take any bit of that, about what information you think it should be provided, and also what we could do better?

Ms. SRINIVASAN. Sure. Thanks, Senator. One thing that Professor Henderson mentioned, and this is sort of thrown around a lot, is that the price of ads has just gone down. So, you know, nothing to see here, folks.

One of the things that the bill does which I think is great is, is it requires brokers to disclose certain information to advertisers. And that information will allow them to audit whether what they're buying is good quality or whether what they're buying is bad quality.

And so, one of the things that might happen is, finally, we'll be able to actually measure whether, in fact, the effective price of ads is going down or whether it's going up.

Chair KLOBUCHAR. Mm-hmm.

Professor ALFORD. Can I just add one other small comment? And that is that, you know, you would think the publishers and the advertisers would both know what the price was for the impression that was sold. The advertisers know what they paid, the publishers know what they received, but neither the publisher nor the advertiser know what the costs in the middle were.

And so there's a disjunction of knowledge about what publishers received and what advertisers paid, because these intermediary margins are really, really large—

Chair KLOBUCHAR. Mm-hmm.

Professor ALFORD [continuing]. And it would be like having a stock trade without knowing what the price—the ultimate price was, or a sale of a home without a closing sheet. And so that's a very simple example of transparency.

Chair KLOBUCHAR. Mr. Lynn?

Mr. LYNN. Yes, thank you. In an earlier life I ran a magazine called Global Business. It was a 100,000-circulation business—I mean, magazine. It was four-color, perfect-bound, 96-page monthly magazine. We lived 100 percent off of advertising.

One of the things that we did in this, very—this period a long time ago is, we spent about 7 percent of our revenue every year sort of auditing our readership to make sure that advertisers understood exactly who they were getting and how they're getting it.

That was a long time ago. That was essentially before the internet. I would say that advertisers back then were better served than they are right now.

Chair KLOBUCHAR. Okay. Very good.

Professor HENDERSON. Just—oh, go ahead.

Chair KLOBUCHAR. No, go—

Professor HENDERSON. No, please—

Chair KLOBUCHAR [continuing]. Professor Henderson. I'll go back to—I've one last question our colleagues have to—

Professor HENDERSON. Okay. I just want to add, I said it was for transparency, and I think that's fine. I think Louis Brandeis said it well, like, you know, shine a light on things, as you said, Senator Klobuchar, when we started. I should note, though, that's a little bit misleading, because, as I mentioned, Google, the UK Market Authority found that Google's rate that they charge is in line with their competitors.

And if nobody had any idea how much these intermediaries were taking, they would have incentives to jack—you know, Google could get away with charging anything because nobody knows what they're charging. They're charging a market rate, the market rate of their competitors.

And I'll note that the average large publisher will use six different ad platforms in a year, and the average advertiser will use three different platforms. So it's not like this is the only game in town. And if Google is fleecing everybody—I'm from the University of Chicago, so I'm contractually obligated to say that I believe in markets.

And if the Google was absolutely fleecing people, given that the average person uses six or three or six different other alternatives, they would be taking their business to those places. Now, if they are, as you said Senator, committing fraud by deliberately misleading people, then we should have no tolerance for that.

Chair KLOBUCHAR. Okay.

Professor HENDERSON [continuing]. We should go after them. But the threshold for breaking them up, I think, should be a lot higher than that.

Chair KLOBUCHAR. Okay, Mr. Kint. You want to respond?

Mr. KINT. I was just going to say that, you know, I heard the point earlier from Professor Henderson why, you know, stocks are different than advertising. I don't think we're arguing they're the same thing. But advertising in digital is a high volume. We heard the numbers from Roger that, you know, the volume of advertising impressions per day at that rate, the average ad translates to about less than a penny per advertising. That's ripe for fraud.

Those are the types of markets, large volume, low price. A CEO of an ad tech company recently told me that Google and the trade desk are non-transparent black holes. Nobody has any clue what's going on inside them. So we need to actually have some transparency, because the way it translates——

Chair KLOBUCHAR. Okay.

Mr. KINT [continuing]. Is that local publisher gets a check every month from Google, and they have no idea what's behind it.

Chair KLOBUCHAR. Okay. One last example I want to use of my own experience with this, and why I know that they have info and they're targeting people.

One of the ways that Google is able to leverage its market power to disadvantage its competitors is by drawing on that vast amount of personal data it has on people, as well as the lack of any Federal privacy legislation to limit how it can use the data. So you have this twofer problem.

So I wanted to show this ad, only because—so this is a pop-up ad against the self-preferencing bill. Okay. And I only find it funny because I do want to thank the lawyers of Google who put that little “could” in there.

[Laughter.]

Chair KLOBUCHAR [continuing]. So it says, “Senator Klobuchar”——

[Poster is displayed.]

Chair KLOBUCHAR [continuing]. With the little—my colleagues will enjoy this—“could break Google Maps.” Okay?

[Laughter.]

Chair KLOBUCHAR. This gives me a lot of power. Senator Lee, go ahead.

Senator LEE. Just the context throws me.

[Laughter.]

Chair KLOBUCHAR. I know.

Senator LEE. You don't want it to suggest you could break, that's not—that's not the message——

Chair KLOBUCHAR. Well, I—that's exactly—I do wonder about it. And if we want to look at the other ones and show these—I'm going

to get to the punchline in a minute. These are harder to see, but these went all over the place.

[Poster is displayed.]

Chair KLOBUCHAR. That I would “erase Amazon Basics” and that I would “break”—this one is interesting—“could”—another “could”—little “could”—“could break FaceTime.”

Okay, so who saw these? Members of Congress saw these. So these were targeted in Washington, DC, for Members of Congress when they were home, against the bill. And this is part of the over-\$200 million advertising campaign put forth by Chamber of Progress, or as I call them, Chamber of Lack of Progress—

[Laughter.]

Chair KLOBUCHAR [continuing]. Which is the Big Tech companies’ front group.

And so—but what is interesting to me is, I heard about these ads from who? Other Members of Congress. They were targeted, so they saw them. I’m not going to put their names forward on this thing, but I had multiple calls by Members of Congress.

So I guess I would ask you, Ms. Srinivasan, if that surprises you, that they would be able to have this data to target people so they scare them from supporting our bills because they don’t want to have these really scary ads that they’re breaking into be put up on sites where people are just looking up TV shows like I was doing. Okay, go ahead.

Ms. SRINIVASAN. It doesn’t surprise me. When Google bought DoubleClick way back when, one of the things that it promised to do was to keep customers data separate. Of course, it purchased DoubleClick, and then after it gained market power, it started to use that information.

And it can use that information now for different trading purposes, whether it’s to hyper-target ads like that, that is data that’s originated on the publisher side, on the seller side, that Google is gaining by virtue of its position as publisher’s broker. And now it’s using it on the other side to target ads and to inflate its trading revenue. And so that’s one of the things that this bill would target and prohibit.

Chair KLOBUCHAR. Exactly. And of course, the ultimate interesting part is, they’re using it to target people on a bill, using their own monopoly power to target a bill that tries to do something about their monopoly power. So I just think it shows what we’re up against, but it also has to be revealed to the public. So with that, I’m going to turn over to Senator Lee.

Senator LEE. Thank you. Ms. Srinivasan, let’s start with you.

You’ve looked at the ad tech industry from multiple angles. You’ve looked at it from the inside, as within an ad tech company, and you’ve also looked at it from the outside, as a legal scholar. And—so Ms. Srinivasan, in your assessment, what are the biggest harms to competition that we currently face in digital advertising? And do you think the AMERICA Act would be effective in addressing those harms?

Ms. SRINIVASAN. I do think the AMERICA Act would be effective. Based on my research and studies, I’m not aware of any exchange market that is vertically integrated the way ads are. The biggest problem, to answer your question directly, is that they’re not self-

managing conflicts of interest and there's very little transparency in the market.

And so we don't know whether prices are going down, whether prices are going up, whether what I bought was good, whether it's fraudulent, whether it existed, whether it didn't exist. And the bill addresses all of those problems.

Senator LEE. Thank you. Mr. Alford, sometimes we expect vertical integration, in most markets, in fact, to create some efficiencies—some efficiencies that can end up benefiting consumers, enhancing consumer welfare. But it's not always the case. Is it? I mean, when there are substantial barriers to entry, and/or when there are switching costs, it can also lead to foreclosure that keeps out new competition, and either entrenches or expands monopoly power.

How has this worked out in ad tech? Is it more what we would expect in some industries where it increases efficiencies, or is—we have substantial barriers and switching costs leading to foreclosure?

Professor ALFORD. Yes, thank you for the question. So yes, the prevailing wisdom about vertical integration is that it's beneficial because you eliminate double marginalization. You don't—the wholesaler takes one profit margin, then the retailer takes another profit margin, and you eliminate that if there's vertical integration.

But of course, that's assuming you're all on one side. Right? In this situation, we're talking about vertical integration, as Dina just mentioned, in an auction on both sides across the spectrum. And in that situation, you have the ability to arbitrage your fees. And basically, where there's competition in different segments of the stack, you can lower your prices, and where there's not competition, you can raise your prices.

Todd Henderson calls it subsidization, but it's really arbitraging and recoupment, not in a future time, but actually in present time, just in a different segment of the stack. And so you have massive conflicts of interest.

Imagine the buyer trying to get the best price at the—I mean, the best quality product at the lowest price, and the seller trying to get the highest price. And they're calling that vertical integration. That's just not the way that you typically think of exchange markets working.

Senator LEE. Mr. Kint, what are the challenges that publishers face in their unique world? The vicissitudes of that business are somewhat unique. What do they face when it comes to navigating the digital advertising ecosystem?

Mr. KINT. I think the, you know, the primary challenge is the scale that comes with Google and Facebook and the lack of transparency into the supply chain, coupled with—you've got the scale that makes it really easy to buy, coupled with this pervasive collection of data in which an individual publisher can't compete.

I think one of the things that people often miss is that Google and Facebook, according to the regular report that Professor Henderson keeps referencing, which was quite damning for Google and Facebook, by the way—it also concluded that most of Google and Facebook's data actually doesn't come from people using their products. It comes from third parties when people are actually choosing

to use other products. And so that underlying collection of data is a way that an individual publisher can't compete.

Senator LEE. Now one tech firm—as we were preparing for this hearing and talking about this bill, one tech firm told my office that separating the buy side from the sell side of the ad tech business to eliminate conflicts of interest could actually cause publishers to pay more. Do you share this concern, and what's your assessment of it?

Mr. KINT. No, I think that word, “could,” is being placed again in a very operative way. You know, ultimately, I mean, that's why the second tier in the legislation is so important, the best-interest and best-execution obligation, because it aligns then the interest with the principal on the end. And so that will ultimately drive down price with competition.

And, you know, the idea that by having a single company that controls the entire supply chain that has a duty to maximize—it's not even just Google. The entire ad tech landscape are for-profit companies trying to extract as much value out of that supply chain from the consumer, and publisher, and the advertiser on the endpoints. And so having actual competition and best-interest obligations is a huge win.

Senator LEE. Okay. On that topic of collecting data on lots of people, Ms. Srinivasan, I've heard allegations suggesting that Google cuts off publishers who don't consent to having Google collect data on their web visitors, their visitors to their websites. How would the AMERICA Act address that problem?

Ms. SRINIVASAN. Currently, publishers don't really have a choice when they're using an intermediary on the sell side. Google's intermediary on the sell side has over 90 percent share of the market, and that's why it's being sued by so many State attorneys general and the Department of Justice.

So what the bill does basically is, it will create competition, both on the sell side and on the buy side, and then the exchanges in the middle. And that competition will cause firms to enter that offer better terms with respect to data. They'll start competing to offer better privacy and better terms.

Senator LEE. So would it be fair to say that, you know, perhaps counterintuitively, or it's not necessarily obvious to someone looking casually at this legislation, you could end up—through this bill that focuses on competition policy, you could end up enhancing the privacy interests, the ability of consumers to protect their own privacy, the ability of people who operate one website or another, to protect the privacy of those who visit their websites. Is that fair to say?

Ms. SRINIVASAN. Absolutely. I would expect it to have that immediate effect.

Senator LEE. Okay. I see my time's expired. Thank you, Madam Chair.

Chair KLOBUCHAR. Okay, very good. Good questions. Thank you, Senator Lee. Senator Hirono.

Senator HIRONO. Don't you love antitrust? You say, “What?”

Chair KLOBUCHAR. No, it's great. Go ahead.

Senator HIRONO. Thank you for holding this hearing. So, I heard you say, Professor Alford, that vertical integration, when we're

talking about the digital advertising, is not how we usually think about vertical integration in the, say, in the antitrust case where the refinery owns the gas stations. So that's so much easier to understand than vertical integration, if there's such a thing even, in the digital space. Can you explain a little bit more why there's such a tremendous conflict and what's going on in digital advertising?

Professor ALFORD. Sure. Yes, happy to do that. Thank you for the question. So again, this is a situation where you have multiple monopoly practices going on. You have unbelievable power with respect to the information that is provided to make the ads targeted advertisements. You have monopoly power with respect to the publisher side.

So if you're going to try to offer your services, a publisher has to pretty much use a Google broker.

And then you have extraordinarily high shares in the exchange in the middle, and then you also have just unbelievable power on the buy side, on the advertiser side.

And then above and beyond all of that, then you have their own owned-and-operated products, like Search and like YouTube, where, if you want to use YouTube and do digital advertisements on YouTube, you have to use Google broker products.

And so, as a result of that, because of the multiple layers of control that they have, they can basically steer people to Google products, and they can charge prices across the stack to their advantage.

And equally important, they can use information over here, and take that information and use it over here, and basically arbitrage the information and the price that they're going to adjust.

So it's not just insider trading where they're using it for their own advantage. They're using that inside information for the opposite side of the transaction's advantage. And so it's a really, really unusual environment, and we just don't see that in auction markets.

Can I also make one final comment in responding to Todd Henderson? He says, "Well, it can't be that big a problem because prices are declining." Well, he's assuming that it's only monopolization on the sell side, but obviously you can have a monopoly on the buy side. That's called monopsony power. And if you have all the power on the buy side, then the result, you would think, would be prices are going to be reduced.

And we see that with the DOJ's challenge to the Penguin merger. There was a concern about monopsony power. Just because prices go down, if you're the buyer, that's exactly what you want as a monopoly.

Senator HIRONO. So I'm assuming that the rest of you agree that the way the professor is describing what's going on in digital advertising, that this kind of complexity where so much of what happens is owned by—is controlled by entities like Google and Facebook, do you agree that that's a pretty good description of what goes on? Yes. What does the—

Professor HENDERSON. I don't agree, but—

Senator HIRONO. You don't?

Professor HENDERSON. Well, let me just—I just want to respond very quickly to two things that were said. So first of all, Ms.

Srinivasan said there is no market with this vertical integration. As I mentioned in my opening remarks, this is the stock exchange. It has the same features. Goldman Sachs represents buyers. It represents sellers. It owns exchanges where things are traded. I have a paper that I've submitted to the Committee that's 54 pages that lays this out in detail. So you can take a look and see if I'm right or not.

One other thing to respond to Professor Alford, yes, this market seems strange because it has this vertical integration. It's not just about double margins on both sides. It's about economies of scale and network effects—

Senator HIRONO. Professor Henderson—

Professor HENDERSON [continuing]. If you were building an ad market from the ground up, you would make it centralized.

Senator HIRONO [continuing]. I am not looking for a debate among our—the people testifying. I'm trying to clarify some things in my own mind. I understand that you have a very different perspective of what needs to happen.

So, for—okay, I have a question for Ms. Srinivasan. There was a non-profit last year called the Center for Intimacy Justice, and they released a report alleging that Meta was systematically blocking advertisements about women's healthcare products on its platforms because it was classifying them as, quote, unquote, "adult content." If there were many different digital advertisers, that would be less problematic. But Meta is a dominant player.

So for Ms. Srinivasan, you've highlighted a number of problems with the dominance of a few platforms. What do you think about the idea that these platforms are gatekeepers of their advertising—of advertising, who can decide what kinds of ads can be placed on their platforms? And will the AMERICA Act prevent that sort of thing from happening?

Ms. SRINIVASAN. Thank you for the question. You know, I guess we see—it's a simple answer, but basically when we have more competition, two things happen. You have competition on price, and you have competition on terms and conditions.

And so if we fix competition, we would expect firms to start competing to be more intelligent about these types of decision-making that could be sloppy. So yes, I would expect the Act to address and fix that problem.

Senator HIRONO. Thank you.

Chair KLOBUCHAR. Thank you, very much, Senator Hirono. Senator Blumenthal.

Senator BLUMENTHAL. Thank you, Senator Klobuchar. Thanks for this really important and informative hearing, and to the Ranking Member, as well. I support all three bills that are before us today, and an additional bill, the Open Apps Market Act. I want to thank all of you, particularly Ms. Srinivasan from Yale, for being here today.

And you have highlighted what I think is a central challenge here in your testimony, how to go from the abstract to the real—not just in this hearing room, but for the American public. Because there is a fundamental difference between what's happening here and the stock exchange, which is, people make or lose money every day.

And they watch what's happening on the stock exchanges, and it's sometimes confusing, and frustrating, and enraging, but they have tangible results. And I think the challenge here is to go from that abstract to what in real life makes a difference for them.

Because Senator Lee has said that, and I have said that, this 40 percent that's added by Google and others, that's a tax. That's money that they should know is added somehow to their bill. How do we inform them?

And Ms. Srinivasan, you've written about the hidden fees and the opaque financial practices. How do we make clear to them that their newspapers are going under? The New Haven Register, and The Hartford Courant have been hit hard by these online advertising practices. It makes a difference in their lives.

And I know this is not in your job description, but it is our challenge in trying to pass this legislation, which all of you agreed meets a problem that we need to address. So I'll just throw that open-ended question to you.

Ms. SRINIVASAN. I think one of the best things that this bill does is it just shines a lot of sunlight on what's happening in the middle. So one of the problems today is that, if I'm an advertiser in Connecticut and I buy an ad from Google's broker, from Google's exchange, often I don't even know where that ad ended up.

So I don't know if it ended up on The Hartford Courant, or I don't know if it ended up on, you know, a Russian website that is not—that I don't need to advertise my products to. And so one of the things that it does is it requires disclosure so that advertisers can know what they're buying.

Another thing that it does, with respect to transparency, is it forces the brokers on each side to actually tell their customers what bids they submitted and what the bids cleared for. So today, The Hartford Courant might use a broker to sell ads, and those ads might sell at let's say, at \$20 cost per thousand, and The Hartford Courant might get a \$2 cost per thousand, and might not even know that that's what the advertiser paid, or what the delta in the middle was.

And so the transparency section of the bill requires disclosure about basic things, like price bids and what was sold. And that itself should reduce a lot of fraud and generate a lot of competition.

Senator BLUMENTHAL. Thank you. Others? Mr. Lynn?

Mr. LYNN. Yes, I think there's a—there's a reason I brought—one of the reasons I brought up discrimination—price discrimination is because in many ways the problems that have been so well-described thus far, they're actually worse than we understand. Which is, in this system there is no pricing.

When you have a monopoly and when one actor in the system has all of the power, has all of the data, has a specific relationship with each actor, none of the pricing is being set within a marketplace. It is being set between the master and the subject. So the problem is actually vastly graver because we can't even measure the economic harms that we're dealing with here.

Senator BLUMENTHAL. Thank you, all. This is a topic which really deserves a lot more—a lot more explanation and exploration, and my time has expired. But thanks, again, to Senator Klobuchar for all her work—very thoughtful work on this issue.

Chair KLOBUCHAR. Thank you. Senator Lee and I were amused as you and Dina were geeking out on Connecticut with the Yale and Hartford references, noted by Professor Henderson, as well, I note—the rivalry, you know. Okay. Senator Lee.

Senator LEE. I mean, the University of Chicago is close to your home State, and it is your alma mater. I'm sure it's littered with monuments, statues, and plaques honoring Senator Klobuchar.

[Laughter.]

Senator LEE. Mr. Alford, what does antitrust law have to say about when under what circumstances, divestiture, or structural separation is an appropriate remedy for anticompetitive conduct?

Professor ALFORD. Yes, thank you for the question. So obviously, divestiture is a preferred approach with respect to any sort of merger analysis. Administrations on Republican side and on Democratic side preferred divestiture because it's so much easier to monitor and to avoid these sorts of conflicts of interest and to promote effective competition.

Divestiture is also a common remedy that occurs in the antitrust context. There are lots of examples—famous examples of divestiture that occur in the litigation context. Of course, with respect to the ad tech litigation right now brought by the Department of Justice and by the different State AGs, they're all requesting divestiture as a result of the misconduct of Google.

If I can comment on Professor Henderson's comment that divestiture is inappropriate here, he says two things that I think need to be clarified.

One is, Goldman Sachs can own the dark web exchange, but that is in the backdrop of regulatory limitations. Right? He mentioned transparency, but obviously the best-interest duty and all the other sort of duties that would apply.

So it's almost like he's saying, "I'm fine with everything else about the bill except for the divestiture component of the largest companies."

But if you're going to allow that, then you have to have these other things that provide the backstop to protect against it. And, of course, this bill only deals with the very, very largest ones having those restrictions. Everyone else below that, the middle and the smaller ones, can do exactly what he said.

So, you know, we're not talking about a radical proposal here with respect to divestiture. And what we're doing is similar to what you would have in antitrust competition cases where there's a serious problem.

Senator LEE. So it's more of a safety valve at the top of the market.

Professor ALFORD. Exactly.

Senator LEE. And when it's a safety valve at the top of the market, it makes sure that there can continue to be a lot of other things happening—

Professor ALFORD. Right.

Senator LEE [continuing]. Below.

Professor ALFORD. Notice he did not say that Goldman Sachs could own the New York Stock Exchange. Right? He did not say that. He said that they could own certain small, minor dark web exchanges.

Senator LEE. Well, the——

Professor HENDERSON. Can I just, since he said——

Senator LEE. Sure, sure. I thought you were——

Professor HENDERSON. Because I just want to just clarify what I said. So first of all, “dark web” is the wrong term. They’re called “dark pools.” But they’re alternative trading systems under a regulation passed by the SEC. So this is not some nefarious place. And moreover——

Senator LEE. Illegal stock trading.

Professor HENDERSON. Yes. And 50 percent of stock trades happen on alternative trading systems—50 percent.

Senator LEE. What’s it called? What was it?

Professor HENDERSON. Dark pools.

Senator LEE. Dark pools. Okay.

Professor HENDERSON. And the reason they’re dark pools, they’re just called that because you can trade anonymously, because sometimes people want things other than price.

Just one other thing I wanted to note. I feel a little bit like we’re having, you know, just trains passing in the night here. Comments are that Google just completely is the master, and the poor New York Times is the servant, and they just have to take the terms that Google gives them, and this is just not correct.

The New York Times has innovated themselves in creating header bidding. So they sell their own ads on their space. There are plenty of competitors, as I’ve mentioned numerous times, and the big competitors here, Amazon, AT&T, Facebook, they all preference their own sites and give their same preferences that Google’s doing. So Google’s behaviors, whether they’re good or bad, that’s for other people to judge——

Senator LEE. But Google blocks header bidding.

Professor HENDERSON [continuing]. They’re all the same.

Senator LEE. It blocked header bidding.

Professor HENDERSON. For school——

Senator LEE. That’s part of the lawsuit.

Professor HENDERSON. That’s right, and in certain locations. But now they’ve agreed—I think it was with the French Competition Authority, and now they’re—they’ve changed on that, is my understanding.

Senator LEE. They’ve repented worldwide of that?

Chair KLOBUCHAR. Because of Europe. Because they——

Professor HENDERSON. Yes, that’s fine. And if antitrust regulators find particular conduct that is bad, then that would be—that’s fine. But we’re talking about something that is, you know, that’s treating an illness. This is just lopping off the head in surgery here.

Senator LEE. All right, I want to put a pin in that——

Professor HENDERSON. Yes.

Senator LEE [continuing]. And we may come back to it, if we have time later.

Chair KLOBUCHAR. The lopping off the head.

Senator LEE. But—but, and I also want to get back later. I’m not sure your comparison to the stock exchanges works. It is, as you pointed out, a market that is 700 times larger than this market. And the market concentration is a lot less significant there. Any-

way, I want to get back to that, but let's go back to Mr. Alford for a minute.

I noticed that in his recent memoir, former Attorney General Bill Barr described a possible approach that Congress could take to laws dealing with Big Tech. And he suggested it could involve, quote, "ordering platforms to divest certain previously acquired firms with the aim of reducing the platform's market dominance and promoting competition, not directing specific divestitures by name, but defining the particular characteristics requiring divestiture."

And the law that he describes could also impose rules, quote, "governing the collection use and analysis of personal information," he writes. Now, I did not put him up to this. He did not consult me when writing his book. But that sounds a little like the AMERICA Act. Does it not?

Professor ALFORD. I think it is—I think it is the AMERICA Act. You know, as he was finishing his tenure there, he was actively wanting to also pursue ad tech litigation. And they were in the middle of that investigation, and it was picked up by the Biden administration. Of course, they filed suit this past January. But absolutely. And I'm sure if you ask him—I'm sure you know him—you could say, "Yes, this is exactly the kind of legislation that I think I was writing about," because it's what he was saying in his memoirs.

Senator LEE. Now, Mr. Kint, one of the defenses that we hear of Google, and specifically Google's ad tech business, is that they pointed to all the innovation that has occurred, and that innovation brought to the marketplace has lowered the cost of advertising. Prices have gone down.

It seems like—I'm not sure that argument holds water because Google tends to buy up those who do new things.

Google isn't necessarily introducing anything new on its own. It acquires firms that do, acquiring up would-be nascent competitors—nascent competitors so they can get their innovation. The innovations originating from Google seem to be more focused on building gigantic walls, fences, moats with alligators, crocodiles, and sharks with lasers mounted on their heads around their market position.

And then the lower prices get, and the lower prices are, they don't account for the need to buy more ads because of the declining quality of the ad placement.

So people are having to pay more per ad, having to buy more ads overall, because the quality of the placement impacts the impact that they have. Is that consistent with your observations of the market?

Mr. KINT. Absolutely. And, you know, there's a lot of jargon that can be thrown out, a lot of different metrics that Google can throw out. Frankly, I've seen it all. I installed the first ad server back in 1996 before Google, and before DoubleClick, and I've seen every sequence of every single company that's tried to create some sort of new angle into the ad tech landscape that Google has then typically acquired and squashed, in different ways, which is well-documented in the various antitrust lawsuits.

And so I take you back to kind of a real-world example, and it's from Europe, actually, with their privacy law, GDPR. When it came out you had Europe trying to innovate around consumer privacy, and even the largest publishers, including the one that Professor Henderson mentioned, they had no control over how privacy law rolled out.

They basically had to wait until Google—literally, when they had 2 years to tell the market what they were going to do, 1 month before GDPR rolled out, Google said, “You’re going to get us consent as a publisher. You’re going to give us all the data. We’re going to bundle it, and we’re not going to tell you how we’re going to use it, and you’re going to be liable for it.”

And so that was how Google decided to roll out privacy in Europe. And they decided—and you think about the informational advantages asymmetry in the data and the value of that that continue to flow to Google at a point when, you know, there was a lot of risk for Google if GDPR played out the wrong way because it would—sorry—

Senator LEE. Right.

Mr. KINT. Go ahead.

Senator LEE. But instead, they use GDPR as—

Mr. KINT. That’s exactly right.

Senator LEE [continuing]. Additional mortar for the moat, and the wall, and the other moat, and the other wall—

Mr. KINT. So they do. Exactly.

Senator LEE [continuing]. And the sharks with the lasers on their heads.

Mr. KINT. Yes. Yes, consistent.

Senator LEE. Pretty well—it’s played, and further entrenched them.

Mr. KINT. Further entrenched them around something that should have been better for consumers.

Senator LEE. Electrified fence, also. We won’t go too far, but—

Mr. KINT. They still have access to as much data as they want, and they can use it however they want. And at the end of the day, they just created an obstacle for publishers that extracted more value for Google.

Senator LEE. Right. That seems troublesome. And it also seems like the kind of thing you could do. You couldn’t get away with that if you didn’t already have a degree of market dominance.

Mr. KINT. Exactly. And your legislation—excuse me.

Senator LEE. Go ahead.

Mr. KINT. Your legislation, I mean, that second tier that says, you know, even if you’re above \$5 billion of volume, you have a best-interest obligation, you no longer can take that data and then use it for an entirely different purpose, in an entirely different context, for a different client, or for your own profit enrichment.

So it—the legislation directly, I think, improves that. And I think that’s—you know, you mentioned this earlier, but I think there will be consumer privacy benefits out of this legislation.

Senator LEE. [Speaking off microphone.]

Chair KLOBUCHAR. Okay. Why don’t I just go now?

Senator LEE. Yes.

Chair KLOBUCHAR. Okay.

Senator LEE. Thank you.

Mr. KINT. Thank you.

Chair KLOBUCHAR. Just for the record, Bill Barr didn't consult me before he wrote his book, either. I just wanted to say that.

[Laughter.]

Chair KLOBUCHAR. Just get it out of there. Although I am in, it's not that bad.

Okay, so why don't I start? I thought I'd mentioned something about AI here, Mr. Kint. In addition to Google's power in digital advertising, it looks to have an early advantage, along with Microsoft and other monopolies, in deploying AI, like Bard.

Those systems are trained on content developed by many of the publishers in your coalition. You know, AP, News Corp, USA Today, you name it. Are you concerned that Google could use its advantages in digital advertising, consumer data, and computing power to deploy AI in ways that is going to exacerbate what we're already talking about here today?

Mr. KINT. Deeply concerned. And there's a pattern of behavior there that we've seen with, you know, with Google, and we saw it with Facebook. You know, it's, treat all websites, all webpages, as an interchangeable commodity, layer on your targeted advertising.

So, if they can absorb the entirety of the web—and they'll say that the publishers you just mentioned are just a very, very small fraction of what's out there on the web, when the reality is that's the signal and the noise, that's the instructional data from the journalism—that's deeply concerning.

So, we're thinking about, kind of, three things. We're thinking about, how do you protect that intellectual property, and that art of the journalists, and the photographers, and our various members? We're thinking about—and so that plays into copyright. We're thinking about other—

Chair KLOBUCHAR. And we know there's an exception under Section 230 for copyrighted material. But the answer just can't be that—having talked to one of my small, smaller newspaper, nothing like the size of The New York Times, Professor Henderson, already on its back because of the issues—

Mr. KINT. Right.

Chair KLOBUCHAR [continuing]. That we're raising today, and really badly needs this—the bill that Senator Kennedy and I have passed, the Journalism bill.

Mr. KINT. That's right.

Chair KLOBUCHAR. But it's—but it—they don't have the kind of resources that the big guys have—

Mr. KINT. Yes.

Chair KLOBUCHAR [continuing]. To take this on. They're not going to be able to sue. Just hearing them talk about—and the conversation about something totally different, but hearing them talk about how they're doing experiments to see on some of their own stories what is right now on ChatGPT, not a Google product, or some of the other sites, and they're looking at what's going to happen here, and seeing echoes of their own news coverage, which they know is deeply local, getting picked up on this. So continue on as your descriptions of what some of the solutions are.

Mr. KINT. Yes, so that's right. It's protect that—the ability for them to say, you know, “You can or cannot use our content in order to train your models,” which is really hard to do against market power, especially when they, you know, a company dominates in search, which is the subject of a different antitrust lawsuit with Google.

But number two, how do we advance the future broadly for professional news entertainment? Because this is part of the future. And in that vein, I think there is opportunities and, you know, revenue opportunities for premium publishers that do create high-quality news entertainment that need to also be explored. But you have to come to the fight without your hands tied behind your back against monopolists.

Chair KLOBUCHAR. Exactly. And I guess I'd go to you, Mr. Lynn. We talked about what we're seeing with journalism. I mentioned the stat that a recent study by Northwestern University predicted that one third of the U.S. newspapers that existed roughly two decades ago will be gone by 2025.

Senator Kennedy and I introduced a Journalism Competition and Preservation Act to allow news outlets to band together, to negotiate free compensation from the platforms that are monetizing their news content for free. Talk about why this legislation is needed to strengthen local news across the country.

Mr. LYNN. Thank you for that, Senator. This legislation is necessary because the newspapers are being starved. It's like the middlemen have established themselves, just very simply put, in-between the advertiser and the publisher, and they are diverting the money into their own pockets.

Chair KLOBUCHAR. Mm-hmm.

Mr. LYNN. And so what's happening is places like the Minneapolis Star Tribune, and the Seattle Times, and the, you know, Dallas Morning News, pretty much every single newspaper in America is being starved. And this is, as you know, is bad for democracy. But it's—so this piece of legislation that you've put forth is actually the first piece of legislation that is taking a step in the right direction of preventing this extreme concentration of power.

And just to be clear, we don't—whatever The New York Times—The New York Times is in a privileged position. But having one newspaper left in the United States is not the outcome we would like to see.

Chair KLOBUCHAR. And I will note there's been support from both big news organizations in the ilk of New York Times, Washington Post editorial boards, but also very small news organizations as well, and everyone from News Corp, on very different political ideologies, not only of the Senators that support this bill, but also for those news organizations, and that this is pretty much an across-the-board belief.

And it's, to me, I see this as a duo approach: one is the Newspaper bill and then the other is the AMERICA Act—in these.

And the final thing that I think is worth very much talking about is the American Innovation, Choice and Online Act. So Google, as we've noted many times here, advertising giant, also gatekeeper, like, on search, where it has a 90 percent market share, or on its app store.

I've worked on this bipartisan legislation now with Senator Grassley. We mentioned it, that would require digital gatekeepers to compete fairly with small businesses and stop anticompetitive self-preferencing that allows companies like Google to drive traffic to their own websites, which drives up their advertising revenue.

I guess, Professor Alford, would this kind of legislation, would this reform lead to healthier, more competitive set of digital marketplaces generally?

Professor ALFORD. Yes. I think that the different types of legislation that you're proposing, the AMERICA Act obviously is targeted specifically at one specific market, and I think that would be incredibly beneficial. But there's a lot of benefits that you're talking about with respect to the Innovation and Choice Act. You know, specifically, you mentioned the self-preferencing problem.

Self-preferencing problem is very, very acute in this market. We see it all the time, that they're steering clients—their own clients to their exchange instead of a competing exchange, even though the clients would be better served if they were allowed to go to other exchanges. That's what Senator Lee was talking about when he said they're trying to kill header bidding. And so if you had limitations on that ability to do that, then it would be definitely an improvement in the market.

Professor HENDERSON. Can I just say one thing about newspapers? Yes? Is that a yes?

Chair KLOBUCHAR. You can, yes, but you keep mentioning one newspaper—

Professor HENDERSON. I'll—I'm going to mention—

Chair KLOBUCHAR [continuing]. That isn't even covered by the Journalism bill.

Professor HENDERSON. I'm going to mention your hometown paper, Senator.

Chair KLOBUCHAR. Yes.

Professor HENDERSON. So first of all, love newspapers. I subscribe to four at my house, including two local ones. So I'm all for newspapers. Antitrust law is not supposed to be about newspapers or producers. It's about consumers.

So just—that's an important thing to keep in mind, is focusing on consumer welfare, not producers. I understand why the newspapers don't like Google. We're talking about consumer welfare here. But I just want to mention one fact.

Chair KLOBUCHAR. I think there's just many of us have a very strong belief

Professor HENDERSON. That—that—

Chair KLOBUCHAR [continuing]. In the First Amendment—

Professor HENDERSON. I'm with you, Senator.

Chair KLOBUCHAR. Professor Henderson, and that consumer welfare, in my mind, is about the consumers and the people who participate in this democracy, their own welfare. And that means they have to have local news that is covering corruption on a city council, or covering when a business is closing down, or covering when a football team wins the championship in their local high school league. So I—

Professor HENDERSON. We 100 percent agree.

Chair KLOBUCHAR [continuing]. It brings people together in, not only as a news source for understanding what's happening, but it also brings them together in terms of being members of the same community.

Professor HENDERSON. I totally agree. I just want to mention this. Minneapolis Star Tribune, while we were talking—and this claim about Google being a monopoly and really hurting local newspapers, you can go to Star Tribune's website [holds up cell phone], which I've pulled up here, and look at their ad agencies that they use, their online ad platforms.

And its pages, and pages, and pages of Google's competitors, including Google. So the Star Tribune uses dozens of ad platforms, including Google, and it's publicly available information you can look.

Chair KLOBUCHAR. Mm-hmm.

Professor HENDERSON. So the idea that the Star Tribune, when it's placing its ads and selling its real estate, is limited to just Google, and that Google is able to use that in a kind of master/servant relationship, as we've heard discussed here, is just false, and the Star Tribune's own website will show you that it's false.

Chair KLOBUCHAR. Mr. Lynn, what is about the market share of Google right now, of the search engine market?

Mr. LYNN. Depends who's counting, but it's probably about 90 percent.

Chair KLOBUCHAR. Mm-hmm. That's what I thought. Okay.

Mr. LYNN. Actually, could I make one quick—

Chair KLOBUCHAR. Yes.

Mr. LYNN. The idea that antimonopoly law is not pertinent to protecting the free press is an outrageous statement, and it stands contrary to the entire history of the United States, going back to the Constitution, which established the postal service as an independent and neutral system for the distribution of, mainly, news.

Chair KLOBUCHAR. Okay—

Mr. LYNN. So—

Chair KLOBUCHAR [continuing]. Thank you.

Mr. LYNN [continuing]. We have used antimonopoly law time and again to protect American journalists and publishers against concentrated power, sir.

Chair KLOBUCHAR. Okay, thank you. Mr. Kint?

Mr. KINT. One quick point. Thank you. You know, all those ad tech companies that are being brought in on the page of the Minneapolis site are being mostly ushered in by Google. So Google is still a choke point that's just a disclosure that all these companies are touching the page.

And then second, I think we use newspapers as a proxy for news, generally. Our organization is entirely focused on the digital world in the future.

Chair KLOBUCHAR. Mm-hmm.

Mr. KINT. I don't care in the same way about the actual printed newspaper. I'm focused on the future. And I can tell you that the digital-only companies, the ones that launched in the last 10 years, are seeing the exact same issues. BuzzFeed News just shut down last week. It's not—the business has underlying problems. It's not related to printed newspaper.

Chair KLOBUCHAR. Thank you. That's a good point. And again, I just want to emphasize, as Senator Lee is aware, just the different ideology in elected officials being willing to take this on, which includes, of course, State attorneys general with very different beliefs.

And Professor Alford, both the Justice Department and many State attorneys general have sued Google for monopolizing the ad tech market. You've been involved in some of that litigation. Could you speak to the need for both litigation and legislation to address those market issues?

Professor ALFORD. Yes. So I think everyone that is concerned about these markets is supportive of both regulation and litigation. They are complementary to one another, not competing with one another.

Obviously, antitrust litigation focuses on the most egregious harms of the largest, biggest players, whereas the regulation that is being proposed here, and the other regulation that you've been involved in, tries to look at the larger picture and try to deal with larger questions. Right? Not just harm to competition, but also public discourse concerns about privacy, and also conduct not just of the very, very largest, but other players that might not be in the dominant position.

The litigation is slow, it's cumbersome, it's extraordinarily expensive. You have to have very, very certain thresholds you have to meet with respect to monopoly power. And even if you win, you'd have no guarantee whatsoever what kind of remedy you're going to get, if it's going to be some sort of injunctive relief or some sort of divestiture. And even then, there'll be an appeal to the circuit courts and then appeal to the Supreme Court.

You know, thanks to your work on the Venue Act, you know, *Texas* is trying to get back to the Northern District of Texas. But we started that case in 2020, and we're not even scheduled for trial till 2025.

Chair KLOBUCHAR. Yes.

Professor ALFORD. And we barely started discovery. So, you know, they're complementary. I mean, your very—your very first—

Chair KLOBUCHAR. Yes, I'm just picturing as all these news organizations—

Professor ALFORD. Yes.

Chair KLOBUCHAR [continuing]. Are folding, and we're waiting for this litigation—

Professor ALFORD. Right.

Chair KLOBUCHAR [continuing]. And we're just sitting there, and that's to the benefit—

Professor ALFORD. I mean, I would—

Chair KLOBUCHAR [continuing]. Of the companies.

Professor ALFORD. The litigators support regulation, too. I mean, the Department—

Chair KLOBUCHAR. Yes.

Professor ALFORD [continuing]. Of Justice has written in favor of litigation—of—

Chair KLOBUCHAR. They've—they've written in favor of the Self-Preferencing Bill.

Professor ALFORD. Yes.

Chair KLOBUCHAR [continuing]. They've written in favor of a number of these bills, yes.

Ms. Srinivasan, just a few hours ago the FTC announced that it is seeking to modify an order about how Facebook monetizes data about its users. I believe there's actually a connection between having that market power and then the way they handle sensitive data. Do you think if there were more competition in the digital ecosystem companies might compete to be better on privacy?

Ms. SRINIVASAN. Absolutely, Senator. I think more competition, we've seen empirically in the market, lead to more privacy. It's something that I spent a lot of time studying, especially with respect to Facebook. When Facebook faced competition it offered much higher levels of privacy, and it competed explicitly on privacy.

Chair KLOBUCHAR. Exactly. But when we have Mr. Zuckerberg making statements that the House discovered, during their lengthy hearings on this subject, "I'd rather buy than compete," in reference to his purchase of several other—what were then small competitors—I think you get the results when there—when you don't have laws in place that can police this or any enforcement.

And now there's been a shift, as we've all noted, with cases going on in both the last administration and this administration.

By acting on the buy side and the sell side of the ad tech stack, Google faces an inherent conflict of interest that's been referenced by Senator Lee and myself.

While publishers want to sell their inventory at high prices and advertisers want to pay as little as possible, Google makes more money if advertisers pay a high price, but publishers actually receive a low price. Plus, Google is also selling its own ad space.

Ms. Srinivasan, what evidence have we seen that Google uses its position in these markets to maximize its profitability and increase its market power?

Ms. SRINIVASAN. Well, we could chat about this for a while, I suppose. I also—

Chair KLOBUCHAR. It is 4:10 in the afternoon, so you can keep the answer short, I'm sure.

Ms. SRINIVASAN. Gosh, there are—I mean, there are a bunch of examples. Senator, what were you looking for precisely?

Chair KLOBUCHAR. Well, just examples about how they're kind of double-dealing on both sides, and how it uses its position in the markets to maximize profitability, increase market power.

Ms. SRINIVASAN. Yes, I mean, I guess I would just make two comments. In the allegations in the State AG complaint led by the State of Texas there were a bunch of auction manipulations that are alleged with fund names like Project Bernanke, where Google was supposedly using information on one side to manipulate the auction mechanics in the middle.

The other thing that I would say is that, you know, we actually see them extracting a higher fee in the middle, not taking less from one side and giving more to the other, or taking more from one side and giving less to the other. The actual intermediary fees are inflated.

Chair KLOBUCHAR. Mm-hmm. Okay, very good. All right. I think I'm going to turn it over to Senator Lee for some closing questions.

Senator LEE. Ms. Srinivasan, so there's been a lot of talk about Google when it comes to digital advertising. Let's talk about some of the other Big Tech firms for a minute. Keeping in mind, like any market, this isn't static. You've got other companies moving, and it's always good to keep our eye on where things could be going next.

Apple seems to have realized that the market for the iPhone is quite saturated. I mean, it's a good position for anyone making phones to be in, where pretty much everyone who wants an iPhone now has one, and so most sales are going to come from replacements. And so it's now using the vast network that it has and citing privacy concerns in order to gain exclusive control over our data, so it can monopolize ads that we see on our iOS devices.

And correct me if I'm misstating any feature of this marketplace.

You've got Amazon, that increasingly serves as kind of a clearinghouse for goods made in China, opting for higher margins from selling ads to Chinese manufacturers. And then you've got Facebook, which of course sits on a treasure trove of data.

Now, Facebook has always been dependent on ads. It would likely have an even greater presence in the ad tech space in digital ads had it not reached its own agreement with Google preventing that. Should we be concerned about any of these other firms' activity in digital advertising at this point?

Ms. SRINIVASAN. Well, I would say that this bill doesn't aim to fix, you know, all problems. But most of the companies that you mentioned do operate what would be termed and captured by the bill as exchanges that are bringing together third-party buyers and third-party sellers. And they would be subject to the same conflicts of interest rules and the same rules around having to sort of siphon off, and manage, and protect the data in different divisions.

Senator LEE. Okay. So they're not in the same position as Google, but would be in the same position in the sense that they're covered entities?

Ms. SRINIVASAN. They would be covered entities in some respect. So for example, Facebook does act as a broker under the bill on the buy side, and they do bring together buyers and sellers—buyers and third-party sellers in real-time auction markets. And Amazon also plays multiple roles in this respect, too. So Amazon is not just selling ads on Amazon.com, but it's also intermediating ads on behalf of third parties. And so it, too, would be captured under certain aspects of the bill.

Senator LEE. Okay. Thank you. Mr. Kint, let's talk about a little bit more about data. You've written a fair amount on this, and you've written that collecting data in one context but then using it in another context—e.g., behavioral advertising—tends to violate consumer expectations. How would the AMERICA Act prevent a company like Google from collecting data in one context and then using it in another in the harmful ways that you described?

Mr. KINT. Yes, I guess, two ways. The best-interest and execution obligations will require that they don't collect that data and use it for a different purpose.

So the data's only going to be collected by Google, or Facebook, or whoever the company is that's in that tier for the purpose of the publisher and maximizing value for the publisher. So that data stays, almost has a ring fence if you will around it, so that it can't be taken and used for other value elsewhere. And so I think that's—that's one way.

And then, you know, the restrictions on being on both sides of the market, too, will eliminate the example that I used in my opening remarks around "tying," where, you know, one company can say, "I control most of the demand in the ad marketplace, and so therefore you'd need to give me all this data as part of the conditions—as a precondition"—

Senator LEE. Right.

Mr. KINT [continuing]. "Of the deal." Which is quite abusive and it's quite documented in all the AG—

Senator LEE. Well, and you—

Mr. KINT [continuing]. Lawsuits

Senator LEE [continuing]. And you wouldn't get away with that.

Mr. KINT. You wouldn't get away with it.

Senator LEE. If there were a free market, nobody would get away with that because they'd tell you to "pound sand."

Mr. KINT. If the consumer knew it was happening and the publisher actually had any sort of market power, yes.

Senator LEE. Right.

Mr. KINT [continuing]. And again, every single publisher, any size, can't stop that.

Senator LEE. Right. And presumably, the customers of that entity would also insist upon it. But it's hard to tell someone to pound sand when—

Mr. KINT. Yes. We've done the research on it, Senator. You know, we've asked, you know, "When you're not using a Facebook product, would you expect your data to be collected and used for a different purpose?" And the answer is "no"—from like 60 percent of the users.

We asked the same question about Google.

Users do not want to be tracked across the web. If they choose to use a product as part of real choice and real competition, and that data is used to deliver the service to them, that's great: "That's fine, I'm a subscriber. You can use my data to authenticate my subscription. Wonderful. I'm a, you know, customer of this product. You can personalize it based on the data that I'm giving you to make the product better. If I don't like what you're doing, I'll go elsewhere."

They do not expect that data to be collected and used in a totally different purpose.

Senator LEE. So that prevailing assumption, with regard to Facebook that you just described, is not accurate?

Mr. KINT. Correct.

Senator LEE. Right. Now, you've also said that, quote, "The issue of tracking and data collection, and use by third parties is a really important issue, and that consumers should have a global privacy control" and, you know, an ability to opt out. But you limited that to opting out of third-party data use. Is that right?

Mr. KINT. I did.

Senator LEE. Here it seems that the first-party data use is really the fundamental problem because companies like Google, or like Meta, can use all the data they collect on their properties to feed their advertising engines. So how could a law like the AMERICA Act address this problem?

Mr. KINT. Again, I'll go back to the data point from the UK Competition Authority report that showed that Google and Facebook uniquely collect a majority of their data from third parties. They get a majority of the data they have for targeted advertising from third parties, according to that report. So it's collected in a third-party context when the customer is not choosing to use a Google or Facebook product.

And so, one, it cuts that all out because the user can no longer be tracked from one context to the other. And then the first-party data is still an issue. I mean, if you're on Google Search, because 90 percent of the searches happen on Google, they're going to have a lot of first-party data on you. You still need to have choice in search, but that's a different issue than we're trying to address here.

[Pause.]

Senator LEE. Mr. Henderson, let's go back to you for a minute. This stock market example: Is that really fair? I mean, you've got 700 times—the scale is much larger, the market concentration, market power of any individual firm in that setting, it's a lot more distributed. Isn't it?

Professor HENDERSON. So first of all, Senator, I didn't make up this analogy. I was res—my paper responds to the claims that the proper analogy here for the litigation.

Senator LEE. No, I get it. Yes.

Professor HENDERSON. Okay. So I was just responding to that, the—and the claims that they are not vertically integrated, etc.—

Senator LEE. Uh-huh.

Professor HENDERSON [continuing]. With respect to market concentration in the securities business, the publicly traded securities, so not on the dark pools, the top three companies, the New York Stock Exchange, NASDAQ, and the Cboe, have an overwhelming market share.

So there is concentration. And the reason there's concentration—it's the same reason there's concentration in this market—is because there's economies of scale and network effects. And that, you know, that can explain why there are very few competitors. In the dark pool, the alternative trading systems under Reg NMS—again, the couple, two-three largest firms, Goldman, Bank of America, JP Morgan, have overwhelming market shares there as well for the same reasons, economies of scales and network effects.

So I don't want to push the analogy to stock markets and say that's a basis. I was merely responding to the claim that this vertical integration across the whole ad stack is some kind of monster we don't see anywhere.

And I'll just note one final comment, which is, the New York Stock Exchange, it is true that they do not own a broker dealer. But the New York Stock Exchange sells tools for both buyers and sellers of stock, in fact—which is what Google does. In fact, if you are a small-time trader and you do not have your own algorithmic

trading department, like the big traders do, the New York Times—the New York Stock Exchange will sell you their version of that, which is, you're like a small advertiser exactly the same way that Google does.

So this behavior that we see with these kinds of potential conflicts of interest exists everywhere. And I want to say, I'm sensitive to the concerns that you have about privacy, pornography, all the things that you said. I've got three kids myself. These issues that you're raising are serious concerns.

And if Google or anybody else—I'm not here on behalf of Google. If Google or anybody else is being deceptive, and they're misleading people about how they're using their personal data, we've got laws against that. I'm here just to point out some of the costs of the AMERICA Act that I think aren't being considered.

Senator LEE. No, I get that. But there are—there are some significant differences here. I mean, you—the stock example, you've got—it's a pretty diffused marketplace. It is highly regulated, and it's quite fragmented. And you don't have one firm dominating the lion's share of the activity, the buying and the selling. And this is just—

Professor HENDERSON. It's true. And I just want to say—let me just say one thing about the highly regulated. I completely agree with you. As I lay out in my paper, the reason it's highly regulated has nothing to do with these conflicts of interest. Because when I go into CVS, there are also conflicts of interest with them selling branded products, and generic products, and using data, and using cameras to check my eye line, and where they place everything, and the data there.

I happily turn over my cell phone number to them to get a 2-percent discount, and they collect that data. They know exactly what I'm buying. They use that to target me. This is—this is ubiquitous in all markets. The point about regulation I want to emphasize is, the SEC has been trying for 20 years to implement a best-interest rule in the stock market. For 20 years, they've been trying, and they've— 43 percent of trades trade at the best-interest rule. And this isn't a market that is trivial compared to the complexity of the ad market.

So if you sign on for a best-interest rule—and the only reason we have it in the stock market is because there's not physical separation. So you're using a kind of belt-and-suspenders approach here.

But if you sign on to a best-interest rule, you're signing on to a massive regulatory apparatus that cannot be administered by State attorneys general, or the Department of Justice. It will require an administrative agency to oversee the vast amount of data because the SEC is that, with 4,500 employees, and they are not successful at implementing a best-interest rule after 20 years.

Senator LEE. Is this one reason why it's sometimes fair to insist on structural separation instead of a massive regulatory body?

Professor HENDERSON. I think that's a mistake for reasons I've said otherwise. I'm merely pointing out that if you go with the best-interest rule you are signing on, in my opinion and based on my experience in the stock exchange, which is much simpler, to a huge, massive regulatory apparatus to enforce a best-interest rule. I've given a—

Senator LEE. It's not just—it's not the case with this bill. That's just not true. That's utterly at odds with what the bill says.

Professor HENDERSON. I'm just taking the language of the bill as it is, which is enforcing a best-interest rule that would require an exchange to trade in the best interests of its clients. That's the rule that the stock exchange has. It's Rule 611 and requires the same best execution rules for stock trades. It's the exact same. On that narrow point, it's the exact same.

Senator LEE. Okay, Ms. Srinivasan, and Mr. Kint, and Mr. Lynn are all champing at the bit to answer this—

[Laughter.]

Senator LEE [continuing]. And I have to know what they're saying. This will be it—I promise, I promise.

Chair KLOBUCHAR. No, I want to see, too—

Senator LEE. Okay.

[Laughter.]

Chair KLOBUCHAR [continuing]. I've been—I was going to actually have them do it because they just seemed so eager—

[Laughter.]

Chair KLOBUCHAR [continuing]. To defend you. Yes.

Senator LEE. All right, Barry, let's start with you.

Mr. LYNN. Thank you, Senator. Professor Henderson said that, you know, this kind of vertical integration across the ad stack is not some kind of a monster that we don't see elsewhere. He said it actually exists everywhere.

Pre-1980, it existed nowhere. It was against the law. It was against the traditions of the United States going back to the beginning. And that's why what you just said, that's why we need to insist on structural separation, is absolutely correct. And I bless you for working on this—this bill.

Senator LEE. Thank you. Ms. Srinivasan?

Ms. SRINIVASAN. So the bill actually applies a best-interest rule not to exchanges but to the brokers. And to my knowledge today, I am not aware actually of any of the sort of entities that are helping buyers or sellers that proclaim to do anything but act in their customers' interests.

And so in effect the only thing that this bill really does is shed sunlight onto what's actually going on, so that the customers can complain and hold their brokers to account when they're not actually doing what they're promising that they're doing.

The other thing that might be helpful to just be clear about is that in financial markets there's really a two-tiered approach. So Goldman can't own the New York Stock Exchange because the New York Stock Exchange is big and important, and it has a lot of market share.

And then the smaller guys can do both. They can be brokers and operate dark pools or ATSs. And those guys have to manage their conflicts of interest and disclose a lot of information, so that we can hold those conflicts of interest to account.

The bill takes the exact same approach, really. It says that the very largest firms that own the very largest exchanges can't simultaneously be on all sides of the transaction at the same time.

But smaller ones, like in financial markets, can both be a broker and an exchange. And in those situations, what we need to do is—

that's not being done now—is we need to manage conflicts of interest, we need to make sure they are managing their conflicts of interest, and we need to make sure that there's enough transparency and disclosure so that customers themselves can audit and police the behavior of intermediaries.

Senator LEE. Which they would have a greater ability to do under this bill.

Ms. SRINIVASAN. That's correct.

Senator LEE. Currently they don't have the ability to do that. Mr. Kint?

Mr. KINT. Yes, and a last point, thank you, I'm not going to go deep on the stock piece again. But I still—the thing I understand enough is that if the dark pools—if these dark pools—that if there's some self-preferencing, or preferencing, or favoring, that would be illegal. And so we need something to actually make that same behavior illegal in the digital advertising world, which it's currently not.

And yes, to Ms. Srinivasan's point, the SSPs, we call them, they're brokers on behalf of the publishers—they're supposed to act in their best interests. But in the case of at least Google and a few others, when the publisher says, "Are you actually doing this?" they have no recourse. There's no way to get the data to prove that that company is not taking the data and the value and using it elsewhere.

And so time and time again we see that issue where they might not be acting in the best interest. And so that's the core underlying problem. And I think that's resolved by the legislation.

Senator LEE. Thank you. It keeps occurring to me that I keep confusing the dark pool with dark web and Deadpool—

[Laughter.]

Senator LEE [continuing]. I'm going to try to keep those separate in my mind. Thank you.

Chair KLOBUCHAR. All right, on that note, thank you, all. I think it's been a very enlightening hearing. I think you know that these bills are more important than ever as we see the momentum off the end of last year, where we actually did get something done on merger fees in the Venue bill, and now we have several major pieces of legislation that we have interest in advancing.

We have growing support, we have growing money spent against us, as I showed from that lovely advertisement that my guess is most people had not seen on the witness panel, but somehow a bunch of my colleagues did—an example of how targeting advertising works and what we are up against.

But with the advent of AI, with the need to continue to support our Constitution and the First Amendment and the balance of powers in this country, with the need to take on monopoly power, I think that our momentum is growing stronger and stronger. People just are afraid to talk about it sometimes. But in the end there will be votes, and we must get a number of these bills passed.

So it's been really, really great to have this civil discussion, despite some disagreements. I think you understand we had a number of Members here that couldn't all ask questions. I'm sure some of them will do—will, on the record, including, we were joined by

Senator Hawley, and Senators Tillis, and Booker, and Blumenthal, and Hirono. And we thank them for being with us today.

And I thank my colleague, as well, Senator Welch. I thank my colleague, Senator Lee, for his leadership and always being a good pal to hold discussions with. And when we do agree on things, we actually get a lot done. So watch out.

With that I will hold the record of the hearing open till May 10th. Do you want to add anything, Mike?

Senator LEE. No, just that this has been terrific, and I want to thank my staff, and Mark Meador, for helping to put this together. And to each of you, this has been an absolutely fascinating hearing. This is the most fun I've had in a long time doing something that doesn't involve ice cream——

[Laughter.]

Senator LEE [continuing]. So thank you, very much, for joining us.

Chair KLOBUCHAR. All right. And again, thank you to Keagan, and to Mark, and to Avery, on our staff, for all they do. I know they've worked with a number of people in this room—always open to new ideas, always open to criticisms. Right?

[Laughter.]

Chair KLOBUCHAR. Because we get a lot of those. We get a lot of incoming. And we're excited, the progress we're making, the Members that we're educating about these important issues. And with that, the hearing is adjourned. Thanks.

Senator LEE. Thank you.

[Whereupon, at 4:30 p.m., the hearing was adjourned.]

[Additional material submitted for the record follows.]

Competition in the Digital Advertising Ecosystem

Before the Senate Judiciary Committee
Subcommittee on Competition Policy, Antitrust, and Consumer Rights

Roger P. Alford
Professor of Law, Notre Dame Law School
Former Deputy Assistant Attorney General, U.S. Department of Justice

May 3, 2023

Chairman Klobuchar, Ranking Member Lee, and Members of the Subcommittee, thank you for inviting me to testify today. I look forward to discussing with you the topic of proposed guidelines to address the digital advertising display market. As a conservative antitrust scholar at Notre Dame Law School and a former Deputy Assistant Attorney General for the Department of Justice's Antitrust Division in the previous administration, I am deeply concerned about Big Tech's abuse of power. These technology companies control how personal information about every American is shared, how online public discourse is conducted, and how each day billions of digital ads are delivered. I strongly support the AMERICA Act¹ and I urge members of the United States Senate and House to do the same.

Everything about Online Display Advertising is Enormous

Let me begin by underscoring just how significant the digital display ad market is to the internet economy. The opening paragraph in the Department of Justice's complaint against Google underscores this point.

Today's internet would not exist without the digital advertising revenue that, as a practical matter, funds its creation and expansion. The internet provides the public with unprecedented access to ideas, artistic expression, news, commerce, and services. Content creators span every conceivable industry; they publish diverse material on countless websites that inform, entertain, and connect society in vital ways. Yet the viability of many of these websites depends on their ability to sell digital advertising space.²

According to the Department of Justice, "website publishers in the United States sell more than five trillion digital display advertisements on the open web each year—or more than thirteen billion advertisements *every day*. To put these numbers in perspective, the daily volume of digital display advertisements grossly outnumbers (by several multiples) the average number of stocks traded each day on the New York Stock Exchange."³ We live in an age of attention markets, with attention brokers earning billions in revenue from trading in the scarce commodity of our time.

¹ AMERICA Act, S.1073, 118th Cong. (Mar 30, 2023).

² Complaint, United States v. Google, LLC, at 1, Civil Action No.: 1:23-cv-108 (Jan. 24, 2023) ("DOJ Complaint").

³ *Id.* at 1.

While in the 1970s, the average American saw between 500 and 1600 ads per day, today we encounter an estimated 6,000 and 10,000 ads per day.⁴

The volumes of ads are not the only aspect of display advertising that are enormous. The margins are also staggering. While the NYSE makes less than 1 percent (or less than \$5.00) on a \$100,000 stock trade, Google intermediaries make approximately forty percent (or \$40,000) on a \$100,000 ad campaign. With such enormous volumes and margins, it is not surprising that Google has a market cap of approximately \$1.364 trillion, and revenue of approximately \$280 billion per year, which amounts to \$767 million per day, or \$32 million per hour.⁵ By way of comparison, as a result of its abuse of monopoly power, Google makes more revenue from digital ads in one week than Twitter makes from all sources in one year.

A third aspect about online display advertising is the enormity of the problem. It is almost a completely unregulated market, with neither litigation nor legislation curbing the opportunities for the abuse of market power. Unlike the financial markets, which are subject to significant regulatory oversight and litigation risk, the online display advertising markets have no laws that impose best interest duties on market actors or curb perverse practices such as insider trading or front running. Nearly identical practices that in financial markets would result in severe fines, and even criminal sanctions, are completely unregulated in the online display market.

It is helpful to analogize the history of the financial markets with the history of digital advertising markets. In many respects with online display advertising, we are today where the financial markets were at the dawn of the 20th century. In the early 20th century, the NYSE was a purely self-regulatory organization, and the threat of regulation was necessary to force the exchange to tighten its listing standards.⁶ That approach lasted for decades, and it wasn't until the 1960s that the SEC formally established rules to address the problem of insider trading. Just as the financial markets were completely unregulated a century ago, so too are the digital advertising markets are almost completely unregulated today. Just as insider trading in the early 20th century was commonplace "taken as a matter of course, without indignation, without even passing comment,"⁷ today in the display advertising market practices such as insider trading, front running, steering and similar conduct are commonplace, taken as a matter of course, without indignation or even passing comment. These ad tech brokers are, as with stock jobbers trading on inside information a century ago, "gamblers using loaded dice ... who consider any means ... justifiable in the achievement of the ... end of making money."⁸

Under the current legal environment Google and other online display ad intermediaries perceive no ethical or legal obligation to act in the best of their clients or avoid practices that raise fundamental concerns about conflicts of interest and the lack of transparency. Because of Google's involvement and dominance on the buy-side, sell-side, and the exchanges in the middle, it has information advantages, and exploits those advantages for its own benefit and to the detriment of its own clients. In short, Google makes billions in revenue from its dominance at every level of

⁴ Emilia Kirk, *The Attention Economy: Standing Out Among the Noise*, FORBES (Mar. 23, 2022); Mark Melvin, *How Brands Can Use Relevant Moments and Technology to Engage with Consumers*, ADVERTISING WEEK (Nov. 16, 2021); History: 1970s Ad Age (Sept. 15, 2003).

⁵ According to publicly available sources, over eighty percent of Google's revenue is from online advertising.

⁶ Michael A. Perino, *The Lost History of Insider Trading*, 2019 ILLINOIS L. REV. 951, 995-98.

⁷ Edwin Lefevre, *Use and Abuse of Inside Information*, SATURDAY EVENING POST, at 2 (Dec. 31, 1904); Perino, *supra* note 6, at 967-68.

⁸ Lefevre, *supra* note 7, at 1.

the ad tech stack, which it then uses to manipulate auctions and trade on inside information it obtains across the stack, and then hides and/or deceives its own clients about what it is doing.

Google will tell you that these markets are competitive because they are vertically integrated. But vertical integration can be beneficial if it eliminates double marginalization. Here Google is *enhancing* triple marginalization, with high margins on the sell-side, the buy-side and the exchange in the middle.

Structural Separation is Necessary

As introduced, the AMERICA Act prohibits entities with significant digital advertising revenue from owning and operating entities across the ad tech stack. In essence, large digital advertising companies with over \$20 billion in ad tech revenue must make a choice regarding which segment of the ad tech stack they would like to operate. They can either be a buyer or seller of digital advertising space, they can own a digital advertising exchange, they can own a sell-side brokerage, or they can own a buy-side brokerage.⁹ This is surest way to avoid conflicts of interest, promote transparency, and restore competition in the digital ad tech markets.

In the digital ad tech market, there are several advantages to structural separation of the ad tech markets. First, structural separation of dominant market actors with the power and incentive to foreclose competition recognizes the limits of regulatory behavioral obligations that are difficult to devise, implement, monitor, and enforce. Second, structural separation of dominant market actors eliminates or minimizes the conflicts of interest that are endemic in the ad tech market. Third, structural separation eliminates or reduces the risk of dominant market actors' cross-subsidizing and steering from less or non-competitive segments to competitive segments of the ad tech stack. Fourth, structural separation improves transparency and information flows across the ad tech stack, enhancing consumer choice, new entry, and the competitive process. Fifth, structural separation, unlike behavioral commitments, eliminates or reduces dominant market actors' incentives to restrict competition. Sixth, regulatory structural separation of dominant market actors may be faster, more effective, less expensive, and more pro-competitive than a similar remedy pursued through antitrust litigation, particularly when combined with regulatory behavioral obligations on other competitors.

Conservatives Should Support the AMERICA Act

I want to emphasize that this legislation is consistent with conservative values regarding antitrust enforcement. The fact that it is sponsored by Senators Lee and co-sponsored by Senators Cruz, Rubio, Schmitt, Hawley, Kennedy, Graham, and Vance underscores that point. Senator Lee has succinctly summarized the nature of the problem at an earlier hearing on this same topic. In that hearing he stated that, "It is hard to me to imagine a circumstance in which one can own the exchange platform and also be a buyer [or] seller broker/dealer . . . and maintain all of those positions without something anticompetitive going on in purpose and effect."¹⁰ And in introducing this legislation on March 30, 2023, Senator Lee stated that the "lack of competition in digital advertising means that monopoly rents are being imposed upon every website that is ad-supported

⁹S.1073 at § 2b.

¹⁰*Senate Hearing on the Impact of Corporate Monopolies on Innovation*, C-SPAN, at 58:00 (Dec. 15, 2021), <https://www.c-span.org/video/?516757-1/senate-hearing-impact-corporate-monopolies-innovation>.

and every company—small, medium, or large—that relies on internet advertising to grow its business. It is essentially a tax on thousands of American businesses, and thus a tax on millions of American consumers.”¹¹ That is about as simple and succinct as one can describe the problem.

There have been numerous opportunities to address the problem of Big Tech abuse of power in the ad tech market in the past, but those efforts have all failed. Challenging Google’s acquisition of DoubleClick in 2007 was the first missed opportunity. Four FTC Commissioners—two Democrats (FTC Chair Deborah Majoras and Jon Leibowitz) and two Republicans (William Kovacic and Thomas Rosch) approved the merger, concluding that “this transaction is not likely to cause competitive harm by eliminating significant current competition between Google and DoubleClick” and that “the elimination of DoubleClick as a protentional competitor is not likely to have a meaningful impact on competition in the ad intermediation market.”¹² Only one Commissioner, Pamela Harbour, dissented because “I make alternate predictions about where this market is heading, and the transformative role the combined Google/DoubleClick will play if the proposed acquisition is consummated.”¹³ The FTC imposed no conditions on the merger but warned Google that it “will closely watch these markets and, should Google engage in unlawful tying or other anticompetitive conduct, the Commission intends to act quickly.”¹⁴ Years later, William Kovacic admitted his mistake, stating that “If I knew in 2007 what I know now, I would have voted to challenge the DoubleClick acquisition.”¹⁵ And as Judge Brinkema noted in the DOJ/Google hearing this past Friday, the Department of Justice also admits that the government made a mistake in clearing the DoubleClick merger and the Department of Justice is now seeking to undo that merger.¹⁶

We are fortunate to be addressing this proposed legislation within the context of vigorous litigation against Google for its abuse of its monopoly power in the ad tech market. Two lawsuits are particularly noteworthy. The 2020 Texas lawsuit against Google, for which I consult for the state of Texas, is joined by a bipartisan group of sixteen other state attorneys general and the 2023 DOJ lawsuit against Google, joined by a bipartisan group of seventeen state attorneys general. These lawsuits underscore the fundamental concern that government enforcers share about Google’s abuse of power. We can hope and expect that the outcome of those cases will correct at least some of the core problems in the ad tech market. It is noteworthy that in response to Google’s motions to dismiss, in the Texas-led case against Google and in the DOJ-led case against Google judges in both cases have held that Google is violating existing antitrust law, if the facts alleged by the government enforcers, who had the benefit of pre-complaint discovery are true. As Judge Brinkema emphasized in the Virginia hearing this past Friday, Google may have begun “benignly” but it became “too big for their own good,” “crushing” competition through “rapacious conduct with rivals, [destroying] rivals for no good economic reason.”¹⁷

¹¹ Mike Lee, The AMERICA Act: Lee Introduces Bill to Protect Digital Advertising Competition, (Mar. 30, 2023), available at <https://www.lee.senate.gov/2023/3/the-america-act>.

¹² In the Matter of Google/DoubleClick, FTC File No. 071-0170, at 8, available at <https://www.ftc.gov/legal-library/browse/cases-proceedings/public-statements/statement-federal-trade-commission-concerning-googledoubleclick>.

¹³ In the Matter of Google/DoubleClick, FTC File No. 071-0170, available at <https://www.ftc.gov/legal-library/browse/cases-proceedings/public-statements/dissenting-statement-commissioner-harbour-matter-googledoubleclick>.

¹⁴ In the Matter of Google/DoubleClick, FTC File No. 071-0170, available at <https://www.ftc.gov/legal-library/browse/cases-proceedings/public-statements/statement-federal-trade-commission-concerning-googledoubleclick>.

¹⁵ Steve Lohr, *This Deal Helped Turn Google Into an Ad Powerhouse. Is that a Problem?* NEW YORK TIMES, Sept. 21, 2020, available at <https://www.nytimes.com/2020/09/21/technology/google-doubleclick-antitrust-ads.html>.

¹⁶ Transcript, United States v. Google, Civil Action No. 1:23-cv-108, at 9, 25-26 (Apr. 28, 2023); DOJ Complaint, *supra* note 2, at 140.

¹⁷ Transcript, United States v. Google, Civil Action No. 1:23-cv-108, at 7, 29-30 (Apr. 28, 2023).

While litigation is appropriate and necessary to curb Big Tech abuse of power, it is not sufficient. Attorney General William Barr has written forcefully on the merits of regulating Big Tech platforms. During my tenure at the Department of Justice, it was clear that Barr took the problem of Big Tech monopoly practices seriously. That is reflected most notably in the DOJ filing the first major Big Tech antitrust case against Google in October 2020. But Barr was the first to concede that “unlike regulatory power—which allows proactive supervision of, and setting rules for, an entire market—antitrust addresses only wrongdoing by particular actors.”¹⁸ Successful litigation against Google will only solve part of the problem. In his memoir, Barr cited two reasons why targeted regulation of Big Tech is important as a complement to antitrust litigation. First, these markets are subject to powerful network effects and naturally prone to monopolization. Second, these digital markets impact not only competition but also other fundamental concerns such as the collection of personal data and the free flow of information and public discourse. According to Barr,

For these reasons, relying solely on ad hoc, judge-imposed remedies against individual players for specific misconduct on a case-by-case basis will not result in a rational, coherent approach to the multifaceted problems caused by the unchallenged supremacy of a few tech giants. I have natural reservations about imposing a regulatory framework on market activities, as most conservatives do, but the reality is that some markets, or market conditions, require a degree of regulatory intervention. In the case of Big Tech’s major platforms, it is hard to see how the challenges they pose to competition, privacy, and the free flow of information can be addressed in the absence of a regulatory framework.¹⁹

In short, litigation against Google is narrow and targeted to address the monopoly abuses of one company. The AMERICA Act legislation is also narrow and targeted, particularly in comparison to other antitrust legislation proposed in the last congressional session. But the legislation attempts to future proof the online digital advertising industry by imposing reasonable guard rails on the behavior of all medium and large online advertising brokers. And it does so but borrowing concepts relating to conflicts of interest and transparency that have been applied in other contexts so that government enforcers and courts can rely upon the standards established in those other industries to establish standards for this industry.

Conclusion

There is a growing bipartisan consensus that Big Tech companies have abused their market power and that something must be done about it.²⁰ That is reflected in lawsuits filed and prosecuted by the Trump and Biden Administrations and almost every State Attorney General, as well as salutary legislation such as the AMERICA Act.²¹

¹⁸ WILLIAM P. BARR, ONE DAMN THING AFTER ANOTHER: MEMOIRS OF AN ATTORNEY GENERAL, 441 (2022).

¹⁹ Id.; see also Chris Stroh, *Beyond Trump, Barr Takes on China and Big Tech in New Memoir*, BLOOMBERG, (Mar. 7, 2022).

²⁰ Roger P. Alford, *The Bipartisan Consensus on Big Tech*, 71 EMORY L. J. 893 (2022).

²¹ AMERICA Act, S.1073, 118th Cong. (Mar 30, 2023).

Trade associations, lobbyists, and academics funded by Big Tech are paid to deride these developments as enforcers bending the knee to antitrust populism.²² But the groundswell of bipartisan concern belies such easy accusations. The stakes are enormous, and Big Tech companies know it. There is every reason to believe that substantive antitrust legislation would have had a good chance of passage in the last congressional session but for over \$250 million spent by Big Tech lobbyists to block such measures from even coming to the floor for a vote.²³ More lobbying money was spent in the last congressional session to block antitrust reforms than was spent lobbying Obamacare or Dodd-Frank.²⁴ And even still, Congress passed legislation to update merger filing fees and enhance the ability of State Attorneys General to sue and remain in the forum of their choice.²⁵

One need not be a progressive or a “hipster antitrust”²⁶ advocate to be deeply concerned about Big Tech’s abuse of power. As Senator Lee recently noted in a speech to the right-leaning tech trade group NetChoice, “Conservative anger at Big Tech is real, and it’s entirely justified.... No business would treat its customers with the prejudice and disdain shown towards conservatives by Big Tech unless that business were confident that it was the only game in town.... The only people who still argue that there’s no reason to be concerned about competition in Big Tech are the ones paid by Big Tech to say so.”²⁷

I look forward to taking your questions. Thank you.

²² Trace Mitchell, *The Dangers of the Populist Antitrust Movement*, THE DISPATCH, (Apr. 23, 2021), <https://thedispatch.com/p/the-dangers-of-the-populist-antitrust/>; Anna Edgerton & David McLaughlin, *GOP Faction Wields Antitrust Threats, Echoing Trump’s Populism*, BLOOMBERG, (Apr. 21, 2021), <https://www.bnnbloomberg.ca/gop-faction-wields-antitrust-threats-echoing-trump-s-populism-1.1593086>;

²³ Rebecca Klar and Karl Evers-Hillstrom, *How Big Tech Fought Antitrust Reform—and Won*, THE HILL, (Dec. 23, 2022).

²⁴ Leah Nylen, Bloomberg, Chair’s Showcase, ABA Antitrust Spring Meeting (Mar. 30, 2023).

²⁵ Roger P. Alford, *Antitrust Accountability Delayed: State Antitrust Enforcement and Multidistrict Litigation*, 26 SMU SCIENCE & TECH. L. REV. ____ (2023) (forthcoming).

²⁶ Joshua D. Wright, Elyse Dorsey, Jonathan Klick, Jan M. Rybníček, *Requiem for a Paradox: The Dubious Rise and Inevitable Fall of Hipster Antitrust*, 51 ARIZ. ST. L. J. 293 (2019).

²⁷ See also Ben Brody, *Republican Senator Slams Conservative Tech Lobbyists to Their Faces*, PROTOCOL (June 22, 2021),

<https://www.protocol.com/mike-lee-netchoice-antitrust>; American Antitrust: Reforms to Create Further Innovations and Opportunities, at 5:30, 7:30, 9:50, YOUTUBE (June 22, 2021), <https://www.youtube.com/watch?v=pToFy8BY5C4>.

Competition in the Digital Advertising Ecosystem

Before the Senate Judiciary Committee Subcommittee on Competition Policy, Antitrust, and Consumer Rights

Roger P. Alford
Professor of Law, Notre Dame Law School
Former Deputy Assistant Attorney General, U.S. Department of Justice

June 14, 2023

In response to a letter dated May 17, 2023 from Senator Richard Durbin (D-IL) following my Senate Testimony¹ at a hearing held on May 3, 2023 entitled “Competition in the Digital Advertising Ecosystem,”² I am writing to provide answers in response to questions for the record from Committee members of the Senate Judiciary Committee.

Question from Senator Mike Lee

1. How would the AMERICA Act aid Attorneys General in their fight to protect competition in digital advertising.

Answer from Professor Roger Alford

As discussed in my written testimony, we are fortunate to be addressing this proposed legislation within the context of vigorous litigation against Google for its abuse of its monopoly power in the ad tech market. Two lawsuits are particularly noteworthy. The 2020 Texas lawsuit against Google, for which I consult for the state of Texas, is joined by a bipartisan group of sixteen other state attorneys general and the 2023 DOJ lawsuit against Google, joined by a bipartisan group of seventeen state attorneys general.³ These lawsuits underscore the fundamental concern that government enforcers share about Google’s abuse of power. We can hope and expect that the outcome of those cases will correct at least some of the core problems in the ad tech market.

While litigation is appropriate and necessary to curb Big Tech abuse of power, it is not sufficient. Former Attorney General William Barr has written forcefully on the merits of regulating Big Tech platforms. During my tenure at the Department of Justice, it was clear that Barr took the problem of Big Tech monopoly practices seriously. That is reflected most notably in the DOJ filing the first major Big Tech antitrust case against Google in October 2020. But Barr was the first to concede that “unlike regulatory power—which allows proactive supervision of, and setting rules for, an

¹ Roger Alford, *Competition in The Digital Advertising Ecosystem*, (May 3, 2023), <https://www.judiciary.senate.gov/download/2023-05-03-testimony-alford>.

² The Impact of Consolidation and Monopoly Power on American Innovation, (Dec. 15, 2021), <https://www.judiciary.senate.gov/meetings/the-impact-of-consolidation-and-monopoly-power-on-american-innovation>.

³ Complaint, *United States v. Google, LLC*, Civil Action No.: 1:23-cv-108, (Jan. 24, 2023) (“DOJ Complaint”); Fourth Amended Complaint, *Texas v. Google, LLC*, Civil Action No.: 1:21-cv-06841-PKC, (May 5, 2023) (“Texas Complaint”).

entire market—antitrust addresses only wrongdoing by particular actors.”⁴ Successful litigation against Google will only solve part of the problem. In his memoir, Barr cited two reasons why targeted regulation of Big Tech is important as a complement to antitrust litigation. First, these markets are subject to powerful network effects and naturally prone to monopolization. Second, these digital markets impact not only competition but also other fundamental concerns such as the collection of personal data and the free flow of information and public discourse. According to Barr,

For these reasons, relying solely on ad hoc, judge-imposed remedies against individual players for specific misconduct on a case-by-case basis will not result in a rational, coherent approach to the multifaceted problems caused by the unchallenged supremacy of a few tech giants. I have natural reservations about imposing a regulatory framework on market activities, as most conservatives do, but the reality is that some markets, or market conditions, require a degree of regulatory intervention. In the case of Big Tech’s major platforms, it is hard to see how the challenges they pose to competition, privacy, and the free flow of information can be addressed in the absence of a regulatory framework.⁵

In short, litigation against Google is narrow and targeted to address the monopoly abuses of one company. The AMERICA Act legislation is also narrow and targeted, particularly in comparison to other antitrust legislation proposed in the last congressional session. But the legislation attempts to future proof the online digital advertising industry by imposing reasonable guard rails on the behavior of all medium and large online advertising brokers. And it does so but borrowing concepts relating to conflicts of interest and transparency that have been applied in other contexts so that government enforcers and courts can rely upon the standards established in those other industries to establish standards for this industry.

It is worth noting that Senators Lee and Klobuchar have dramatically impacted the course of the Texas litigation with the successful passage of the State Antitrust Enforcement Venue Act.⁶ As a result of that legislation, Google’s strategy of dramatically delaying the outcome of litigation by State Attorneys General has been thwarted, with a JPML panel on June 6, 2023 remanding the *Texas v. Google* case back to the Eastern District of Texas for expedited trial after languishing for years as part of consolidated multidistrict litigation in the Southern District of New York.

Question from Senator Mike Lee

2. How would you expect competition in the digital advertising market to change were the AMERICA Act enacted?
 - a. How might this impact or improve competition in other markets?

Answer from Professor Roger Alford

The digital advertising market is uncompetitive because of, among other things, Google’s

⁴ WILLIAM P. BARR, ONE DAMN THING AFTER ANOTHER: MEMOIRS OF AN ATTORNEY GENERAL, 441 (2022).

⁵ Id. at 444; see also Chris Strohm, *Beyond Trump, Barr Takes on China and Big Tech in New Memoir*, BLOOMBERG, (Mar. 7, 2022).

⁶ See Consolidated Appropriations Act, 2023, Pub. L. No. 117-328, Div. gg, Title III, § 301, 136 Stat. 4459, 5970 (Dec. 29, 2022).

monopoly abuse of power. Google's exclusionary conduct has caused a wide range of anticompetitive effects, including higher prices, reduced output, lower quality services, reduced innovation, the exit of rival firms, and foreclosed entry into the market. The AMERICA Act directly addresses this problem by requiring Google (and other present or future dominant market actors) to choose whether they will be a buy-side broker, a sell-side broker, or an exchange. Similar to the financial markets, it imposes behavioral remedies such as best interest duties, best execution duties, transparency obligations, and the elimination of conflicts of interest to enhance market competitiveness. With these changes one can expect that Google will no longer hold or abuse its monopoly power in the online advertising market, and that there will be reduced prices, higher quality, more innovation, and more competitors. This will directly benefit consumers, particularly publishers and advertisers.

The AMERICA Act is focused first and foremost on consumers in the online advertising market. But there will be broader benefits in other markets as well. Most notably downstream consumers will benefit because publishers and advertising will no longer pass through higher prices of their products and services. Moreover, this market is an information market, and so the collection and use of personal data and the privacy implications that arise from such practices will be directly improved by the AMERICA Act. Introducing competition in the online advertising market means that it will be more difficult for Google and similar market actors to leverage their market power and the information they gather to steer consumers away from their competitors and toward their own products and services. Finally, ending the abuse of monopoly power makes it extraordinarily difficult for many publishers to have a viable business model for disseminating information, which enhances the proliferation of "news deserts" and diminishes the value and quality of public discourse. As former Attorney General William Barr put it, "The power of hegemonic online platforms to constrain what people hear, see, and say is incompatible with our system of government.... [T]he government has a legitimate interest in promoting multiple sources of news and information, and there is no reason to think that interest doesn't apply to today's digital markets."⁷ In this sense, society writ large is harmed by the status quo in the online advertising market.

Question from Senator Marsha Blackburn⁸

1. It is critical that smaller players in this industry are incentivized to grow and invest in light of a divestiture threshold. If a larger company must divest its assets, will smaller companies be incentivized to buy those assets if they could later be required to divest as well?
 - a. Allowing businesses to vertically integrate can be efficient and help save money that can ultimately be passed along as cost savings to consumers.

⁷ BARR, *supra* note 4, at 446.

⁸ A similar question from Senator Lee was asked of my consulting colleague Dina Srinivasan, who also testified at the same Senate Judiciary Committee hearing. We have collaborated in our answers to this question.

Sometimes, however, this integration can also be harmful to consumers. At what point does that integration become harmful to consumers?

Answer from Professor Roger Alford

There are small players at multiple levels in the online advertising market. Similar to antitrust laws, this legislation focuses primarily on harm to consumers, particularly publishers and advertisers, the vast majority of whom are small- and medium-sized companies. In terms of small companies that are exchanges or provide buy-side or sell-side brokerage services, there is a regulatory safe harbor, with no obligations for companies with less than \$5 billion in digital advertising revenue. Only companies with digital advertising revenue in excess of \$20 billion are subject to divestiture obligations, and companies in between the \$5 billion and \$20 billion thresholds have limited behavioral obligations such as best interest duties, best execution duties, the elimination of conflicts of interest, and transparency obligations. The regulatory safe harbor threshold is high, and any company that has \$5 billion in digital advertising is not a small company. Moreover, large companies that meet the \$5 billion threshold will have significant resources to ensure compliance with the AMERICA Act. Those obligations are not unduly burdensome, simply ensuring that large brokerage companies with billions in revenue act in the best of their clients, execute orders in a reasonable manner, and provide relevant information to their own customers. One can analogize it to the regulatory obligations in the financial markets, where the regulatory burdens on small, medium, and large brokerage firms are more significant than those imposed in the AMERICA Act, and yet these companies have successfully competed in those markets. I concur with former Attorney General William Barr in this regard, who, as quoted above, states that conservatives should “have natural reservations about imposing a regulatory framework on market activities,” and yet nonetheless recognize that the challenges imposed by the anticompetitive forces in the online advertising market “require a degree of regulatory intervention.”⁹ The multi-level thresholds in the AMERICA Act minimize the risk of overregulation in this market and will help rather than harm small companies that fall within the safe harbor.

The AMERICA Act would not eliminate benefits from vertical integration in the online advertising market. Google’s dominance in multiple segments of the online advertising market has harmed publishers and advertisers and downstream consumers. The benefits of vertical integration are typically analyzed on one side of a transaction, either the buy-side or the sell-side. Some large digital advertising companies that simultaneously represent the sell- and buy-sides such as Google have proposed the idea that double representation “promotes efficiency traditionally associated with vertical integration, including the reduction of double marginalization.”¹⁰ In essence, Google is arguing that vertical integration benefits consumers because Google has a dominant position on all sides of the market: the buy-side, the sell-side, and the exchange in the middle. However, the antitrust cases brought by the Texas Attorney

⁹ BARR, *supra* note 3, at 444.

¹⁰ DANIEL S. BITTON & STEPHEN LEWIS, CLEARING UP MISCONCEPTIONS ABOUT GOOGLE’S AD TECH BUSINESS, at 12 (May 5, 2020), <https://perma.cc/WT2W-DD74>.

General and the Department of Justice have revealed the falsity of such statements.¹¹ But that is not how the benefits of vertical integration typically function. As discussed in my written testimony, vertical integration can be beneficial if it eliminates double marginalization between, for example, the profits margins of the wholesaler and retailer. Google has monopoly power in multiple segments of the online advertising market. Google is not eliminating double marginalization, it is *enhancing* triple marginalization. The combination of unmanaged conflicts of interests and the lack of transparency in trading has instead fueled rampant trading abuses and the misuse of inside information, leading to out-of-control costs for publishers and advertisers. To illustrate, the Texas Attorney General's investigation into and complaint against Google revealed numerous secret auction manipulations with names like Project Bernanke that manipulated advertisers' bids and siphoned money from publishers causing immensurate harm to advertisers, publishers, and competition in the markets for trading intermediaries.¹² The AMERICA Act's approach to managing conflicts of interests aligns with how regulators globally protect competition in the markets for stock exchanges and brokers. Across the world, lawmakers safeguard competition by requiring exchanges to give all traders non-discriminatory access to the marketplace, by identifying and managing intermediary conflicts of interest, and by requiring trading disclosure.¹³

Question from Senator Thom Tillis¹⁴

1. Under the AMERICA Act:
 - a. How would small businesses that use online advertising be impacted?
 - b. Would small businesses still have the same access to affordable advertising services?

Answer from Professor Roger Alford

As outlined in my written testimony and my discussion above, small businesses that use online advertising would benefit from passage of the AMERICA Act. The AMERICA Act would increase competition in online advertising and decrease the cost to trade. The cost of ads would necessarily decrease. Thus, small businesses would have more choice around which buy-side brokerage services to use and the amount of money they spend to purchase ads would go down.

As a result of the abuse of monopoly power and the absence of meaningful competition in the online advertising market, advertisers are charged significantly higher intermediary fees that they

¹¹ Complaint, United States v. Google, LLC, Civil Action No.: 1:23-cv-108, (Jan. 24, 2023) ("DOJ Complaint"); Fourth Amended Complaint, Texas v. Google, LLC, Civil Action No.: 1:21-cv-06841-PKC, (May 5, 2023) ("Texas Complaint").

¹² Texas Complaint, *supra* note 3, at 103-122.

¹³ See generally Resolution on IOSCO Objectives and Principles of Securities Regulation and Methodology for Assessing Implementation of the IOSCO Objectives and Principles of Securities Regulation, Presidents Comm. of the Int'l Org. of Securities Comm'ns (May 2017), <https://perma.cc/UG65-KS23> (summarizing that one key role of the securities regulator, or an industry self-regulatory organization, is to avoid, eliminate, disclose, or otherwise manage conflicts of interest); Carlo V. di Florio, *Conflicts of Interest and Risk Governance*, S.E.C. (Oct. 22, 2012), <https://perma.cc/L3RW-NY9W> (providing an overview of the importance of conflicts of interest management to securities regulation and the interplay between the existence of conflicts and increased market risk).

¹⁴ These exact same questions from Senator Tillis were asked of my consulting colleague Dina Srinivasan, who also testified at the same Senate Judiciary Committee hearing. We have collaborated in our answers to these questions.

otherwise would in a competitive market. By enhancing competition in the online advertising market, the AMERICA Act would cause their advertising expenses to go down from what they are today. The Act would also give small businesses more options in terms of which ad services to use.

Question from Senator Thom Tillis

2. How would the AMERICA Act help or hurt smaller ad organizations who operate within the online advertising economy? If so, how?

Answer from Professor Roger Alford

As outlined in my written testimony and my discussion above, there are small players at multiple levels in the online advertising market. Similar to antitrust laws, AMERICA Act is focused primarily on harm to consumers, particularly publishers and advertisers, the vast majority of whom are small- and medium-sized companies. As a result of the elimination of monopolies and increased competition in the online advertising market, the price of intermediary services would go down for small ad organizations, and the quality of services would increase. The result for smaller ad organizations is more choice, lower fees, and greater revenue.

Question from Senator Thom Tillis

3. Other than Google, who are the major players – including emerging players – in the online advertising economy?

Answer from Professor Roger Alford

Other than Google there are few major or emerging players in the online advertising economy. On the sell-side of the market, and with respect to publisher ad serving software, Google has over 90 percent of the market and its market power is entrenched.¹⁵ Over the course of the last several years, all other major players have either severely diminished market share or exited the market. According to the DOJ Complaint, “there are no reasonable substitutes for publisher ad servers.”¹⁶ On the buy-side of the market, and with respect to ad buying software for small advertisers, Google’s share of the market is also absolute. Small advertisers in particular have little option but to use Google’s buying tool Google Ads to purchase display ads belonging to the likes of [cite name of publisher] trading on exchanges. As a result of Google’s dominance, the ad exchanges in the middle also have few viable competitors. Many former rivals in the exchange market, have either severely diminished market share or exited the market.¹⁷ Moreover, Google is able to coerce its publisher and small advertiser customers to transact on the Google ad exchange though tying on the sell-side and secret auction manipulations on sell- and buy-sides.

¹⁵ DOJ Complaint, *supra* note 3, at 7, 45, 68; Texas Complaint, *supra* note 3, at 42-43, 54.

¹⁶ DOJ Complaint, *supra* note 3, at 125.

¹⁷ DOJ Complaint, *supra* note 3, at 100; Texas Complaint, *supra* note 3, at 135, 175-78.

Question from Senator Thom Tillis

4. What can and should be done to increase transparency within the online advertising economy?

Answer from Professor Roger Alford

The lack of transparency within the online advertising economy is a significant anticompetitive harm. Those harms resulting from the lack of transparency are outlined in the DOJ and Texas Complaints.¹⁸ Passage of the AMERICA Act is the best way to ensure increased transparency. Market actors with over \$5 billion in digital advertising revenue will be subject to transparency obligations, while smaller companies may choose to voluntarily comply in response to changing market conditions. The AMERICA Act imposes two kinds of transparency obligations. First, upon request from brokerage customers, it obligates buy-side and sell-side brokerages to supply information sufficient to permit brokerage customers to verify compliance of the brokerage with its best interest and best execution duties. The specific type of information required under the AMERICA Act differs depending on whether the broker is on the sell-side or the buy-side, but in essence for the former it requires information with respect to each unique digital advertising space for sale, details on the bids submitted, the data collected from the brokerage customer, the brokerage's bid order practices, and the brokerage's compensation. For the latter it requires information with respect to bids won by the buy-side brokerage customer, the brokerage's bid order practices, and the brokerage's compensation. Second, similar to financial markets, it requires sell-side and buy-side brokerages to publish quarterly reports on their routing practices with respect to the ten venues to which the largest number of bid requests or bid responses were routed for execution.

Without the AMERICA Act, litigation against the abuse of monopoly power by certain Big Tech companies such as Google will seek to include transparency as part of the remedies for anticompetitive conduct. The prayers for relief in both the DOJ and Texas complaints request remedies to restore competition that would include transparency obligations similar to those outlined above.¹⁹ In the absence of regulation or successful litigation, major actors with market power could voluntarily decide to promote greater transparency. But without significant competitive pressure, thus far they have chosen not to do so.

¹⁸ DOJ Complaint, *supra* note 3, at 116-123; Texas Complaint, *supra* note 3, at 174-182.

¹⁹ DOJ Complaint, *supra* note 3, at 140; Texas Complaint, *supra* note 3, at 228-29.

Testimony of Professor M. Todd Henderson

Michael J. Marks Professor of Law
University of Chicago Law School

*Before the Senate Judiciary Subcommittee on
Competition Policy, Antitrust, & Consumer Rights*

On “Competition in the Digital Advertising
Ecosystem”

May 3, 2023

Introduction

Chair Klobuchar, Ranking Member Lee, and distinguished members of the Subcommittee, thank you for inviting me to participate in today’s hearing on Competition in the Digital Advertising Ecosystem.

My name is Todd Henderson. I am the Michael J. Marks Professor of Law at the Chicago Law School. I am also a visiting fellow at the Hoover Institution at Stanford and an Academic Affiliate of the International Center for Law & Economics (ICLE). My testimony today is drawn largely from a paper I recently published with ICLE which examines the Advertising Middlemen Endangering Rigorous Internet Competition Accountability (AMERICA) Act,¹ as well as other recent scholarship my ICLE colleagues have produced looking at the law & economics of the digital advertising market.²

There are three primary points I want to share with the Subcommittee:

¹ M. Todd Henderson, *Ads Aren’t Stocks, or How Bad Analogies Make Bad Law*, INTERNATIONAL CENTER FOR LAW & ECONOMICS (Apr. 12, 2023), <https://laweconcenter.org/resources/ads-arent-stocks-or-how-bad-analogies-make-bad-law>.

² Geoffrey A. Manne & Eric Fruits, *The Antitrust Assault on Ad Tech: A Law & Economics Critique*, INTERNATIONAL CENTER FOR LAW & ECONOMICS (Nov. 3, 2022), <https://laweconcenter.org/resources/the-antitrust-assault-on-ad-tech-a-law-economics-critique>; Eric Fruits, Geoffrey A. Manne & Lazar Radic, *Relevant Market in the Google Ad Tech Case*, INTERNATIONAL CENTER FOR LAW & ECONOMICS (June 1, 2022), <https://laweconcenter.org/resources/relevant-market-in-the-google-adtech-case/>.

1. While monopolistic markets are associated with rising prices and restricted output, digital advertising has in recent years demonstrated the opposite, with ads becoming cheaper and more effective. Ranking Member Lee has said that the “big is bad philosophy is... part of a broader effort to overturn the consumer welfare standard,” and that “the purpose of antitrust is to advance the economic welfare of consumers.”³ The online display ad market is currently serving consumer welfare.
2. Ads are not stocks, and any claim that they should be regulated as stocks is based on a fundamental misunderstanding of how securities regulation works and why it exists.
3. The divestiture portion of the AMERICA Act may have perverse effects on competition and innovation. Congress should carefully consider what the open-display advertising market is likely to look like if the bill is adopted.

The State of the Digital Advertising Market

There are many kinds of digital advertising, but for our purposes today, the market that has drawn the most criticism and controversy is the open-display digital advertising business. Open display ads are also the only part of the market that the AMERICA Act would regulate.

Most display ads appear on heavily trafficked, owned-and-operated sites like TikTok, Instagram, Amazon, or YouTube, in which the company providing the advertising space is the same company that operates the platforms that place the ads. In contrast, open-display space is supplied by independent publishers and is usually facilitated by intermediaries that match advertisers and websites automatically, displaying ads to users for whom they are most relevant.

It has become common for lawmakers, regulators, and competition watchdogs to raise concerns about the open-display digital advertising market on grounds that it is dominated by a handful of firms like Google and Facebook. The claim—raised not only by the AMERICA Act but also by antitrust litigation brought against Google, both by the U.S. Justice Department and separately by the State of Texas and 14 other U.S. states—is that this dominance allows these firms to engage in anticompetitive conduct to extend their market power and to earn excess profits at the expense of advertisers, publishers, and consumers.

In determining whether the market conduct of advertising intermediaries is anticompetitive, it is important to consider that these firms are vertically integrated and operate in two-sided markets. Their overarching goal in pricing the various advertising services they provide is therefore to optimize the overall use of the platform. Indeed, pricing on one

³ Sen. Mike Lee, *The TEAM Act*, MIKE LEE U.S. SENATOR FOR UTAH (June 14, 2021), <https://www.lee.senate.gov/2021/6/the-team-act>.

side of the platform is often used to subsidize participation on another side, increasing the value to all sides combined.

It is indeed true that, when viewed in isolation, pricing and other terms of exchange on one side of the market may appear to diverge from competitive levels. One side of the market may pay superficially higher fees, but that is offset by the benefits from increased participation on the other side of the market. In this way, using subsidies to increase participation on another side of the market creates valuable network effects for the side of the market facing the higher fees.

To determine whether a vertically integrated entity in a multi-sided market is behaving in a way that harms consumers or competition, you need to look at the net effects on all sides of the market. Here, the evidence is clear: the price of digital advertising has fallen steadily, while output has risen. From 2010 to 2021, U.S. digital-ad spending grew from \$26 billion to \$189 billion, or 20% a year on average.⁴ Over the same period, the Producer Price Index for digital advertising fell by an average of 4% a year.⁵ The combination of this rising spending with falling prices means that, rather than constrained output, the number of ads bought and sold has increased by about 25% annually over the last decade.

Even in the digital advertising space, competition abounds. Over the past decade, Amazon has grown from a bit player in digital advertising to one of the biggest, last year earning \$38 billion in ad revenue. TikTok, which is a little more than six years old, saw its digital advertising revenues last year surpass Twitter and Snapchat combined, and is on track to generate over \$18 billion in ad revenue this year. Walmart had \$2.7 billion of ad revenue last year. At the same time, adtech competitors continue to expand and invest in competing technologies. Microsoft, for example, acquired the Xandr (formerly AppNexus) digital advertising platform from AT&T last year for \$1 billion. Even if Google and Facebook were trying to block competition, they are failing.⁶

These figures are consistent with a growing and increasingly competitive market. This is important context for Congress to bear in mind as it considers imposing regulatory requirements on digital advertising firms.

⁴ Megan Graham, *Digital Ad Revenue Jumped 35% in the U.S. Last Year, Biggest Gain Since 2006*, WALL STREET JOURNAL (Apr. 12, 2022), <https://www.wsj.com/articles/digital-ad-revenue-jumped-35-in-the-u-s-last-year-biggest-gain-since-2006-11649759401>.

⁵ *Producer Price Index by Commodity: Advertising Space and Time Sales: Internet Advertising Sales, Excluding Internet Advertising Sold by Print Publishers*, U.S. BUREAU OF LABOR STATISTICS, <https://fred.stlouisfed.org/series/WPU365>; *Producer Price Index, December 2009—February 2021*, U.S. BUREAU OF LABOR STATISTICS, <https://fred.stlouisfed.org/graph/?g=vtTd>.

⁶ See generally Benedict Evans, *Retail, search and Amazon's \$40bn 'advertising' business*, BENEDICT EVANS (March 6, 2023), <https://www.ben-evans.com/benedictevans/2023/3/6/ways-to-think-about-amazon-advertising>.

Considering the AMERICA Act: Ads Are Not Stocks

Like the earlier proposed Competition and Transparency in Digital Advertising Act (CTDA), the AMERICA Act would amend the Clayton Act as it applies to online advertising. The legislation proposes two major changes.

First, companies with more than \$20 billion in digital advertising revenue would be barred from owning a digital advertising exchange where online ads are bought and sold, if it also provides services to buyers and sellers of ads, or if it sells advertising space itself.

Second, companies with more than \$5 billion in digital advertising revenue that provide services to buyers and sellers of digital advertising would have a legal duty to act in a customer's "best interest" and would have to comply with various transparency requirements.

Several proponents of the legislation—both within Congress and in academic and advocacy circles—have argued for these changes on grounds that they mimic longstanding rules based in securities regulation. But if one understands the mechanics of stock markets and the reasons they are regulated as they are, the analogy completely falls apart.

Defenders of the AMERICA Act argue that Google should be barred from acting as a broker on its own ad exchange, just as Goldman Sachs is prohibited from owning the exchange on which stocks are traded.⁷ But this is factually incorrect. It is true that Goldman Sachs does not own the New York Stock Exchange, but it does own a different stock exchange, called SigmaX2, where the same stocks are bought and sold. In fact, about half of all stock trades occur on trading venues owned by brokers.⁸ The bill's insistence on the centrality of physical separation is not supported by the facts of how markets work.

There is, in fact, a "best interests" rule in securities regulation, and it appears to be the inspiration for the fiduciary duty part of the AMERICA Act. But it exists precisely because brokers may own exchanges and otherwise act on behalf of clients when there are real or potential conflicts of interest.

Even when dealing with stocks—where value is an inherent and definable thing and price is the same for everyone at a given moment—the complexity of multiple venues and individuals pursuing their own self-interest nonetheless makes enforcing a "best interests" standard extraordinarily complex. In online display-ad auctions, prices exist for a particular

⁷ Sen. Mike Lee, *The AMERICA Act: Lee Introduces Bill to Protect Digital Advertising Competition*, MIKE LEE U.S. SENATOR FOR UTAH (March 30, 2023), <https://www.lee.senate.gov/2023/3/the-america-act> ("The conflicts of interest are so glaring that one Google employee described Google's ad business as being like 'if Goldman or Citibank owned the NYSE.'").

⁸ *US Equity Market Structure Analysis: Analyzing the Meaning Behind the Level of Off-Exchange Trading*, SIFMA INSIGHTS (Sep. 2021), <https://www.sifma.org/wp-content/uploads/2021/09/SIFMA-Insights-Analyzing-Off-Exchange-Trading-09-2021.pdf> (reporting 44% of trades in 2021 (through June 30) were "off-exchange").

viewer for a particular location at a particular time. These multiple factors and the lack of an objective valuation make determining the “best” price, or even a reasonable price, nearly impossible.

But more importantly, we must remember why the stock market is regulated as it is. It is because of the profound social importance of accurate stock prices. Stocks are the largest source of savings and investment for individual Americans. They serve an essential function in funding projects that provide most goods and services in the economy, as well as directing almost all economic activity.

Stock markets are engaged in the constant evaluation of the intrinsic value of a single thing, which has the same value for every holder, more or less. Finding that intrinsic value is the stock market’s purpose, and the regulation of disclosure and trading activity is centrally about that purpose.

Ad markets, on the other hand, are not about finding the intrinsic value of information conveyed on a website to a particular individual, but rather just what someone is willing to pay for it in that instant. For small businesses, something less than 10% of all sales are devoted to marketing of all kinds, making it an insubstantial business expense.

One also must ask why divestiture of ad exchanges would even be necessary once a best interests standard of this type is imposed. The AMERICA Act takes a belt-and-suspenders approach that offers more extensive protection for advertisers and ad buyers than stock traders, even though the potential mischief and consequences are greater in the securities world. Ordinary Americans have their savings and their futures bet in the stock markets, not in ad markets, which are merely places where business-to-business services are bought and sold. There is no investment or speculation in ad markets.

In short, stocks are regulated as they are because they are stocks. Ads are not stocks, and regulating them as if they were makes no sense.

Predictions Are Difficult, Especially About the Future

There are real dangers that accompany any intervention in complex markets. The history of digital advertising is one of dynamic changes to satisfy the demands of advertisers, publishers, and consumers. It would be a mistake to conclude that the days before vertically integrated digital advertising stacks were a golden age.

Early digital ads were poorly targeted and carried high fixed costs, much like conventional print and broadcast advertising. Over time, technological progress enabled this process to become far more automated, including the emergence of ad exchanges that sell ad space using real-time auctions. These innovations made digital advertising profitable for smaller

publishers, who would otherwise be unable to attract direct deals to sell ad space.

Bearing this in mind, Congress should carefully consider what the open-display ad tech market is likely to look like if the AMERICA Act is adopted.

Many of the competitors in open-display advertising—including some of the most important, like Amazon—started out by offering advertising on their own sites to their existing business customers. When some of these customers expressed interest in using the data and infrastructure developed on-site to advertise elsewhere, Amazon developed that capacity, leveraging its on-site advertising expertise to provide ads for Amazon merchants elsewhere on the Internet. That business then expanded further to connect other, non-Amazon-merchant advertisers to publishers on the Internet.

This has been one of the most significant sources of competition to Google and Meta in the open-display ad tech market. Indeed, in 2018, Amazon stopped buying product listings from Google, and soon rolled out its own competing product. Just a few days ago, Amazon entered into a deal with Pinterest to provide third-party ads on the platform for its almost 500 million users, enabling Pinterest users to readily convert their interests into purchases.⁹

The AMERICA Act would prohibit Amazon from offering these third-party advertising products, presumably forcing Amazon and all its independent sellers to revert to paying Google for off-site advertising. Other companies with advertising inventory that have developed their own third-party advertising networks, such as Walmart and Target, would also likely stop investing in them. It is hard to see how this result benefits advertisers, publishers, or users.

And while Google would be forced to divest its open-display advertising operations, those operations would remain intact and likely, to the extent allowed under the law, still vertically integrated. The net effect, as emerging and innovative competitors exit the market, would arguably be worse than the status quo. The vertical divestiture portion of the bill, in other words, may have perverse effects on competition and innovation.

⁹ *Amazon to bring third-party ad demand to the platform*, PINTEREST (April 27, 2023), <https://newsroom.pinterest.com/en/post/pinterest-announces-partnership-with-amazon-to-bring-third-party-ad-demand-to-the-platform>.

Todd Henderson

Questions for Response - "Competition in the Digital Advertising Ecosystem"

U.S. Senate Committee on the Judiciary

Subcommittee on Competition Policy, Antitrust, and Consumer Rights

June 2, 2023

Sen. Lee

Q: Your recent white paper, "Ads Aren't Stocks, or How Bad Analogies Make Bad Law," appears to have been written in your capacity as an academic affiliate with the International Center for Law & Economics (ICLE). At the hearing, you testified that you were not appearing on behalf of Google. However, ICLE is a longstanding beneficiary of funding from Google. Have you received any support, monetary or nonmonetary, from ICLE or any other source in exchange for or connected to your authorship of this white paper or any other commentary on the digital ads ecosystem? If so, please identify each instance.

A: All my papers and books are supported by philanthropy from foundations, organizations, and individuals. I have a long history of association with ICLE, as well as with other independent research organizations that promote the law & economics approach to legal scholarship. I receive compensation for writing papers and conducting research, but no monies that I receive in any way impact the arguments I make or conclusions I reach; no entity has any veto power or editorial control over my work. I was not compensated in any way for the public commentary (written and oral) I made on matters related to adtech. I volunteered my time and paid all my own expenses to work with Congress on this matter. I am not privy to the details of ICLE's fundraising operations.

Q: At the hearing, you raised the concern that imposing regulatory requirements on ad tech companies may require further government intervention in the industry. I share this concern, which is why the AMERICA Act does not create any new rulemaking or regulatory body. Instead, it provides greater transparency so that customers can police the market. In addition, would you agree that, when faced with a complex and concentrated marketplace, structural separation can be a cleaner and more effective solution instead of intrusive regulation?

A: My contention is that structural separation is not needed to address perceived conflicts of interest. The advertising market comprises business entities that are competent parties capable of determining whether and to what extent its counterparties' conflicts or potential conflicts are an issue that needs remediation.

The proposed legislation would not simply impose new transparency requirements, which may be perfectly benign. It also demands that firms who provide services to buyers and sellers of digital advertising have a legal duty to act in a customer's "best interest," enforced by the U.S. Justice Department and state attorneys general. This requirement was modeled on similar

standards in securities regulation (specifically, Reg NMS Rule 611, the “order protection rule”). Indeed, such rules exist in securities precisely because brokers may own exchanges and otherwise act on behalf of clients when there are real or potential conflicts of interest.

It is this latter requirement that I fear would require massive government intervention to enforce, and that is likely impossible to enforce effectively. While stocks have intrinsic value and just a single price for a potential investor at any given moment of trading, the multiplicity of factors that determine the relative value of a digital ad—to be served to a particular viewer at a particular location and a particular point in time—are legion. There is no referent “correct” price and therefore there cannot possibly be a determinable “best” price.

It is difficult to conceive of how the DOJ could possibly police a standard equivalent to NBBO in digital advertising. Doing so in securities markets requires a massive effort by an administrative agency stocked with specialists. The costs of this run into the billions. And yet, even in securities markets, only about half of all trades happen at national best bid offer (NBBO) price, and regulators acknowledge various reasons why this may be appropriate. This work is beyond the capacity and ken of lawyers at the DOJ and state attorneys general offices.

Q: Would you agree that legislation addressing specific, discrete issues is preferable to broadly-applicable, wide-ranging legislation?

A: I don’t think I’d agree with that framing in the abstract. Antitrust law is broadly applicable and wide-ranging. But it has also developed objective standards over years of case-by-case jurisprudence to ensure that it is deployed to address concrete harms to consumers or to competition. Where there are specific, discrete issues of competition, as is suggested here, I see no reason why existing antitrust law—or related doctrines regarding unfair, deceptive, or abusive acts or practices—could not already be employed to address them. There may also be cause for legislation prescribing *per se* rules, but I have not seen that case made persuasively with respect to issues arising in the digital-advertising market.

Sen. Grassley

Q: I’ve heard concerns that the bill’s upper \$20B threshold that triggers divestitures is too low and at this level will not help small ad tech companies to grow and compete more effectively as the bill intends. Do you agree? Why or why not?

A: Antitrust should seek to prohibit conduct that is harmful to consumers or to competition, regardless of the size or sector. Big is not inherently bad, and it should not be public policy to punish successful firms simply because of their size.

Sen. Tillis

Q: Under the AMERICA Act: a. How would small businesses that use online advertising be impacted? b. Would small businesses still have the same access to affordable advertising services?

A: As I mentioned in my written statement, over the past decade, the price of digital advertising has fallen steadily, while output has risen—the opposite of what we’d expect to see in a market that was insufficiently competitive. I am concerned about the effects the bill could have on small businesses’ ability to continue to access advertising technology and particularly whether the effort to crack down on the most successful adtech firms will impinge on the innovation cycle that small businesses have used effectively to reach a global audience. According to the Small Business & Entrepreneurship Council, more than two-thirds of U.S. small businesses say they would lack a cost-effective means to advertise without online advertising.¹ SBE also finds that efficient and cost-effective online advertising across a range of websites, apps, and technologies saves American small businesses an estimated \$163 billion annually, with businesses with the lowest revenues reporting the heaviest reliance on online advertising.²

A new report from Connected Commerce Council further demonstrates that 80% of small-business advertisers report that digital ads have helped their companies compete with much larger competitors.³ CCC finds that small-business advertisers have grown 39% over past two years due to digital advertising, that 82% say digital ads have allowed them to reach target customers more efficiently than traditional offline ads, and that 30% of small-business advertisers earn more than \$650,000 in annual revenue attributable to digital ads.⁴ Congress should proceed cautiously before acting to disrupt that ecosystem, which has been the lifeblood of U.S. small business.

Q: How would the AMERICA Act help or hurt smaller ad organizations who operate within the online advertising economy? If so, how?

A: It isn’t clear how it would help and there is always the potential that it could hurt. The medical principle—first, do no harm—should be a watchword for legislators too. The adtech market has been crucial for small publishers who earn their living selling ad space. The report from the Connected Commerce Council that I referenced in the last answer found that more than half (57%) of small publishers earned more than \$50,000 annually from selling digital ads, and 40% of small publishers said that selling digital ads drove more than half their overall

¹ *Online Advertising Delivers BIG Benefits for Small Businesses*, SBE COUNCIL (Sep. 10, 2019), <https://sbecouncil.org/2019/09/10/online-advertising-delivers-big-benefits-for-small-businesses>.

² *Id.*

³ *Maximum Impact: How Digital Ads Level the Playing Field for U.S. Small Businesses*, CONNECTED COMMERCE COUNCIL (2023), available at <https://connectedcouncil.org/wp-content/uploads/2023/03/Maximum-Impact-How-Digital-Ads-Level-the-Playing-Field-for-U.S.-Small-Businesses-2023.pdf>.

⁴ *Id.*

revenue.⁵ Of those small publishers the CCC surveyed, 71% said they would not have been able to launch and sustain their businesses without digital ads and 79% said that digital ads have helped their company compete with much larger publishers.⁶ The market works well for these firms. Indeed, 63% predicted that they would generate more revenue from digital ads this year than they did last year, with an average estimated increase of 35%.⁷

Q: Other than Google, who are the major players – including emerging players – in the online advertising economy?

A: Other firms that are considered established leaders in the digital-advertising market include The Trade Desk, MediaMath, Amobee, Adobe, and Adform, while more recent entrants to the market include Beeswax, Centro, Mediaocean and Zeta Global.⁸ Facebook, Magnite, AT&T, Comcast, and even Disney are also significant players.⁹ Other tech giants like Amazon, Microsoft, Apple, and ByteDance (the Chinese firm that owns TikTok) are growing their global advertising businesses far more quickly than Google.¹⁰ Retailers like Dollar Tree, Walgreens, Walmart, CVS, Target, Kroger, Best Buy, and The Home Depot have also entered the fray and rolled out their own ad networks and technology.¹¹ And the sector has been attracting investment rapidly,¹² with more than 20 publicly traded adtech companies today¹³—up from just four in 2017.¹⁴

⁵ *Id.*

⁶ *Id.*

⁷ *Id.*

⁸ Allison Schiff, *Google, The Trade Desk, MediaMath, Amobee, Adobe and Adform Lead The Pack In Gartner's 2020 Ad Tech Magic Quadrant*, ADEXCHANGER (Sep. 30, 2020), <https://www.adexchanger.com/ad-exchange-news/google-the-trade-desk-mediamaath-amobee-and-adform-lead-the-pack-in-gartners-2020-ad-tech-magic-quadrant>.

⁹ Tim Peterson, *How Disney Is Using Its Audience Data and Hulu's Ad Tech to Compete with Google, Meta and Amazon*, DIGIDAY (Mar. 3, 2022), <https://digiday.com/future-of-tv/how-disney-is-using-its-audience-data-and-hulus-ad-tech-to-compete-with-google-meta-and-amazon>.

¹⁰ Ethan Cramer-Flood, *Winter Is Here for Advertising, but It Will Be Mild and a Rebound Is Near*, EMARKETER (Jan. 9, 2023), <https://www.insiderintelligence.com/content/worldwide-digital-ad-spending-2023>.

¹¹ Allison Schiff, *Dollar Tree Launches Its Retail Media Network (We May Have Just Hit Peak Retail Media Network)*, ADEXCHANGER (Apr. 15, 2021), <https://www.adexchanger.com/ecommerce-2/dollar-tree-launches-its-retail-media-network-we-may-have-just-hit-peak-retail-media-network>.

¹² Sara Fischer, *The Ad Tech Industry's Record Rebound*, AXIOS (Jan. 11, 2022), <https://www.axios.com/2022/01/11/ad-tech-industry-record-rebound>.

¹³ Ronan Shields, *Can Wall Street's Ad Tech Love Affair Last?*, DIGIDAY (Nov. 16, 2021), <https://digiday.com/marketing/can-wall-streets-ad-tech-love-affair-last>.

¹⁴ @tkawaja, TWITTER (Apr. 23, 2021, 9:41 AM), <https://twitter.com/tkawaja/status/1385227341656465409>.

Q: What can and should be done to increase transparency within the online advertising economy?

A: To the extent that there are specific concerns about transparency into potentially inappropriate conflicts of interest in the adtech market, what is most important is that those be addressed industrywide and not applied only to a handful of players. But it is not clear to me that the sorts of conflicts alleged to exist in the adtech market are not already sufficiently transparent. Plenty of markets involve vertical integration with conflicts of interest, but do not require the kind of physical separation or fiduciary duties proposed by the AMERICA Act. Participants in ad markets are not unsophisticated consumers. They are businesses, who should be presumed competent to negotiate for themselves what level of transparency they need from their vendors. Even very small businesses hire lawyers, deal with various bureaucracies, engage with suppliers and customers in complex legal and business situations, and must think critically about a range of issues at least as challenging as advertising. Regulators are already empowered to act where there are allegations of genuinely deceptive or unfair business practices, and that should remain the focus.

Respectfully submitted,



Professor M. Todd Henderson



Testimony of Jason Kint

CEO, Digital Content Next

Before the

Senate Committee on the Judiciary

Subcommittee on Competition Policy, Antitrust and Consumer Rights

Competition in the Digital Advertising Ecosystem

May 3, 2023

Thank you, Madame Chair, Ranking Member Lee and Senators. My name is Jason Kint and I'm the CEO of Digital Content Next. DCN is the only trade organization dedicated to serving high-quality digital content companies that manage trusted, direct relationships with both consumers and advertisers. Our membership includes more than 60 media companies and thousands of brands from every segment of the

market, from large to mid-sized companies some who have been around less than a decade while others more than a century - all creating original news and entertainment delivered over the Internet. Our members include The New York Times, Wall Street Journal, Washington Post, Disney, Paramount, Philadelphia Inquirer, Vox Media Group, Daily Caller, the Financial Times, TelevisaUnivision and Major League Baseball¹. As background, I spent the first twenty years of my career running digital media businesses beginning with the advent of the web.

Our DCN members create trusted, original content. While they may have different legacies, they are all focused on creating and monetizing this content over the Internet. This content is funded primarily through advertising. Yet while advertising is woven into everyone's digital lives and provides significant funding for investment in content, news and entertainment, most people have only a vague idea of how it works including how closely its plumbing has grown to resemble a stock exchange.

In barely three decades, digital advertising has quickly evolved into a high-speed marketplace in which myriad pricing, placement, targeting, and auction levers are pulled in milliseconds, as we go about our digital and physical lives. This is now

¹ <https://digitalcontentnext.org/membership/members/>

the largest advertising market trading more than \$200 billion of advertising per year in the US - executed in real-time almost entirely by machines.

Like in the financial markets, brokers buy or sell on behalf of clients. To guard against fraud in the stock exchange, Congress enacted common sense rules nearly a century ago. These rules prohibit the biggest companies from operating on both sides of the market. These rules also require transparency and impose a duty on brokers to get the best deal for their client. In short, these are rules which every American can understand and support.

Unfortunately, there are no common-sense rules for the digital advertising marketplace. As a result, the supply chain is murky and rampant with fraud, insider trading and hidden fees. Ad tech companies often arbitrage users' data to use on behalf of other clients and for their own profits.

Google, the most dominant company in the digital advertising marketplace, enjoys a stranglehold over this entire supply chain since they offer the most popular software for advertisers buying ads, the most popular software for publishers selling ads and the most dominant exchange where bids are placed and winners are chosen. Google's dominant position is so problematic that a bipartisan group of State Attorneys General have filed suit² to end this monopoly. In January of this

² <https://www.texasattorneygeneral.gov/news/releases/paxton-files-third-amendment-antitrust-lawsuit-against-google>

year, the Biden Department of Justice filed a similar suit³ which was the result of an investigation initiated by the Trump Administration. Perhaps the best illustration of Google's dominant position was the quote included as evidence in the government's suits. Google's own executive said, "The analogy would be if Goldman or Citibank owned the New York Stock Exchange." I kid you not. How that plays out in reality is clear in the lawsuit allegations and industry conversations where Google warns publishers you have to abide by their design and their rules and give Google access to your data or you won't have access to the advertising demand that Google controls.

Digital advertising is a critical driver for our economy. That's why DCN wholeheartedly supports the AMERICA Act which was introduced by Senator Lee and co-sponsored by many of the Senators here today. The bill would require transparency, promote competition, reduce obvious conflicts of interest, and stop market abuses by the most dominant companies. The bill lays out basic, common-sense rules for the digital advertising marketplace that once again all Americans can understand and support.

Ultimately, the focus of the discussion around this legislation will be the breaking up of Google's ad tech services which, don't get me wrong, is certainly a necessary

³ <https://www.justice.gov/opa/pr/justice-department-sues-google-monopolizing-digital-advertising-technologies>

and good idea⁴. And there will be some who argue why not just let the Courts handle the antitrust lawsuits first before passing new laws? I have two reasons. First, as it relates to Google, we don't have time for a long appeal process as they've increasingly sucked the potential for profits out of the news media industry. Second, this legislation isn't merely about the behemoth, but it also importantly addresses transparency and eliminates conflicts of interest for even the middle-sized adtech companies so that all brokers have to serve their clients' interests. By lowering costs for publishers and advertisers, the AMERICA Act will also lower costs for consumers and help protect their privacy.

As Senator Lee previously said, "This is not a bill that's either liberal or conservative, it's not Republican or Democratic, this is just a good business process bill." We agree and applaud your work on behalf of the free and local press, small and large, old and new. I urge this committee to pass the AMERICA Act so that consumers and businesses will benefit from a healthy digital advertising marketplace.

Thank for you for inviting me to testify today and I look forward to answering any questions you have.

⁴ <https://www.wsj.com/articles/gop-led-legislation-would-force-breakup-of-googles-ad-business-11652969185>

Senator Grassley's Questions for Mr. Kint

1. I've heard concerns that the bill could have negative impacts on small adtech companies in this market. Specifically, I've heard concerns that because of the expansive definition of "digital advertising revenue," these companies immediately would be subject to burdensome and costly new regulations that could hamper their incentive to invest and ability to compete in this market.

- Do you share this concern? Should the lower \$5B threshold be increased and some of the regulations revised to ensure that small adtech competitors are not put at a disadvantage? Why or why not?

ANSWER – I do not share this concern that there will be negative impacts on small adtech companies in the market. It is important to note that small adtech companies would not fall under the jurisdiction of the AMERICA Act. The \$5 billion threshold would capture only fairly large adtech companies. Regardless of which companies are impacted, the obligations of the AMERICA Act are common sense rules that any regular American can understand as they reduce conflicts of interest and are currently in place in the stock exchange. These rules simply require transparency and that adtech brokers pursue the best interests of their clients. The rules are only burdensome to the extent that they would curb insider-trading and illicit collusion which should be a noncontroversial goal for any real-time market of this magnitude and importance to the flow of information and entertainment.

2. Small adtech companies are concerned that some of the bill's substantive regulations will require them to incur significant additional annual compliance costs to retain and process the enormous volumes of data and records mandated by the bill. In their view, such new costs would serve as a windfall to large tech companies with enormous cloud storage businesses, which are some of the same dominant companies the bill is attempting to moderate in order to enhance competition. Do you agree with these concerns? Should these substantive requirements be tailored to reduce compliance costs and avoid dampening investment, innovation, growth, and increased competition from these small market participants? Why or why not?

ANSWER – No I do not agree with these concerns. Again, it is important to note that only larger adtech companies (over the \$5 billion annual threshold) would be subject to obligations of the AMERICA Act. Small adtech companies, by any reasonable definition, would not be subject to the obligations of the AMERICA Act.

Sen. Mike Lee
Questions for the Record
Competition in the Digital Advertising Ecosystem
May 3, 2023

JASON KINT

1. How would the AMERICA Act benefit advertisers and publishers?

Today, there are no basic rules for the digital advertising marketplace and the result is increased costs for publishers, advertisers, and consumers. As a result, the supply chain is murky and rampant with fraud, insider trading and hidden fees. Large adtech companies often arbitrage bid data and users' data to use on behalf of other clients and for their own profits. Google, the most dominant company in the digital advertising marketplace, enjoys a stranglehold over this entire supply chain since they offer the most popular software for advertisers buying ads, the most popular software for publishers selling ads and the most dominant exchange where bids are placed and winners are chosen. In addition, Google's data mining tentacles extend beyond its adtech businesses into its dominant Chrome browser, dominant Android operating system and other services where it can exploit user data across much of the web and app ecosystem to maximize its own profits and interests. Google's dominance in the market, has garnered attention even at the state level, where a bipartisan group of State Attorneys General have filed a lawsuit to end this monopoly. Furthermore, in January of this year, President Biden's Department of Justice filed a similar lawsuit which was the result of an investigation initiated by the Trump Administration. Perhaps the best illustration of Google's dominant position was the quote included as evidence in the government's lawsuits. One of Google's own executives described its market advantages as, "The analogy would be if Goldman or Citibank owned the New York Stock Exchange."

The AMERICA Act would introduce transparency and reduce conflicts of interest for larger adtech companies so that brokers must serve their clients' interests. In this way, the AMERICA Act provides the most fundamental guardrails for a flourishing competitive marketplace where brokers must compete for business. By lowering costs for publishers and advertisers, the AMERICA Act will also lower costs for consumers and help protect their privacy.

2. Are publishers worried that structural separation to eliminate conflicts of interest would diminish returns from advertising, or do they expect that increased competition would increase advertising quality and thus increase revenue for publishers?

Publishers have seen fewer and fewer returns from the digital advertising marketplace as tech giants and middlemen extract data and squeeze profits from the supply chain. Instead of rigid government regulation, the AMERICA Act would require transparency and prohibit insider-trading to create a marketplace where adtech companies would compete to provide the best tools and most revenue for publishers as well as the best returns for advertisers.

Questions from Senator Tillis

1. Under the AMERICA Act:

a. How would small businesses that use online advertising be impacted?

Small businesses would benefit from the AMERICA Act in several ways. Today, there are only a handful of big tech companies that largely control the rules and flow of dollars in the digital advertising marketplace. Thus, small businesses have limited options for where and how they choose to advertise their goods and services. In addition, data about their audiences and advertising campaigns is often not shared back with the small business. Instead, the data is hoarded by these adtech companies for their own business interests and that of their other clients. In today's market, small businesses have very little market power to demand better terms or prevent their audience data from being misused or stolen. Under the AMERICA Act, small businesses will have more choices about how and where they can advertise their goods and services. In addition, small businesses will be able to better understand and restrict how the data about their customers is re-used. Finally, the best interest obligations of the AMERICA Act will ensure that small businesses are protected from shady actors.

b. Would small businesses still have the same access to affordable advertising services?

Yes. Today, a handful of big tech giants largely control the digital advertising marketplace. While these services are marketed as "affordable," the reality is that there is little competition on price, quality, or brand protections. Under the AMERICA Act, adtech brokers would be obligated to serve the best interest of their small business clients which includes getting the best price and/or most value and protecting their audiences and brands. In addition, fostering competition would lead to a variety of options for small businesses to choose from when deciding on how to deploy their next advertising campaigns.

2. How would the AMERICA Act help or hurt smaller ad organizations who operate within the online advertising economy? If so, how?

Today, smaller ad organizations cannot compete with the scale and market power of the big tech companies. In addition, the big tech companies often set the rules and norms for the industry. The AMERICA Act would create a more level playing field where larger adtech companies would be expected to be transparent with their clients and represent their best interests. And it would do this, not by introducing any obligations for small ad organizations (under \$5 billion), but by providing them additional protections and benefits as they do business and attempt to compete with market dominating firms.

3. Other than Google, who are the major players – including emerging players – in the online advertising economy?

One example of the detrimental impact of Google's dominant position in the marketplace has been the lack of any new emerging players in the digital advertising marketplace. The only potential for competition has come from other tech giants such as Amazon and Facebook who have collectively absorbed nearly all of the growth in the advertising industry. In the case of Facebook, it is important to note allegations by the Justice Department that Google and Facebook reached an agreement to section off certain parts of the market and avoid competing effectively squashing other competitors and protecting their respective dominant positions.

4. What can and should be done to increase transparency within the online advertising economy?

The AMERICA Act elegantly allows for clients (advertisers and publishers) to obtain data from adtech companies about how their own advertising is being purchased vs sold, respectively, and how their proprietary data is being used. By allowing greater access to this data for clients, the adtech marketplace will be forced to compete on more fair terms.

QUESTIONS FROM SENATOR BLACKBURN

1. **There has been significant discussion about Google's dominance of the digital adtech market. However, there are other companies, both large and small, that operate in different parts of the ad stack that your members likely often work with.**

- a. **In your view, what is the universe of companies that would be impacted by the *America Act*?**

- b. **Where in the ad stack does competition among these companies break down?**

It is important to note that only larger adtech companies would fall under the jurisdiction of the AMERICA Act. Small adtech companies do not have any obligations under the AMERICA Act. The bill requires that companies with more than \$5 billion in transactions must be transparent with their clients and pursue the best interests of their clients. These rules would curb insider-trading and illicit collusion resulting from leveraging opacity and market power. For companies that exceed \$20 billion in transactions, the bill would prohibit them from operating on both the buy and sell side of the market. Very similar rules were established by Congress for the stock market nearly a century ago.

Today, there are no basic rules for the digital advertising marketplace and the result is increased costs for publishers, advertisers, and therefore consumers. As a result, the supply chain is murky and rampant with fraud, insider trading and hidden fees. Large adtech companies often arbitrage bid data and users' data to use on behalf of other clients and for their own profits. Google, the most dominant company in the digital advertising marketplace, enjoys a stranglehold over this entire supply chain since they offer the most popular software for advertisers buying ads, the most popular software for publishers selling ads and the most dominant exchange where bids are placed, and winners are chosen. In addition, Google's data mining tentacles extend beyond its adtech businesses into its dominant Chrome browser, dominant Android operating system and other services where it can exploit user data across much of the web and app ecosystem to maximize its own profits and interests. Google's dominance in the market, has garnered attention even at the state level, where a bipartisan group of State Attorneys General have filed a lawsuit to end this monopoly. In January of this year, President Biden's Department of Justice filed a similar lawsuit which was the result of an investigation initiated by the Trump Administration. Perhaps the best illustration of Google's dominant position was the quote included as evidence in

the government's lawsuits. Google's own executive described its own market advantages as, "The analogy would be if Goldman or Citibank owned the New York Stock Exchange."

The AMERICA Act would introduce transparency and eliminate conflicts of interest for even the middle-sized adtech companies so that all brokers must serve their clients' interests. In this way, the AMERICA Act provides the most fundamental guardrails for a flourishing competitive marketplace where brokers must compete for business. By lowering costs for publishers and advertisers, the AMERICA Act will also lower costs for consumers and help protect their privacy.



Autocracy, Automatic?

**How to Make Google, Facebook, and Amazon Safe for Democracy Through
Traditional Non-Discrimination Rules**

**Testimony before the Senate Committee on the Judiciary
Subcommittee on Competition Policy, Antitrust, and Consumer Rights**

**Hearing on:
Competition in the Digital Advertising Ecosystem**

May 3, 2022

**Barry C. Lynn
Executive Director
The Open Markets Institute**

**INTRODUCTION:**

The American people today face the gravest set of threats to our democracy and individual liberties ever posed by any corporations in our history. A few vast, far-reaching private actors have captured control over core U.S. communications and commercial networks to an extent far beyond any previous monopolist, including the plutocrats of the Gilded age. The masters of these corporations originally aimed simply to put their hands on the flows of advertising revenue, and thereby concentrate great wealth and power. But along the way they also developed capacities to open and close the gates of communications and commerce in ways that have empowered them to manipulate how individual citizens and businesses speak with and do business with one another. In other words, they developed forms of political power that are overtly autocratic in nature.

These threats become only more acute by the day. We see this in the news last week about the closure of BuzzFeed News, as well as recent layoffs at Vice, Vox, ABC, and NPR, among many other news publishers. We see this in the recent seizure of the nation's most important platform for public debate – Twitter – by one of the world's richest men, and his use of this control to blatantly censor mainstream journalists and any other individuals he may dislike. We see this in the rapid introduction by Google, Microsoft, and a few other giant platforms of poorly understood generative AI technologies that are already making it much harder for publishers to connect to advertisers, and for journalists and their readers to connect with one another.

For these reasons and more it is a great honor and privilege to be asked to provide testimony at today's very important hearing. The members of this subcommittee – from both parties – have bravely led the way in shining a light on these threats and in taking concrete steps to address



them in ways that protect journalists, news publishers, and advertisers, and thereby our democracy and our most basic forms of human liberty.

In presenting this testimony today, I speak as the Executive Director of the Open Markets Institute, which has long led efforts among public interest institutions to understand the nature and extent of the threats posed by Google, Facebook, and other online monopolists, and how to master them. Our team's work on these threats reaches back more than 20 years, including the last six years as an independent organization.

For the last three and a half years, Open Markets has also been home to the Center for Journalism and Liberty, which is supported by the Knight Foundation and other public interest funders committed to the protection of a free press and free debate in America. CJL's core mission is restore an open market system for advertising in the United States, by eliminating or neutralizing the ability of middleman monopolists such as Google and Facebook to divert advertising revenue from news publishers into their own pockets.

Importantly, I also bring to the conversation today the perspective of someone who has worked as a journalist for more than 35 years. This includes stints as a foreign correspondent, newspaper reporter, business reporter, and political economic essayist. Most of value to our discussion today, it also includes seven years running *Global Business* magazine, a monthly 100,000 circulation, four-color, 96-page, perfect-bound business magazine that – until its closure after the September 11 attacks – was supported almost entirely by advertising from a highly diverse set of companies.

In my testimony today, I'd like to make two main points.



First, the AMERICA Act is a brave and important step in the right direction, one that we at Open Markets strongly support. We commend Senator Lee and his staff for drafting a smart bill that – if signed into law – would do much to properly structure a market for online advertising in the Internet age. This includes by making it harder to manipulate automated trading, establishing true transparency and hence the ability by both users and the public to audit the behavior of market actors, and by outlawing favoritism by those who control advertising platforms. Indeed, in many respects, the AMERICA Act can serve as a model for other efforts to rebuild fair and competitive markets online.

Second, unfortunately, the Open Markets Institute believes this bill, on its own, is not sufficient to resolve most of the problems created by having allowed Google, Facebook, and Amazon to monopolize online advertising, let alone to build such wide ranging and powerful systems for surveilling and manipulating the actions of individual citizens and businesses. Even if Congress were to pass the AMERICA Act tomorrow, these corporations would still pose many other immediate threats to our democracy, individual liberty, and economic wellbeing.

That’s why the Open Markets Institute also strongly supports the American Innovation and Choice Online Act (AICOA) and other projects to restore traditional U.S. policies designed to eliminate the ability of middlemen corporations to exploit their power to preference their own services and goods. And why Open Markets supports the Journalism Competition and Preservation Act (JCPA) as a vital first step towards restoring a truly open and competitive market for news and debate in the United States, fully protected from predatory middlemen illegally exploiting their gatekeeper power.

That said, we at Open Markets do not believe that these three bills – taken together – are sufficient to address today’s crisis. None of the three bills, for instance, deal with the power of the middlemen to manipulate what citizens read, or for that matter, whether they read at all.



That’s why I intend to devote most of my testimony today to explaining why the Open Markets Institute believes it is so important to impose a system of non-discrimination on Google, Facebook, Amazon, and other middlemen corporations, one that would require these gatekeepers to provide essentially the same service to all individuals and businesses who depend on these platforms to speak with and do business with one another. This principle – of absolutely equality of treatment – traces to the Declaration of Independence and is one of the core goals of the Constitution of the United States. It was also the practical foundation for the regulation of all network monopolies and other powerful gatekeepers throughout U.S. history, until the Reagan and Clinton administrations overturned these principles and policies in the 1980s and 1990s.

Senator Franken, when he was a member of this committee, captured this basic idea in a speech he gave five and a half years ago. In November 2017, speaking of online platform monopolies including Google, Facebook, and Amazon Senator Franken said: “As tech giants become a new kind of internet gatekeeper, I believe the same basic principles of... neutrality should apply here: no one company should have the power to pick and choose which content reaches consumers and which doesn’t.”

The time has come for us to pick up Senator Franken’s challenge, and to complete the task of making the internet platforms safe for democracy.

AMERICA’S DIGITAL ADVERTISING ECOSYSTEM – A CLUSTER OF THREATS

In retrospect, the speed with which Google and Facebook rose to power is astounding. So too the variety and magnitude of the political, social, and economic crises that are a direct result not merely of their sprawling size and monopoly power, but of a business model based on



manipulation and extortion of the individuals and companies that rely on them to get to market.

Consider, for instance, the changes in the advertising and publishing businesses themselves. Two decades ago advertisers and publishers interacted directly with one another, in a great open market system. No one publisher or advertiser had significant power over the business of advertising or of news, or over what people read or how they communicated with one another. Yes we can point to instances in which a large advertiser exercised some influence over news coverage, especially at smaller publications. But the overall picture is of an amazingly open and robust discussion, run by and for the citizens of the world's greatest democracy, paid for largely by advertisements for local businesses, much as had been true since before the Revolution.

Better yet, the fast-emerging technology of the Internet was providing citizens with all sorts of new ways to share information and ideas with one another, including through the creation of alternative forms of news gathering and publishing. Just two decades ago, true democracy was very much on the march.

Today by contrast the entire digital advertising system is controlled by a few giant middlemen, able to manipulate and sometimes determine what people read and increasingly whether they actually read at all. These same few middlemen also routinely rent out their platforms to political actors – many of them in hostile foreign states – who use them to shape opinion in the United States and to disrupt and warp debate among U.S. citizens.

The effects on American journalism and America's news publishers have been well documented, by news publishers, journalism schools, and organizations like the Center for Journalism and Liberty at Open Markets. But it's worth restating briefly the most immediate



result of how Google, Facebook and other gatekeepers exploit their position as powerful middlemen and gatekeepers. Which is the diversion – or if we are honest, theft – of billions of dollars of advertising revenue every year from trustworthy local and national news outlets and specialized trade publications. This includes, importantly, almost every major online native publisher and broadcaster, such as BuzzFeed.

It's also worth recounting some of the political and social effects of having allowed a few vast and all-powerful online middlemen to insert themselves between journalist and reader, and between advertiser and publisher. These include:

- The de facto corruption of some of our biggest newspapers, by Google and Facebook, as the Open Markets Institute has detailed, and as NewsCorp has admitted, both in articles published in the *Wall Street Journal* and in statements to investors.
- The fear and servility we see among publishers both big and small, who fear not only that Google, Facebook, and Amazon will take their advertising revenue, but that they will divert readers and viewers from them. As Nicholas Thompson, then the executive editor of *Wired*, once put it, “Every publisher knows... they are sharecroppers on Facebook’s massive industrial farm... And journalists know that the man who owns the farm has the leverage. If Facebook wanted to, it could quietly turn any number of dials that would harm a publisher – by manipulating its traffic, its ad network, or its readers.”
- The dramatic shift of many established publishers to subscription-based models, protected by paywalls, which has deprived citizens and students across America and around the world from easy access to much of the quality journalism that remains.



- The prevalence of misinformation, disinformation, and propaganda on the internet, much of it designed to stoke division and even violence in our society and our political system, as has been extensively investigated and detailed by Congress and others.

As the AMERICA Act makes clear, having allowed a few vast and all-powerful online middlemen to insert themselves between journalist and reader, and between advertiser and publisher, has also been bad for advertisers. Senator Lee’s staff, and my friends at this table and elsewhere, have made this case very effectively, so there is little need to add to the facts they have already provided.

One point I can add, based on my own direct personal experience running a business magazine for seven years, is that this has also resulted in the collapse of almost most trustworthy auditing of the effectiveness of advertising on the internet. When I edited *Global Business* magazine, we devoted a large percentage of our revenue each year to proving to publishers that we could prove who our readers were, and to some degree what exactly they were reading. Today by contrast, there is little to no independent auditing, hence no idea how well advertising really works on any particular platforms.

Again and again, day after day, we are reminded that the business model of Google, Facebook, and Amazon – based on monopoly control of the gates to the market, plus monopoly control over digital data and the ability to manipulate that data, plus a license to discriminate in the delivery of essential services across that platform, has resulted in a communications system that poses a direct threat to our national security.

All the way back in November 2017, Senator Franken asked: “Can you ever catch all the signals that seem so obvious in hindsight – for example, political ads that are paid for in rubles?” Yes, there have been some efforts to reduce Russian propaganda in the years since. But is not the same question equally valid today if we change the currency in question to Renminbi? Recently



Congress held extensive hearings that raised very important questions about potential security threats posed by TikTok. But has anyone quantified, by contrast, how much advertising Facebook booked last year from major Chinese corporations, all of which are under the direct sway of the government in Beijing?

And let's be clear, these problems are not isolated to the United States. These monopolists, wielding this discrimination based business model, have disrupted political debate and political outcomes in nations around the world, including in our most important democratic allies.

Again and again, day after day, we are reminded that the business model of Google, Facebook, and Amazon – based on monopoly control of the gates to the market, plus monopoly control over online data and the ability to manipulate that data, plus a license to discriminate in the delivery of essential services across that platform, has resulted in communications and commercial systems that pose a variety of direct threats to our democracy.

Let's remember, for instance, that the basic problem we are discussing here today in relation to news publishers and advertisers also applies to America's market for books. As we at Open Markets have repeatedly detailed, Amazon is able to wield a vast and intricate array of direct and arbitrary powers over book publishers, book authors, and book readers, in ways that distort their commercial and political actions, thoughts, even beliefs.

Yes, the fact that Google and Facebook have captured duopoly control over advertising poses a variety of threats to journalists, news publishers, advertisers, and the public at large. But there is an even larger problem. Which is that Google, Facebook, Amazon and a few others have captured the power to determine, day after day, who gets to sell their wares in the market and who does not, who gets to speak freely and who does not.



Let's also remember how this system of automated top-down extortion, manipulation, and fear affects the actions, public statements, even thoughts of the people and businesses who are subject to these powers day after day.

In 1913, at the height of the power of the plutocrats, President Woodrow Wilson described how their system of control worked on the minds and dreams of even the entrepreneurs who depended on their favor to get to market. "Some of the biggest men in the United States, in the field of commerce and manufacture, are afraid of somebody, are afraid of something," Wilson said. "They know that there is a power somewhere so organized, so subtle, so watchful, so interlocked, so complete, so pervasive, that they had better not speak above their breath when they speak in condemnation of it."

What we must ask ourselves today, here in this room, is whether the same is true of an American economy and society that has been made subject to the automatic arbitrary regulation of Google, Amazon, and a few other giants who have captured direct control over the gates of commerce and communications. The result, if we are honest, is the simultaneous pyramidization of power within our political economy, as even some of America's largest corporations become afraid of the power of Google and Amazon, and the atomization of the public itself, as the manipulation and discrimination machines of the middlemen separate the American people into 330 million discrete bubbles of anger, bewilderment, and ignorance.

MISSING FROM THE RESPONSE – THE RESTORATION OF NON-DISCRIMINATION

Seven years ago next month, in June 2016, Open Markets hosted the first major conference in Washington of the political and economic threats posed by today's most dangerous monopolists, right here on Capitol Hill. Five and a half years ago, in December 2017, I had the



honor of speaking when this subcommittee hosted the first hearing into the underlying source of our monopoly crisis today, namely the pro-monopoly consumer welfare philosophy of Robert Bork and other members of the Chicago School. Five years ago, in June 2018, Open Markets hosted the conference Breaking the News: Free Speech & Democracy in the Age of Platform Monopoly, the first raised many of the questions we are addressing today, and which featured important speeches by Senator Klobuchar and the CEOs of both the New York Times and NewsCorp.

In the years since the American people have witnessed an explosion of legislation, law enforcement actions, and other regulatory efforts – in the United States and around the world – to fix these and related problems. We can now point to heroic actions not only by the senators in this room and by other lawmaking institutions such as the European Parliament, but by enforcers at the Department of Justice and Federal Trade Commission here in Washington, the Bundeskartellamt in Germany, the Competition Markets Authority in the U.K., the European Commission in Brussels, as well as government agencies in France, Italy, the Netherlands, South Africa, Turkey, Brazil, Australia and elsewhere. We can also point to a growing list of important private lawsuits, and even dramatic actions by private corporations, such as Apples new privacy rules.

Within this context, the AMERICA Act stands as one of the most important potential actions we can take. And as I said in my introduction, so too the American Innovation and Choice Online Act (AICOA) and the Journalism Competition and Preservation Act (JCPA).

But as I also made clear earlier, we at Open Markets believe that one idea remains largely missing from our efforts to make Google, Facebook, and Amazon safe for democracy. This is the idea Senator Franken proposed in 2017, which is to enforce America’s traditional regime of non-discrimination rule on these platforms.



To understand the importance of enforcing traditional non-discrimination rules on Google, Facebook, Amazon and other platforms, some history may be of value. What we will discover, if we look to our own past, is that laws designed to ensure that monopolists treat all people the same are among the oldest regulations in human society, and can be traced back thousands of years. Initially, such rules were designed to impose simple common carrier style responsibilities on providers of transportation and other essential services. Requiring, for instance, that every ferry owner and bridge operator provide the same access at the same price to all comers.

In the early days of the modern era, however, legal scholars began to view the requirement that monopolists treat all users the same as essential to democracy. In the early 17th century, for instance Queen Elizabeth and King James attempted to impose systems of absolute control in Britain, much as Louis XIII and Louis XIV were doing in France. Key to their scheme was their claim to have a right to reward their personal allies with licenses to govern some particular economic activity or other – such as the sale of beer, salt, tin, iron, even the manufacture of playing cards. In exchange for this monopoly patent, the new monopolist was expected to kick back much of their monopoly profits to the sovereign.

But this system was much more than simply a way for the sovereign to raise funds. After all, in the same way the sovereign had arbitrarily granted the monopoly license, thus could the sovereign take that license away, at any time and for any reason. The result was a nearly perfectly hierarchical system designed to force every monopolist always to curry the favor of the sovereign, lest the sovereign shift the monopoly patent to some fresh friend. And thus on down the chain of command through all of society.

In Britain, the reaction against this pyramidal system of servility culminated in the 1620s in a rebellion within Parliament against the absolute power of the sovereign. The ultimate goal of leaders of the rebellion, such as the famous legal scholar and legislator Edward Coke, was to



ensure that everyone could speak freely without fear of facing arbitrary punishment by the sovereign. The immediate goal, therefore, was to ensure a rule of law under which all property of the individual was safe from arbitrary lawless seizure, either by the sovereign directly, or by a private monopolist acting more or less directly as an agent of the sovereign. The ultimate result was the Statute of Monopolies of 1624.

Later in the 17th Century, legal scholars began to formalize a vision of common law regulation of monopoly around the idea that any essential service “is become a thing of public interest and use.” Hence, that the public can therefore require the owner of a monopoly to provide service “at due times,” keep their conveyances “in due order,” and collect “but a reasonable toll.”

These political battles and writings had a profound influence on the founding generation in the United States, who embraced their basic tenets from the first. John Adams, for instance, described Coke as “the oracle of the law,” while Thomas Jefferson credited Coke with “the profounder learning” in the “doctrines of the British liberties.” In many respects, America’s revolutionaries saw themselves as completing the work that Coke and other British republicans had started more than a century earlier.

After the American revolution, the citizens of the new United States began to immediately apply this thinking to the political economy of the new nation. This includes passing a special clause in the Constitution that not only created a new Postal Service but ensured that this infrastructure treat every user the same. Americans also devoted much effort to avoid the concentration of arbitrary power in any national or local bank. Then over the long course of the 19th Century, they applied a variety of common carriage rules and related forms of regulation to such then-revolutionary and disruptive communications and transportation technologies as the telegraph, telephone, and railroad, at both the state and then the federal level.



This effort culminated in the passage of the Interstate Commerce Act of 1887, which applied the system of non-discrimination to America's new railroad networks, both to guarantee equal rights of usage to all Americans and to prevent the managers of these systems from leveraging their power to roll up control over other people's businesses and properties.

To understand the thinking behind the Interstate Commerce Act, it's worth quoting the words of one of the experts of that era, Yale professor Arthur Hadley, whose 1885 book "Railroad Transportation" helped guide Congress in its efforts to draft the Act. Discrimination "between individuals," Hadley wrote, "is the most serious evil connected with our present methods of railroad management. Trade adjusts itself to almost any system of classification, and sometimes even to local discriminations. But where two individuals, under like circumstances, receive different treatment, no such adjustment is possible."

One result of such personalized discrimination is a dramatic concentration of power and control, Hadley warned. "Differences are made which are sufficient to cripple all smaller competitors, and sooner or later drive them to the wall, and concentrate industry in a few hands." "[T]he great majority of local and personal discriminations are in favor of the strong," he added. "As such they do great harm to the community by increasing inequalities of power."

More dangerous yet, Hadley wrote, was the direct collapse of rule of law under a system of discrimination, hence of the security of private property. "Where the system of granting special privileges becomes deeply rooted," he explained, "a great many are granted without any principle at all, through the caprice or favoritism of the railroad companies and their agents."

Today, most scholars of competition policy tend to view the Sherman Antitrust Act of 1890 as the foundation of modern competition policy in the United States. Yet in many respects, the Sherman Act was more of an addendum to the Interstate Commerce Act, in that it was an effort



to break the power of the corporations such as Standard Oil and Carnegie Steel that had taken advantage of the railroads' license to discriminate to crush their opponents and to concentrate enormous power.

The following passage from the book "Railroaded: The Transcontinentals and the Making of Modern America," by the historian Richard White is helpful in understanding how the Sherman Antitrust Act stands on a foundation created by the non-discrimination provisions of the Interstate Commerce Act.

"The second mark of monopoly was the ability to destroy, limit, or distort competition," White writes. "The competition in question was not simply between the railroads themselves and railroads and other forms of transportation; it was competition between all those businesses that used the railroads. By manipulating rates, the railroads could decide who succeeded in business and who failed. They could discriminate among individuals, offering favored shippers lower rates or rebates. They could discriminate among places, giving towns equidistant from the same destination different rates. They could discriminate among things, putting similar kinds of cargo in different categories and charge them different rates. The railroads ability to discriminate – to use another key word in the antimonopolist vocabulary – against republican citizens violated both equity and the basic rules of the market."

Finally, let's turn to Senator John Sherman himself. In a speech in 1890 Sherman defending the bill that bears his name, Sherman made clear that he viewed rules against discrimination by powerful monopolists as a foundation of the "liberty" of the individual. "It is the right of every man to work, labor, and produce in any lawful vocation and to transport his production on equal terms and conditions and under like circumstances. This is industrial liberty, and lies at the foundation of the equality of all rights and privileges," he said. (This passage also makes



clear that the Senator’s main concern in drafting the bill was anything but the “welfare” of the “consumer.”)

In the years to come, Congress made the prohibitions against discrimination by monopolists only that much more clear, while extending the prohibitions to ever more sectors of the U.S. political economy. This includes the Mann-Elkins Act of 1910, which formally extended the basic provisions of the Interstate Commerce Act to the telegraph, telephone, and wireless industries, as well as pipelines. It also includes the Clayton Antitrust Act of 1914, designed in large part to blend the basic goals of the Sherman Act and Interstate Commerce Act into a single system of law. And it includes the Robinson Patman Antitrust Act and federal fair trade pricing laws.

The immediate effect of all these laws was to protect independent U.S. businesses and citizens from the exercise of arbitrary power by private monopolists. As the economist George Stigler explained in 1952, speaking of the Robinson Patman Act, “The prohibition against price discrimination was partly designed to cope with a real evil: the use by a large company of its monopoly power to extort preferential terms from suppliers.”

Thus, as a series of revolutionary new communications and transportation technologies radically disrupted almost every traditional marketplace structure in America, Americans used these antidiscrimination regimes to restore traditional marketplace competition on a new national scale. Importantly, they did so in ways that hugely boosted true innovation and efficiency, through the careful protection and promotion of inter-brand competition. Most importantly, these antidiscrimination regimes helped to ensure that these new technologies truly served the public interest, by making it all but impossible for private actors to leverage these powerful infrastructures to concentrate the sort of wealth, power, and control that could threaten the foundations of democracy.



Much as the Declaration of Independence and Constitution had established equal justice before the law, this series of antimonopoly laws ensured equal treatment of the citizen and business by the monopolist, thereby serving as an essential extension of the American system of checks and balances from the political system into the political economy.

HOW CHICAGO SCHOOL UNLEASHED PRIVATE AUTOCRACY

As this subcommittee has discussed in detail, America's monopoly crisis was set into motion in the early 1980s, when the Administration of President Ronald Reagan embraced the thinking of Robert Bork and other members of the "Chicago School" regulatory philosophy. The single most important teaching of Bork and his allies was that the primary goal of competition policy should be to promote efficiency, which provided an excellent excuse for not enforcing the law against any monopolist that could make a rudimentary case that it was using its power to drive down prices to the consumer.

This thinking was later strongly embraced by the Administration of President Bill Clinton, which extended this basic thinking to how the United States governs international trade, as well as the defense, energy, banking, media, communications, and other industries subject to sector specific regulation.

Less well understood is how Bork in his book "The Antitrust Paradox" also helped to undermine America's traditional prohibitions against first-degree personalized discrimination by the monopolists who control our communications and commercial platforms, and other providers of essential services and goods.



In the “Antitrust Paradox,” Bork delivered his coup in an almost backhanded way. His first step was to recognize that price discrimination might indeed pose a big problem. “[T]he question remains whether antitrust should try to deal with price discrimination in some ... fashion,” Bork wrote. “This is a more difficult question.” Then, in the exact same sentence, he went on to dismiss this “difficult question” entirely without providing any argument to explain his thinking. “[T]he better guess, it seems to me,” he wrote, “is that antitrust policy would do well to ignore price discrimination.”

A few pages later, Bork went further yet by delivering a straightforward defense of price discrimination from the point of view of the seller. “The basic theory of price discrimination is quite simple,” he wrote. “When the demand elasticities of customers are different, no single price can extract the maximum return from each. If they can be segregated . . . the monopolist can charge them different prices and so extract the maximum return from each class.”

Bork then used the same tactics he wielded throughout “The Antitrust Paradox” to claim that what was good for the monopolist must also be good for the public. “There is more to the argument than this, however,” he wrote. “The case for allowing discrimination freely is strengthened by the observation that the more a monopolist is able to discriminate, the more likely becomes the favorable outcome of an increase in output.”

Armed with Bork’s blunt and unsupported defense of first-degree discrimination by powerful middlemen, pro-monopolist thinkers from both the Republican and Democratic parties first took aim at the Robinson Patman Act, largely by deciding simply not to enforce the law. This new license to discriminate in the treatment of suppliers helped to power the rise of Walmart and other vast nation-scale retailers. The political, social, and economic effects were profound. Over the course of the twenty years between the early 1980s and around 2005, the new license to discriminate in the treatment of captive suppliers played a major role in the revolutionary



restructuring of the American retail sector and the structure of business ownership within the average American community, as financial actors exploited this license to buy out or bankrupt America's family businesses and to concentrate power in distant centers such as Wall Street and the City in London.

But it is only with the rise of online platforms like Google and Amazon that we come to understand just how dangerous the Chicago School overthrow of America's traditional non-discrimination regime was to our democracy and individual liberty, and the full extent of the license we ceded to the masters of these corporations.

This history dates back barely twenty years, to 2002, when a Berkeley economics professor named Hal Varian co-wrote a paper titled "Conditioning Prices on Purchase History." Varian's goal was to examine whether the technologies and structures of online commerce made it easier for sellers to charge different people different prices for the same product, or to charge different people the same price for different-quality versions of the same product.

"The rapid advance in information technology now makes it feasible for sellers to condition their price offers on consumers' prior purchase behavior," Varian and his co-author wrote. Whenever a customer purchases at a high price, this "guarantees that" the consumer "will face a high price in the future."

In short, according to Varian, online platforms now had the ability to use what they learned about you through their online surveillance to provide you with prices, terms of service, and information tailored specifically to exploit your most personal weaknesses and needs. Or more simply, to manipulate you and fleece you – automatically, day after day.



One way to understand the importance of Varian’s paper is to note who first fully embraced Varian’s theory. This was Google’s then CEO Eric Schmidt, who in 2002 hired Varian to help the corporation develop a new business model to fully exploit Google’s capture of control over search, and many of the other main portals of the internet. Within a few years Varian’s vision was built into the core of the most awesome and sophisticated system for manipulating human behavior ever built by private enterprise.

For centuries, U.S. and other societies had strictly outlawed all first-degree discrimination. Our main fear was that monopoly gatekeepers would take advantage of any license to open or close the gate according to their own personal or corporate interests to extort those who needed to get to market, perhaps of cash, perhaps of political favors. Indeed, as we have seen, we viewed simple non-discrimination rules to protect the private property of the individual from arbitrary seizure as one of foundations of democracy – nothing less than a way to ensure basic rule of law and hence the liberty to speak freely.

Yet now masters of a revolutionary and powerful new technology had built a business model based on ignoring all the traditional rules designed to protect the producer and speaker from extortion and manipulation. And they were also perfecting ways to efficiently and effectively extend this system of discrimination to the end user as well, for the first time in history.

For the masters of these corporations, this experiment proved a very big success. In years since Google, Facebook, and Amazon perfected the use of discrimination to manipulate and extort both the supplier and the buyer, these bosses and their allies have exploited this power to seize control over vast swaths of the political economy of the United States and the world, to reorder entire realms of human activity, and to shift trillions of dollars into their pockets and the pockets of their friends.



And thanks to the reckless, blunt, and chaotic introduction of generative AI by Microsoft and Google, and the increasingly blatant disregard for traditional political norms in the governance of communications platforms by powerful actors such as Elon Musk, all of these dangers continue to get more acute by the day.

MAKING GOOGLE AND AMAZON SAFE FOR DEMOCRACY – BREAKING THE BUSINESS MODEL

More than five years ago, Senator Franken, when he was a member of this subcommittee, said “we must now begin a thorough examination of big tech’s practices to secure the free flow of information on the internet.” The Senator also made clear that he believed that traditional prohibitions on discrimination must play a central role in regulating Google, Facebook, and Amazon, among others. ‘No one company should have the power to pick and choose which content reaches consumers and which doesn’t,” he said.

The members of this subcommittee have performed courageous work. In difficult political times and against dangerous opposition you have developed the ability to reach across party lines and join forces for the sake of protecting American democracy and American capitalism. Along the way, you have helped direct and sometimes inspire a new generation of enforcers who are working overtime to use existing legal authorities to restore traditional philosophies, approaches, and practices.

The AMERICAS Act, AICOA, and JCPA are all valuable steps forward. They can supplement and speed what enforcers in Washington and across the United States are already doing. But it is also vital to move immediately to the next stage in this fight, which is to fully support the efforts of enforcers to restore traditional non-discrimination rules to the legal and regulatory



regimes we use to ensure the political and economic safety of our systems of communications and commerce.

Yes, non-discrimination rules will kill the business model that Google, Facebook, and Amazon have exploited to concentrate so much power and control over the last decade or so. But we have come to a point where the choice is simple. Either we break their business model, or they break our democracy, our prosperity, and all that is good in our society, all that we have fought and bled for over the last 250 years.

And let's be honest. Breaking the business models of these corporations is not the same as breaking these technologies, or depriving the American people of a single benefit of the digital revolution. We have many examples of platforms designed to be run by and for the benefit of the individual citizen and business, on a fair and non-discriminatory basis, without any manipulation by the masters of any of the communications or transportation corporations that help connect them. We need look only at earlier iterations of Twitter, Google, Facebook, Reddit, eBay, Instagram, and WhatsApp – or for that matter to brand new platforms like Bluesky - to remind ourselves of what a truly safe, fair, democratic, and prosperous future can look like in a fully digitalized society.

Support the full restoration of America's traditional non-discrimination regime and the world will not end. On the contrary, you will immediately free the American people to begin to build a far better world – and a far more safe and fair democracy and society – beginning today.

-- end --

Questions from Senator Tillis
for Barry Lynn
Witness for the Senate Committee on the Judiciary
Subcommittee on Competition Policy, Antitrust,
and Consumer Rights Hearing
“Competition in the Digital Advertising Ecosystem”

1. Under the AMERICA Act:

- a. How would small businesses that use online advertising be impacted?

We believe small businesses would benefit from this act in a variety of ways. There would be far more competition among advertising brokers, which would all but inevitably result in lower prices and higher quality services. Such competition would also likely result in brokers offering better record keeping of advertising activity, including close auditing of the effectiveness of particular advertising campaigns.

Smaller businesses would also benefit from any increase in the robustness of local and specialized publishers, such as online newspapers and trade magazines. Such publications play a vitally important role in creating communities of users of particular goods and services, and in educating those communities to the benefits of those particular goods and services.

- b. Would small businesses still have the same access to affordable advertising services?

They would have better access to better and more affordable services.

2. How would the AMERICA Act help or hurt smaller ad organizations who operate within the online advertising economy? If so, how?

The AMERICA Act would make it far easier for smaller independent ad organizations to enter the market and to prosper, through the provision of higher quality and more affordable advertising services.

3. Other than Google, who are the major players – including emerging players – in the online advertising economy?

In addition to Google, there are two major players at present in the online advertising economy. The biggest is Facebook, which has a similar business model as Google but is less technologically powerful and less sprawling in its structure. Amazon has also emerged in recent years as a powerful and fast-growing player. Until now, Amazon has mainly relied on, essentially, its ability to extort sellers to pay it for higher placement on the site, an activity which it books as “advertising.” But Amazon

has also invested significantly in creating a new advertising technology platform able to compete with Google's advertising technology platform. If successful, this will likely empower Amazon to soon displace Facebook at the number two player in this activity.

4. What can and should be done to increase transparency within the online advertising economy?

The three most important things that would increase transparency in the online advertising economy are two actions that are part of the AMERICA Act. These are a) to vertically separate advertising technology from the largest platforms, such as Google; b) separate buyer side and seller side ad brokerage activities; and c) ensure there is real competition among both seller side and buyer side ad brokerages. True competition within carefully structured marketplaces – combined with simple antitrust enforcement to avoid cartel behavior - is the best way to ensure real transparency.

Written Testimony of Dina H. Srinivasan

United States Senate

Committee on the Judiciary

Subcommittee on Competition Policy, Antitrust, and Consumer Rights

Hearing on Competition in the Digital Advertising Ecosystem

Wednesday, May 3, 2023 2:30 P.M.

Chair Klobuchar, Ranking Member Lee, and distinguished members of the Subcommittee:

Thank you for the opportunity to testify before you today. The Advertising Middlemen Endangering Rigorous Internet Competition Accountability Act (AMERICA Act) is a simple piece of legislation that will fix a major problem at the heart of online markets. For your background, I'm an antitrust scholar, and a fellow with the Thurman Arnold Project at Yale University.¹

My testimony today is largely drawn from my research published in conjunction with Stanford University, titled Why Google Dominates Advertising Markets: Competition Policy Should Lean on Financial Market Regulation. My opinions are also shaped by my experience working in the industry, helping small businesses across the country, like hospitals, architects, and state governments, to purchase ads online.²

The Problem is Simple

The problem the AMERICA Act aims to fix is simple. You see, entire sectors of the U.S. economy depend on being able to buy and sell online ads, and this includes entrepreneurs who buy ads to reach new customers and grow their businesses. It also includes content creators and media businesses selling ads to fund their operations and keep subscription prices for consumers low.

¹ I currently work on matters adverse to the companies that would be affected by the AMERICA Act, including the antitrust case against Google for illegal monopolization of the ad exchange and broker markets brought by a coalition of State attorneys general and led by the Texas Attorney General.

² Dina Srinivasan, "Why Google Dominates Advertising Markets: Competition Policy Should Lean on the Principles of Financial Market Regulation," Stanford Technology Law Review 24 (2020): 55.

While people used to buy and sell ads in person, that is no longer the case. Today, ads are bought and sold at lightning speed on sophisticated electronic exchanges called ad exchanges. Ad companies have modeled these exchanges after financial exchanges like the New York Stock Exchange or NASDAQ. As one such company has marketed to its customers, “It’s just like a stock exchange.”³

And yet, today, we let the companies that operate ad exchanges and other broker intermediaries operate without any of the common-sense rules that Congress has enforced on Wall Street for nearly a century. There are no rules that manage conflicts of interest. There aren’t even any rules that require exchanges and brokers to be open, honest, and transparent with their customers. That is the problem.

Concrete Examples of How Harm Manifests

I’d like to share a few concrete examples of how the lack of common-sense rules leads to harm and why legislation is so strongly needed.

Without rules governing conflicts of interest, we let the companies that own the major ad exchanges also operate on the sell-side, also operate on the buy-side, and also sell advertising, all at the same time. So, a website could use a broker to sell their ads, and that broker might engage in the equivalent of insider trading and seal the deal with itself on the other end, without the seller even knowing.⁴

For many years, websites and apps in the online economy were at the mercy of the largest broker using deceptive tactics and exploiting information asymmetries when routing their trades to exchanges, resulting in websites and apps making up to 50 percent less revenue than they otherwise would.⁵ This harmful behavior not only

³ Google, “The DoubleClick Ad Exchange,” accessed May 2, 2020, <https://static.googleusercontent.com/media/www.google.com/en//adexchange/AdExchangeOverview.pdf>. Comparisons between the advertising market and the financial market have frequently been made by advertising industry participants, including Google and others. For instance, Google has also compared its buy-side Google Ads (then called AdWords) to an online broker, marketing, “Who participates in the Ad Exchange? Again, imagine the Ad Exchange as a stock exchange. Only the largest brokerage houses actually plug into, say, the NYSE. In the Ad Exchange world, those are: The large online publishers (sellers)—websites like portals, entertainment sites and news sites Ad networks and agency holding companies that operate networks (buyers)—companies that connect web sites with advertisers.” *id.*; see also Yishay Mansour et al., “DoubleClick Ad Exchange Auction” (unpublished manuscript, 2012), <https://perma.cc/T5L4-JS4Y> (analogizing “like financial exchanges that only let licensed brokers trade, ad exchanges let ad networks trade on the exchange on behalf of individual advertisers.”).

⁴ For examples of how some ad exchanges and brokers use inside information to manipulate the outcomes of trades for both publishers and advertisers, consider the allegations raised in the complaint filed by the Texas Attorney General against Google. Texas Attorney General et al. v. Google LLC, Third Amended Complaint, filed January 14, 2022.

⁵ Dina Srinivasan, “Google Is Dominating This Hidden Market With No Rules,” New York Times, June 21, 2021, <https://www.nytimes.com/2021/06/21/opinion/google-advertising-antitrust.html>; Lucia Moses, “Header Bidding Is Boosting CPMs as Much as 50 Percent for Some Publishers,” Digiday, March 31, 2016, <https://digiday.com/media/header-bidding-publishers-boosting-cpms-much-50-percent/>.

hurt the bottom line of online businesses, but it also had broader implications for institutions critical to our democracy, such as *The Washington Post*.

Exorbitant Trading Fees

In dollars and cents terms, the burden on the American public is real.

Financial exchanges charge far less than 1 percent on a typical stock trade.

In advertising, with no rules, the brokers, and exchanges in the middle take anywhere between 30 to 50 percent.⁶ So when a restaurant gives a \$1000 to its broker to buy ads and grow its business, transactions clear in a fraction of a second, but the ads themselves often cost just half that much. When you drive up the overall cost of advertising, this in turn increases the prices of the goods and services being advertised.

The AMERICA Act Fixes the Problem

Now, it is true that the Department of Justice and 31 State attorneys general are pursuing legal action against certain advertising exchanges and brokers for practices the bill would prohibit.⁷ We must recognize, however, that litigation takes too long. The outcomes of antitrust cases remain uncertain. Moreover, those cases do not address bad behavior across the industry.

Congress can do a better job. It has a tried-and-true framework for protecting competition on stock exchanges and between brokers. While ads are not like stocks, ad exchanges are “just like stock exchanges,” and they serve an essential function in our economy and democracy. The AMERICA Act takes a tried-and-true framework and simply applies it to advertising.

Thank you for your time today and I look forward to answering your questions.

⁶ Ross Benes, “Why Tech Firms Obtain Most of the Money in Programmatic Ad Buys: Some middlemen are having generous paydays,” eMarketer, April 16, 2018.

⁷ The States that have joined the U.S. Department of Justice antitrust case against Google for the firm’s conduct in the electronically traded market for display ads include California, Colorado, Connecticut, New Jersey, New York, Rhode Island, Tennessee, Virginia, Arizona, Illinois, Michigan, Minnesota, Nebraska, New Hampshire, North Carolina, Washington, and West Virginia. The attorneys general for the States of Alaska, Florida, Idaho, Indiana, Kansas, Louisiana, Mississippi, Missouri, Montana, Nevada, North Dakota, South Carolina, and South Dakota, and the Commonwealth of Puerto Rico, have joined the parallel antitrust suit led by the Texas Attorney General.

Why Google Dominates Advertising Markets

Competition Policy Should Lean on the Principles of Financial Market Regulation

Dina Srinivasan*

*Since leaving the industry, and authoring *The Antitrust Case Against Facebook*, I continue to research and write about the high-tech industry and competition, now as a fellow with Yale University's antitrust initiative, the Thurman Arnold Project. Separately, I have advised and consulted on antitrust matters, including for news publishers whose interests are in conflict with Google's. This Article is not squarely about antitrust, though it is about Google's conduct in advertising markets, and the idea for writing a piece like this first germinated in 2014. At that time, Wall Street was up in arms about a book called *FLASH BOYS* by Wall Street chronicler Michael Lewis about speed, data, and alleged manipulation in financial markets. The controversy put high speed trading in the news, giving many of us in advertising pause to appreciate the parallels between our market and trading in financial markets. Since then, I have noted how problems related to speed and data can distort competition in other electronic trading markets, how lawmakers have monitored these markets for conduct they frown upon in equities trading, but how advertising has largely remained off the same radar. This Article elaborates on these observations and curiosities. I am indebted to and thank the many journalists that painstakingly reported on industry conduct, the researchers and scholars whose work I cite, Fiona Scott Morton and Austin Frerick at the Thurman Arnold Project for academic support, as well as Tom Ferguson and the Institute for New Economic Thinking for helping to fund the research this project entailed. I remain deeply grateful to the many scholars that generously shared their feedback, comments, and insight, often on matters well outside of my area of expertise: Eric Budish, Kevin Haeberle, Scott Hemphill, Michael Kearns, Lina Khan, Jonathan Macey, Doug Melamed, John Morley, Gabriel Rauterberg, Thomas Philippon, Marc Rotenberg, Ashkan Soltani, and Chester Spatt, amongst others. I also warmly thank John Schwall and Rick Arney for helping me to better appreciate the parallels to financial markets, Zach Edwards for critical thinking and research assistance, Jennifer LaCrosse for careful edits and thoughtful suggestions, Chaaru Deb for excellent legal research assistance, and the editors at the *STANFORD TECHNOLOGY LAW REVIEW* for outstanding editorial support. The views and errors therein are my own.

24 STAN. TECH. L. REV. 55 (2020)

ABSTRACT

Approximately 86% of online display advertising space in the U.S. is bought and sold in real-time on electronic trading venues, which the industry calls “advertising exchanges.” With intermediaries that route buy and sell orders, the structure of the ad market is similar to the structure of electronically traded financial markets. In advertising, a single company, Alphabet (“Google”), simultaneously operates the leading trading venue, as well as the leading intermediaries that buyers and sellers go through to trade. At the same time, Google itself is one of the largest sellers of ad space globally. This Article explains how Google dominates advertising markets by engaging in conduct that lawmakers prohibit in other electronic trading markets: Google’s exchange shares superior trading information and speed with the Google-owned intermediaries, Google steers buy and sell orders to its exchange and websites (Search & YouTube), and Google abuses its access to inside information. In the market for electronically traded equities, we require exchanges to provide traders with fair access to data and speed, we identify and manage intermediary conflicts of interest, and we require trading disclosures to help police the market. Because ads now trade on electronic trading venues too, should we borrow these three competition principles to protect the integrity of advertising?

TABLE OF CONTENTS

I. INTRODUCTION	58
II. ELECTRONIC TRADING MARKETS	69
A. <i>Advertising Market Reflects the Structure of an Electronic Trading Market</i>	69
B. <i>Common Competition Problems in Electronic Trading Markets</i>	77
C. <i>The Competition Principles We Apply in the Equities Trading Market</i>	80
III. GOOGLE DOMINATES ONLINE ADVERTISING MARKETS BY ENGAGING IN CONDUCT LAWMAKERS PROHIBIT IN OTHER ELECTRONIC TRADING MARKETS	86
A. <i>Google Has Information and Speed Advantages</i>	88
1. <i>Google Acquires Leading Ad Server DoubleClick</i>	88
2. <i>DoubleClick Ad Server Starts to Play Favorites When Sharing User Identity</i>	94
3. <i>Google-Owned Intermediaries Have an Information Advantage on Google's Exchange</i>	98
4. <i>Consumer Privacy Offered as Reason for Information Asymmetry</i>	102
5. <i>Google-Owned Intermediaries Have a Speed Advantage on Google's Exchange</i>	107
B. <i>Discriminatory Routing of Orders and More Speed Races</i>	117
1. <i>Routing Orders to Google's Exchange and Owned Properties</i>	117
2. <i>Market Creates Invention to Circumvent Routing Restrictions and Set Own Speeds</i>	127
3. <i>Google AMP Speed Protocol Restricts Trading Through Non-Google Venues</i>	132
4. <i>Google Search "Speed Update" Further Restricts Trading Through Non-Google Venues</i>	144
C. <i>Inside Information Abuses</i>	149
1. <i>Google's Ad Server Shares Information About Competitors' Trading Activity with Google's Exchange and Buying Tools, Permitting Them to Trade Ahead of Orders</i>	149
2. <i>Google Amends Terms and Conditions to Breach "Ethical Walls"</i>	154
IV. POLICY CONSIDERATIONS	158
A. <i>Advertising Exchanges Should Provide Fair Access to Information and Speed</i>	158
B. <i>Steps Toward Identifying and Managing Intermediary Conflicts of Interest</i>	162
1. <i>Structural Separations</i>	162
2. <i>Conduct and Disclosure Rules</i>	163
3. <i>Transparency and Disclosure</i>	171
V. CONCLUSION	172
VI. APPENDIX	174
A. <i>Timeline</i>	174
B. <i>Screenshot of Auction Timestamp Transparency</i>	175

I. INTRODUCTION

The business of advertising has changed drastically over the last two decades. In the past, advertising contracts were negotiated in person—think *Mad Men*-type advertising and publishing executives over two-martini lunches off Madison Avenue. Today, the largest category of advertising, online advertising, is rarely negotiated by people at all. Advances in technology allow ad space to be bought and sold electronically through centralized trading venues at high speeds, without people ever meeting face-to-face. When a user visits a website, the ad space on a page is instantly routed into one or more of these venues. There, the space is auctioned in real-time to the highest bidder. At the conclusion of these auctions, the advertisers' ads return and display to the user in time for the page to load and before the user has noticed anything has occurred. The user just sees ads targeted to them, say one for Barclays bank.

The rise of electronic ad trading, widely known today as “programmatic advertising,” paralleled the rise of electronic trading across various sectors of the economy. In 2005, the New York Stock Exchange merged with an electronic trading company, sunsetting the buying and selling of stock on its iconic trading floor on Wall Street.¹ Around this time, early advertising technology company Right Media launched the RMX “advertising exchange,” the first-ever electronic trading venue for ads.² Just like that, by “borrowing tactics from Wall Street,” advertising went from being a relationship business to a commodity business, with publishers and advertisers transacting with each other in an electronic spot market.³

1. NYSE Approves Merger with Electronic Trading Company, N.Y. TIMES (Dec. 7, 2005), <https://perma.cc/QR3Y-KMX2>.

2. Adrienne Jeffries, *How to Succeed in Advertising (and Transform the Internet While You're at It)*, N.Y. MAG.: INTELLIGENCER (May 31, 2018), <https://perma.cc/W7CG-4LLA> (discussing the history of Right Media).

3. Stephanie Clifford, *Leftover Ad Space? Exchanges Handle the Remnants*, N.Y. TIMES (July 28, 2008), <https://perma.cc/UDC4-Q7LN>.

The efficiencies promised by this new way of trading caught on like wildfire. By late 2009, the RMX exchange, which Yahoo! acquired in 2007 for \$680 million, was processing 9 billion ad spaces daily.⁴ Since then, the percentage of ads traded in this fashion has steadily increased. In 2021, it is estimated that 87.5% of all online display ad space in the United States—including that belonging to news publishers such as *The Washington Post* and *The Des Moines Register*—will trade programmatically.⁵

Since the advent of electronic ad trading, however, the market has become less competitive. At first, the biggest names in tech—including Microsoft, Yahoo!, AOL and Alphabet (“Google”)—competed vigorously with each other. These tech companies initially provided sellers (e.g., publishers like newspapers) and buyers (i.e., advertisers) with more choices when deciding which exchanges and other trading middlemen to use.⁶ Today, a single company, Google, simultaneously operates the leading exchange and the leading middlemen (i.e., intermediaries) that publishers and advertisers must use to trade.⁷

4. Yishay Mansour et al., *Doubledclick Ad Exchange Auction 2*, (2012) (unpublished manuscript), <https://perma.cc/T5L4-JS4Y> (noting Right Media average daily trades).

5. Lauren Fisher, *US Programmatic Ad Spending Forecast 2019*, EMARKETER (Apr. 25, 2019), <https://perma.cc/852B-PRUA> (estimating 87.5% of online display ads will trade programmatically in 2021). Note, websites can sell their ad space in open or private exchanges. Data from news publisher trade association Digital Content Next suggests that approximately 75% of the inventory of large and middle-tier U.S. publishers currently trades in open exchanges. One would imagine that the percentage increases if one includes small and local publishers across the heartland. See Jason Kint (@jason_kint), TWITTER (May 12, 2020), <https://perma.cc/2NPY-SEZT>.

6. For competition in the exchange market in the late 2000s, see AdExchanger Staff, *infra* note 33 and further discussion in Part III.

7. The company formerly known as Google was renamed Alphabet Inc. in 2015, at which point Google became a subdivision of the parent organization. Indirect proof of market power in the form of market share information is notoriously difficult to construct with publicly available information. However, sev-

In addition to the market becoming more concentrated, it exhibits characteristics that would trigger concerns in other electronic trading markets: market growth is distorted, trading costs—between 30% to 50% of the trade—are high and non-transparent, and conflicts of interests abound.⁸ For example, on top of operating the largest exchange, as well

eral public reports on market shares support the proposition that Google operates the leading exchange, buy-side software, and sell-side software in the market today. See COMPETITION AND MKTS. AUTH., ONLINE PLATFORMS AND DIGITAL ADVERTISING: MARKET STUDY FINAL REPORT 20 (2019), <https://perma.cc/3GKR-YJ5J> [hereinafter CMA FINAL REPORT] (estimating that in the UK, Google has a 50-60% share of the advertising exchange market, 90+% share of the ad server sell-side software market, and 50-60% of the enterprise DSP buy-side software market); *Data Processing in the Online Advertising Sector*, Opinion No. 18-A-03, AUTORITÉ DE LA CONCURRENCE, at 86 ¶ 218 (Mar. 6, 2018), <https://perma.cc/X7ZQ-NM6U> [hereinafter AUTORITÉ DE LA CONCURRENCE] (finding that Google's enterprise DSP buy-side software—previously called DoubleClick Bidding Manager or DBM but since renamed DV360—generates the most revenue and has significant growth and that Google “has held a leading position” in the ad serving sell-side software market since its acquisition of DoubleClick); Joe Mandese, *Google Discloses Results of “Exchange Bidding,” Boosts Publisher Yield >40%*, MEDIAPOST: DIGIT. NEWS DAILY (Feb. 16, 2018), <https://perma.cc/GN5X-N8ZZ> (stating that the DoubleClick ad server is “by far the dominant ad server used by advertisers, agencies and digital publishers”); Keach Hagey & Vivien Ngo, *How Google Edged Out Rivals and Built the World's Dominant Ad Machine: A Visual Guide*, WALL ST. J. (Nov. 7, 2019), <https://perma.cc/DKC7-D5MA> (reporting that Google's exchange, selling tools, and buying tools are the leading ones in the market and stating that “[m]ore than 90% of large publishers use the Google ad server, DoubleClick for Publishers, according to interviews with dozens of publishing and ad executives”); Allen Grunes, *Google's Quiet Dominance Over the “Ad Tech” Industry*, FORBES (Feb. 26, 2015), <https://perma.cc/P84T-7GX3> (discussing the leading position of Google's buying tools Google Ads and DoubleClick Bid Manager, which is now called DV360).

8. Several sources deal with the question of trading costs. See Alex Barker, *Half of Online Ad Spending Goes to Industry Middlemen*, FIN. TIMES (May 5, 2020), <https://perma.cc/Z3H4-JLBM>; Ross Benes, *Why Tech Firms Obtain Most of the Money in Programmatic Ad Buys*, EMARKETER (Apr. 16, 2018), <https://perma.cc/96RE-5HMA> (industry analysts from Warc estimating intermediaries collectively charge 55% of programmatic spend worldwide, based on data shared by advertising agency Magna Global).

as the largest intermediaries trading on its exchange, Google has another conflict of interest.⁹ Google not only sells ad space belonging to third-party websites, it sells ad space appearing on its own sites, Google Search and YouTube. When a small business uses Google's intermediary tool, called Google Ads, to bid on and purchase ad space trading on exchanges, this tool steers that advertiser towards which ad space to buy.

The effects of this conflict of interest are predictable. In 2007, approximately 64% of Google advertising revenue went to Google properties, including Google Search and YouTube. The remaining portion went to non-Google properties, like *The Post* and *The Register*, that also sell their ad space through Google's intermediary tools and exchange.¹⁰ Almost

9. Note, according to some estimates, Google's buy-side intermediaries—the buying tools that small and large advertisers use to trade—account for the plurality if not the majority of buying volume on Google's exchange. See Kean Graham, *How to Increase Auction Pressure in Ad Exchange*, MONETIZEMORE (July 8, 2016), <https://perma.cc/BA8B-2YZV> (stating that Google Ads, formerly known as AdWords, is “currently the largest buyer of inventory on the [Google] Ad Exchange”); Hagey & Ngo, *supra* note 7 (stating that media company News Corp. did not switch from Google to a rival intermediary, because doing so would jeopardize 40% to 60% of the demand the publisher receives in Google's exchange from Google's proprietary demand, Google Ads).

10. In Google's annual 10-K SEC filings, Google breaks down its advertising revenue as going to “Google properties” or “web sites of Google Network members.” The term “Google Network members” refers to non-Google websites on which Google places advertising. In its 2017 10-K, Google explains that it generally accounts for third-party revenue on a gross basis: “For ads placed on Google Network Members' properties, we evaluate whether we are the principal (i.e., report revenues on a gross basis) or agent (i.e., report revenues on a net basis). Generally, we report advertising revenues for ads placed on Google Network Members' properties on a gross basis, that is, the amounts billed to our customers are recorded as revenues, and amounts paid to Google Network Members are recorded as cost of revenues. Where we are the principal, we control the advertising inventory before it is transferred to our customers. Our control is evidenced by our sole ability to monetize the advertising inventory before it is transferred to our customers, and is further supported by us being primarily re-

every year since 2004 this split has widened, in Google's favor.¹¹ By Q1 2020, the share going to Google properties had increased to 85%.¹² The

sponsible to our customers and having a level of discretion in establishing pricing." In 2004, Google buying tools allocated approximately 50% of advertising revenue to Google's proprietary properties, such as Search, and the other 50% to non-Google websites selling their ads through Google's buying tools and advertising exchange. Google Inc., Annual Report (Form 10-K) (Mar. 30, 2005), <https://perma.cc/5A4Y-8EY4>. It was in 2006 that Google acquired YouTube. Andrew Ross Sorkin & Jeremy W. Peters, *Google to Acquire YouTube for \$1.65 Billion*, N.Y. TIMES (Oct. 9, 2006), <https://perma.cc/5TG8-8BVE>. In 2005, Google's share of advertising revenue increased to, approximately, 55%; 2006, 60%; 2007, 65%; 2008, 68%; 2009, 68%; 2010, 68%; 2011, 71%; 2012, 71%; 2013, 73%; 2014, 75%; 2015, 77%; 2016, 80%; 2017, 81%, 2018, 82%; 2019, 84%. Google Inc., Annual Report (Form 10-K) (Mar. 16, 2006), <https://perma.cc/Y272-BRAP>; Google Inc., Annual Report (Form 10-K) (Mar. 1, 2007), <https://perma.cc/H4ZJ-FL7B>; Google Inc., Annual Report (Form 10-K) (Feb. 15, 2008), <https://perma.cc/W6FU-AA2T>; Google Inc., Annual Report (Form 10-K) (Feb. 13, 2009), <https://perma.cc/5PZY-UZS5>; Google Inc., Annual Report (Form 10-K) (Feb. 12, 2010), <https://perma.cc/7B6E-REEV>; Google Inc., Annual Report (Form 10-K) (Feb. 12, 2011), <https://perma.cc/9ZKX-XPKL>; Google Inc., Annual Report (Form 10-K) (Apr. 23, 2012), <https://perma.cc/YS3R-TLE4>; Google Inc., Annual Report (Form 10-K) (Jan. 29, 2013), <https://perma.cc/3W45-M9R9>; Google Inc., Annual Report (Form 10-K) (Feb. 11, 2014), <https://perma.cc/79A2-6TCT>; Google Inc., Annual Report (Form 10-K) (Feb. 6, 2015), <https://perma.cc/7DJZ-FD8S>; Google Inc., Annual Report (Form 10-K) (Feb. 11, 2016) <https://perma.cc/EU2M-T6QC>; Alphabet Inc., Annual Report (Form 10-K) (Feb. 2, 2017), <https://perma.cc/4QKP-UUZJ>; Alphabet Inc., Annual Report (Form 10-K) (Feb. 5, 2018), <https://perma.cc/22HL-SSSP>; Alphabet Inc., Annual Report (Form 10-K) (Feb. 4, 2019), <https://perma.cc/ELZ2-AC93>; Alphabet Inc., Annual Report (Form 10-K) (Feb. 3, 2020), <https://perma.cc/RWE8-27PB>. For a visual graph of this split, see Appendix A.

11. Google Inc. (2005-2016), *supra* note 10; Alphabet Inc. (2017-2020), *supra* note 10.

12. See Alphabet Inc., Quarterly Report (Form 10-Q) (March 31, 2020), <https://perma.cc/7872-G8ZW>. In this filing, Google breaks down advertising revenue as revenue for "Google properties" and "Google Network Member Properties." Here, Google properties includes "Google Search & other properties and YouTube." *Id.* at 33. Google goes on to say that, "Google Search & other consists of revenues generated on Google search properties (including revenues from traffic generated by search distribution partners who use Google.com as their

lion's share of Google's \$134 billion in advertising revenue went to Google's own.

Problems of distorted growth then extend across the market. Over the last ten years, the online advertising market has enjoyed double-digit year-over-year growth.¹³ However, the majority of advertising revenue and growth has gone to large firms like Google and Facebook that both sell their own ad space and simultaneously run an electronic marketplace.¹⁴

Transparency in the advertising market is also minimal. When small businesses use the Google Ads tool to bid on ad space belonging to third-party publishers from Google's exchange, Google does not disclose to them the price that the ad space actually cleared for and it appears Google

default search in browsers, toolbars, etc.) and other Google owned and operated properties like Gmail, Google Maps, and Google Play; YouTube ads consists of revenues generated primarily on YouTube properties; and Google Network Members' properties consist of revenues generated primarily on Google Network Members' properties participating in AdMob, AdSense, and Google Ad Manager." *Id.*

13. PricewaterhouseCoopers, *Internet Advertising Revenue Report: 2019 First Six Months Results*, INTERACTIVE ADVERT. BUR. (Oct. 2019), <https://perma.cc/YX8X-72EC> (displaying year-over-year growth by quarter from 1996 through Q2 2019).

14. Lauren Fisher, *Digital Display Advertising 2019*, EMARKETER (Jan. 22, 2019), <https://perma.cc/4UVF-JGHX> (estimating that Google and Facebook will account for 52% of the display online advertising market in the U.S. in 2019); Michael Barthel, *5 Key Takeaways About the State of the News Media in 2018*, PEW RSCH. CTR. (July 23, 2019), <https://perma.cc/SJ25-45VC> (summarizing that digital ad revenue has grown exponentially but that the majority goes to Google and Facebook). Outside of Google, Facebook, and Amazon, some even estimate that the online advertising market is shrinking. See, e.g., Peter Kafka, *Google and Facebook Are Booming. Is the Rest of the Digital Ad Business Sinking?*, VOX (Nov. 2, 2016), <https://perma.cc/QAZ6-6V9K> (reflecting comments by industry analyst Brian Weiser and publisher trade association executive Jason Kint). Finally, for documentation on the auction marketplaces run by Facebook and Amazon, see Facebook Audience Network, *Solutions Overview*, <https://perma.cc/KYK5-HPUG> (last visited Sept. 29, 2020). See also Amazon Publisher Services, *Unified Ad Marketplace*, <https://perma.cc/82YF-AX7B> (last visited Sept. 29, 2020).

can arbitrage advertisers' bids across two Google-controlled marketplaces—a fact that may go unnoticed by these small mom-and-pop businesses due to the complexity of Google's terms.¹⁵ In effect, the counterparty to these advertisers is often Google, though they may be under the illusion that Google is their agent. At the same time, Google does not disclose to the publishers on the other ends of these trades what their space ultimately sold for and how much Google keeps as its share.¹⁶

15. Google explains how its auctions and pricing work across multiple, different documents. See Google Ads Help, *How the Google Ads Auction Works*, GOOGLE, <https://perma.cc/6NV9-43XK> (last visited Sept. 29, 2020); Google Ads Help, *How Google Ad Manager Works with Google Ads*, GOOGLE, <https://perma.cc/X6UQ-AN7S> (last visited Sept. 29, 2020); Google Ads Help, *About the Display Network Ad Auction*, GOOGLE, <https://perma.cc/8P3M-VPJ3> (last visited Sept. 29, 2020); Google Ads Help, *About the Google Display Network*, GOOGLE, <https://perma.cc/6582-YRSK> (last visited Sept. 29, 2020). When taken together, the terms appear to permit Google to process bids that advertisers submit via Google's buying tool for small advertisers called Google Ads through two different Google marketplaces (auctions). In other words, Google Ads hosts a first auction, then Google Ads acts as the "buyer" in Google's exchange, so that Google simultaneously acts on the buy-side and the sell-side. In a recent submission to the Australian competition authority, Google implicitly confirms this practice. See DANIEL S. BITTON & STEPHEN LEWIS, CLEARING UP MISCONCEPTIONS ABOUT GOOGLE'S AD TECH BUSINESS 48 (May 5, 2020), <https://perma.cc/WT2W-DD74>. At a 2019 conference for antitrust experts, Google chief economist Hal Varian confirmed that Google can act on both the buy-side and the sell-side at the same time and explained that Google uses a "formulaic apportionment" to price ads when Google participates on both sides of a transaction. Stigler Center, *2019 Antitrust and Competition Conference, Pt. 11: Fireside Chat*, YOUTUBE, at 1:01:13 (June 21, 2019), <https://perma.cc/K2RR-UTCT>. Finally, another point to consider is that arbitrage, hidden fees, and undisclosed kickbacks may be a pervasive problem in this electronic trading market. See Sarah Sluis, *Investigation: DSPs Charge Hidden Fees – And Many Can't Afford to Stop*, ADEXCHANGER (Jan. 10, 2018), <https://perma.cc/7GHG-KWDC>.

16. Websites that sell ads in Google's exchange can see buyers' clearing prices via the centralized market reports that Google shares back with sites. However, the buyers here are the intermediaries, such as Google Ads, not advertisers.

High trading costs in this market also affect consumers. As a general matter, if publishers like *The Post* and *The Register* make less money selling ads, they have less to re-invest into the business of investigative journalism and news. But the news business globally is already struggling. In the last decade and a half, this sector in the U.S. has shed 51% of newsroom jobs, paywalls and subscription prices have increased, and 20% of newspapers have closed.¹⁷ This contraction has led some economists to urge lawmakers to think about democracy and “citizen welfare” when considering competition problems in advertising.¹⁸

Lawmakers, antitrust enforcers, and academics are concerned about distorted growth and high trading costs, which ultimately harm consumer welfare. As a result, they have been asking, why is competition not working better? In the U.S. and globally, governments are investigating whether Google has monopolized advertising markets or restrained competition by engaging in specific conduct that violates competition laws.¹⁹

17. See generally Felix Simon & Lucas Graves, *Across Seven Countries, the Average Price for Paywalled News is About \$15.75/Month*, NIEMANLAB (May 8, 2019), <https://perma.cc/D8CF-CN46> (surveying rise of paywalls); Freddy Mayhew, *More Paywalls Going Up Online as News Publishers Face Shrinking Share of Ad Revenue and Try to Fight Back Against Ad-Blockers*, PRESSGAZETTE (May 15, 2018), <https://perma.cc/CHR2-SBJC>; Elizabeth Grieco, *U.S. Newspapers Have Shed Half of Their Newsroom Employees Since 2008*, PEW RSCH. CTR. (Apr. 20, 2020), <https://perma.cc/NN29-Z36V> (“The number of newspaper newsroom employees dropped by 51% between 2008 and 2019, from about 71,000 workers to 35,000.”); PENELOPE MUSE ABERNATHY, *THE EXPANDING NEWS DESERT* (UNC Ctr. for Innovation and Sustainability in Loc. Media ed., 2018) (finding total number of U.S. newspapers declined from 8,891 in 2004 to 7,112 in 2018).

18. STIGLER COMMITTEE ON DIGITAL PLATFORMS, FINAL REPORT (Stigler Ctr. for the Study of the Economy and the State ed., 2019) [hereinafter STIGLER COMMITTEE REPORT] (discussing how the news market in democratic societies shares features of a public good and how either concentration in news outlets or increased news prices harms “citizen welfare”).

19. See Tony Romm, *50 U.S. States and Territories Announce Broad Antitrust Investigation of Google*, WASH. POST (Sept. 9, 2019), <https://perma.cc/K8LA-NA2H>; Keach Hagey & Rob Copeland, *Justice Department Ramps Up Google Probe, With*

Do digital markets naturally tend to monopolize because of network effects?²⁰ Or has Google monopolized these markets by unlawfully excluding competition?²¹ At the same time, economists and other scholars have

Heavy Focus on Ad Tools, WALL ST. J. (Feb. 5, 2020), <https://perma.cc/CV82-T6K8> (reporting that the U.S. Justice Department's antitrust probe into Google is focusing heavily on Google's advertising products); Silvia Amaro, *EU Starts New Preliminary Probe into Google and Facebook's Use of Data*, CNBC (Dec. 2, 2019), <https://perma.cc/BL8S-8WFU>; Mark Sweney, *Google and Facebook Under Scrutiny over UK Ad Market Dominance*, GUARDIAN (July 3, 2019), <https://perma.cc/7EQR-X7FC>; Jamie Smyth, *Australia Probes Impact of Facebook and Google on Media*, FIN. TIMES (Dec. 3, 2017), <https://perma.cc/Z46B-PA6L>.

20. There has been push-back on the idea that network effects and economies of scale can explain market concentration in “big-tech” markets and a broader conversation about market concentration problems in the United States. See THOMAS PHILIPPON, *THE GREAT REVERSAL* 267 (Belknap Press of Harvard Univ. Press, 2019). But see STIGLER COMMITTEE REPORT, *supra* note 18 (discussing in broad terms tendency for digital platforms to concentrate markets due to network effects and other factors); Lina M. Khan, *The Separation of Platforms and Commerce*, 119 COLUM. L. REV. 973 (2019) (observing generally that digital platforms may tend to tip to monopolies and how network effects can act as a barrier to entry).

21. Competition laws in the U.S. and globally prohibit firms with market power from engaging in conduct that is exclusionary. In the U.S., Sections 1 and 2 of the Sherman Act prohibit exclusionary conduct. 15 U.S.C. §§ 1-2 (1890); see generally Herbert J. Hovenkamp, *The Antitrust Standard for Unlawful Exclusionary Conduct*, 1777 FAC. SCHOLARSHIP AT PENN L. 1 (June 2008) (defining exclusionary conduct as that “reasonably capable of creating, enlarging or prolonging monopoly power by impairing the opportunities of rivals,” where such conduct either does “not benefit consumers at all,” is “unnecessary for the particular consumer benefits claimed,” or “produce[s] harms disproportionate to benefits”); *United States v. Microsoft Corp.*, 253 F.3d 34, 49-50 (D.C. Cir. 2001) (discussing single firm exclusionary conduct in technologically dynamic markets). In Europe, Article 102 of the Treaty on the Functioning of the European Union (TFEU) similarly prohibits firms from using their dominant position in a market to undermine competition. See *Guidance on Article 102 Enforcement Priorities*, 2008 O.J. (C 115) 89. In Australia, Section 46 of the Trade Practices Act of 1974 prohibits a company “in a position substantially to control a market” from leveraging that position to

been debating how to spur competition outside the scope of antitrust enforcement.²² Some have advocated for the creation of a specialized digital competition authority, while others have argued more generally for structural separations.²³

This Article studies the structure of online advertising markets, what drives competition, and how Google became dominant by engaging in conduct that lawmakers prohibit in other electronic trading markets. To “fix” competition in advertising, policymakers might lean on the toolbox

exclude competition. Trade Practices Act 1974 (Cth) s 46 (Austl.). In China, Article 6 of China’s Anti-Monopoly Law prohibits dominant firms from leveraging their position to “eliminate or restrict competition.” Fàn Lǒngduàn Fǎ (反垄断法) [Anti-Monopoly Law of China] (promulgated by the Standing Comm. Nat’l People’s Cong., Aug. 30, 2007, effective Aug. 1, 2008), art. 6.

22. STIGLER COMMITTEE REPORT, *supra* note 18 (proposing interoperability, stronger merger guidelines and antitrust enforcement, data remedies, and pro-consumer default rules, amongst others); STIGLER CTR., PROTECTING JOURNALISM IN THE AGE OF DIGITAL PLATFORMS (2019), <https://perma.cc/9LPT-AQB4> (proposing public funding of news operations, and a requirement that Google and other digital companies prioritize content according to criteria other than ad revenue, amongst other measures); CMA FINAL REPORT, *supra* note 7 (considering regulating dominant digital platforms with a code of conduct); Madhumita Murgia & Kate Beioley, *UK to Create Regulator to Police Big Tech Companies*, FIN. TIMES (Dec. 18, 2019), <https://perma.cc/DE8S-EXYM> (reporting that the UK in 2020 will move forward with establishing a new tech regulator for companies such as Google and Facebook); RICHARD KRAMER, CMA ONLINE PLATFORMS REVIEW: ARETE RESEARCH’S VIEW (2019), <https://perma.cc/2F7J-W4LM> (drawing parallels between permitted conduct in advertising markets and prohibited conduct in financial markets). See JASON FURMAN ET AL., UNLOCKING DIGITAL COMPETITION: REPORT OF THE DIGITAL COMPETITION EXPERT PANEL (2019); JACQUES CRÉMER ET AL., COMPETITION POLICY FOR THE DIGITAL ERA (Eur. Comm’n ed., 2019).

23. See generally *supra* note 19; Khan, *supra* note 20 (arguing that lawmakers should consider prohibiting dominant “digital platforms” from both running a market and participating in it and that structural separations would be more desirable than non-discrimination rules that would require case-by-case adjudication); Elizabeth Warren, *Here’s How We Can Break Up Big Tech*, MEDIUM (Mar. 8, 2019), <https://perma.cc/2SYT-T7TX> (proposing separating platforms and platform participants and/or fair and non-discriminatory rules of dealing).

that financial regulators have already developed to protect the integrity of a parallel real-time trading market, the securities market. That toolbox provides a framework for understanding and addressing competition problems in advertising.

Part II begins this conversation by identifying segments of the economy that have migrated to electronic trading, discussing the structure of these markets, and explaining how the structure of online advertising markets, in which Google is dominant, is similar. In markets with this structure, problems related to concentration and distorted growth can result when exchanges provide a subset of traders with information or speed advantages. Problems can also result when trading intermediaries route orders (i.e., liquidity) to an exchange in a discriminatory manner or abuse their access to third parties' sensitive nonpublic information. In the stock market, lawmakers safeguard competition by requiring exchanges to give all traders non-discriminatory access to the marketplace, by identifying and managing intermediary conflicts of interest, and by requiring trading disclosures to advance both principles. The integrity of the advertising market does not benefit from parallel competition safeguards.

Part III examines Google's extensive conflicts of interest and specific conduct in advertising. Part A first discusses how the story of Google's rise is in part a story of information and speed asymmetry: Google's exchange advantages the Google-owned intermediaries with better information about the ad space trading on Google's exchange and with speed advantages. When it comes to information asymmetries, Google often weds its practice of cutting off rivals' access to data in the noble language of furthering user privacy. But users' privacy is not protected from Google, only from trading rivals, and competition is stunted as a result. Part B then explains how Google routes buy and sell orders in a discriminatory manner, to both its exchange and web properties. Finally, Part C considers how Google distorts competition by using the sensitive non-public information belonging to third-party buyers and sellers—information it becomes privy to as an intermediary—to inform its own trading activity in the market.

Although Google's conduct may appear novel and unprecedented, Part IV discusses in more depth how policymakers have dealt with parallel conduct in other electronic trading markets. As additional segments of the economy have migrated to real-time electronic trading, including small and emerging sectors like event tickets, airfare tickets, and cryptocurrencies, lawmakers have monitored for these common competition problems, and they have at times intervened with legislation or regulation when market participants have not sufficiently self-regulated their behavior. Because the advertising sector now trades on electronic exchanges too, we might similarly borrow from the principles of financial regulation—ensuring equal access to speed and information and managing intermediary conflicts of interest—in order to protect the integrity of advertising.

II. ELECTRONIC TRADING MARKETS

A. *Advertising Market Reflects the Structure of an Electronic Trading Market*

The rise of buying and selling ad space on electronic exchanges paralleled a shift to computerized trading systems across various sectors of the economy. For example, shares of issued stock trade on stock exchanges like the New York Stock Exchange (NYSE), which once reflected a hustle and bustle of traders on a physical exchange floor. Though television networks like CNBC still perpetuate this image, today, stocks, currencies, and other financial instruments trade on dozens of electronic trading venues at the same time and at lighting speed.²⁴ The NYSE is

24. For a discussion of how equities trading happens on national public exchanges, off-exchange alternative trading systems, and internalization platforms, see Merritt Fox et al., *The New Stock Market: Sense and Nonsense*, 65 DUKE L.J. 191 (2015); Kevin S. Haeberle, *Discrimination Platforms*, 42 J. CORP. L. 809 (2017); MATTEO AQUILINA ET AL., QUANTIFYING THE HIGH-FREQUENCY TRADING "ARMS RACE": A NEW METHODOLOGY AND ESTIMATES (Fin. Conduct Auth. ed.,

largely comprised of computer servers, interconnected by colored wiring in nondescript buildings off the New Jersey Turnpike.²⁵

To buy and sell on these financial exchanges, investors used to go through a human middleman. But now brokers and other intermediaries are also computerized, connecting electronically to exchanges through application programming interfaces. An individual investor might use an online interface belonging to a broker like E*Trade, while an institutional trader might use sophisticated algorithms to trade at high speeds in an automated fashion.

Outside of tradeable financial assets like equities, the tickets for sports, theater, and music events now trade on electronic marketplaces and “exchanges,” as do emerging cryptocurrencies like Bitcoin and Ether.²⁶ To buy and sell on these electronic trading venues, one can use an online interface or go through a “broker.” Here too, trading strategies can make use of computerized algorithms to buy and sell in an automated way at high speeds.

The biggest financial players have been helping to propel electronic trading to new sectors of the economy. For example, the parent company of the NYSE, Intercontinental Exchange, recently made a takeover bid for eBay (withdrawn), which, until not long ago, also owned the largest event ticket marketplace, StubHub.²⁷ Separately, large financial brokers,

2020); SCOTT PATTERSON, *DARK POOLS: THE RISE OF THE MACHINE TRADERS AND THE RIGGING OF THE U.S. STOCK MARKET* (Crown Bus. ed., 2013).

25. Graham Bowley, *The New Speed of Money, Reshaping Markets*, N.Y. TIMES (Jan. 1, 2011), <https://perma.cc/4VEB-F987>.

26. Note, tickets trade in primary and secondary markets. *See generally* U.S. GOV'T ACCOUNTABILITY OFF., GAO-19-347, *EVENT TICKET SALES: MARKET CHARACTERISTICS AND CONSUMER PROTECTION ISSUES* (2018); ERIC T. SCHNEIDERMAN, *OBSTRUCTED VIEW: WHAT'S BLOCKING NEW YORKERS FROM GETTING TICKETS* (N.Y. State O.A.G. ed., 2016); BARBARA UNDERWOOD, *VIRTUAL MARKETS INTEGRITY INITIATIVE REPORT* (N.Y. State O.A.G. ed., 2018) (providing an overview of cryptocurrency trading).

27. Cara Lombardo & Corrie Driebusch, *NYSE Owner Intercontinental Exchange Makes Takeover Offer for eBay*, WALL ST. J. (Feb. 4, 2020), <https://perma.cc/79DL-SW38>.

including E*Trade and TD Ameritrade, are launching cryptocurrency exchanges and trading desks.²⁸ NYSE rival, Nasdaq, has taken a different approach, licensing its underlying marketplace technology to jumpstart other sectors' migration to electronic trading.²⁹ One exchange built on the Nasdaq framework is NYIAX, the New York Interactive Advertising Exchange.³⁰

But the biggest names in the advertising market are not NYSE or Nasdaq; they are Google and Facebook. These companies, amongst the largest market cap companies today, operate the nuts and bolts of what is likely the most sophisticated of all electronic trading markets: online advertising. Whereas the world's largest financial exchange, the NYSE, trades the shares of a few thousand companies and processes a few billion shares a day, Google's advertising exchange trades ad spaces targeted to billions of individual users and likely processes tens of billions of these targeted ad spaces daily.³¹

Just as individual investors go through an intermediary broker to trade on financial exchanges, publishers and advertisers must also go through a computerized middleman to trade on advertising exchanges. On the buy-side, advertisers use specialized software made either for small or large advertisers. Smaller advertisers, such as your local dry

28. Elizabeth Dilts, *TD Ameritrade Invests in Cryptocurrency Exchange ErisX*, REUTERS (Oct. 3, 2018), <https://perma.cc/KPE7-RZEL>; Julie Verhage, *E*Trade Is Close to Launching Cryptocurrency Trading*, BLOOMBERG (Apr. 26, 2019), <https://perma.cc/SE4K-H888>.

29. *Non-Traditional Exchanges & New Markets*, NASDAQ, <https://perma.cc/F4TN-N4DM> (last visited Sept. 29, 2020).

30. *Announcing NYIAX, the World's First Advertising Contract Exchange*, NASDAQ (Mar. 14, 2017), <https://perma.cc/8UZI-FDS7>.

31. Jeff Desjardins, *Here's the Difference Between the NASDAQ and NYSE*, BUS. INSIDER (July 11, 2017), <https://perma.cc/L6YQ-BF77>; *Markets Diary*, WALL ST. J.: MKTS., <https://perma.cc/F7SV-LTQC> (last visited Sept. 29, 2020) (reporting NYSE daily trading volume); Chiradeep BasuMallick, *What Is an Ad Exchange? Definition, Functioning, Types, and Examples*, TOOLBOX: MKTG. (May 18, 2020), <https://perma.cc/9AW7-SN9G> (estimating that advertising exchanges process approximately 70 billion ad "impressions" (i.e., ad spaces) daily).

cleaner, might use a simple, self-serve online buying tool, such as Google Ads, which Google has analogized to the “online broker” in the ad market.³² Continuing this analogy, an early Google Ads competitor called itself “the eTrade to Google’s NYSE.”³³ In practical terms, the dry cleaner sets a budget and defines its bid parameters (e.g., bid ceiling) and Google Ads will bid on and buy ad space, including those trading on Google’s exchange, in an automated fashion on the dry cleaner’s behalf.³⁴ However, Google here can ultimately be the advertiser’s counterparty, not its agent.

Larger advertisers like Proctor and Gamble use enterprise trading software that the industry calls demand side platforms (DSPs) and, again

32. Comparisons between the advertising market and the financial market have frequently been made by advertising industry participants, including Google and others. For instance, Google compared Google Ads (then called AdWords) to an online broker: “Who participates in the Ad Exchange? Again, imagine the Ad Exchange as a stock exchange. Only the largest brokerage houses actually plug into, say, the NYSE. In the Ad Exchange world, those are: The large online publishers (sellers)—websites like portals, entertainment sites and news sites Ad networks and agency holding companies that operate networks (buyers)—companies that connect web sites with advertisers.” *The DoubleClick Ad Exchange*, GOOGLE, <https://perma.cc/5TTF-7PEK> (last visited Oct. 3, 2020); see also Mansour et al., *supra* note 4 (analogizing “like financial exchanges that only let licensed brokers trade, ad exchanges let ad networks trade on the exchange on behalf of individual advertisers.”).

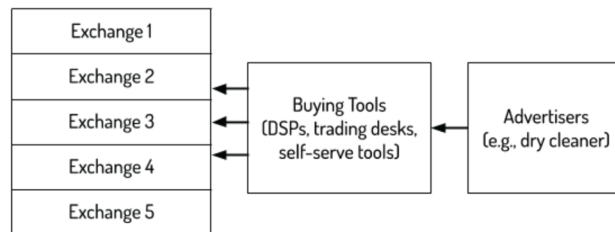
33. AdExchanger Staff, *On DoubleClick Ad Exchange: More Digital Media Industry Reaction*, ADEXCHANGER (Sept. 22, 2009), <https://perma.cc/75GY-D87J> (comments of then-CEO of buying tool AdReady).

34. Note, historically, Google Ads only routed bids to Google’s exchange. This changed in 2016 when Google Ads started routing bids to non-Google exchanges. See *DoubleClick Ad Exchange*, DOUBLECLICK BY GOOGLE, <https://perma.cc/TZ6F-S55S> (last visited Oct. 3, 2020) (explaining that Google’s exchange is “the only exchange offering access to the full demand of Google AdWords”); Michel Van Luitelaar, *AdWords Remarketing Cross-Exchange*, UP ANALYTICS (Aug. 26, 2016), <https://perma.cc/34GY-WJ2P> (reflecting that Google Ads/AdWords started routing bids to non-Google exchanges in May of 2016); Google Ads Help, *About Cross-Exchange for Display Remarketing Campaigns*, GOOGLE, <https://perma.cc/NDP3-TDUE> (last visited Sept. 29, 2020).

borrowing from finance, “trading desks.”³⁵ Compared to the self-serve software used by smaller advertisers, these software tools provide more sophisticated bidding algorithms, offer a wider array of user targeting options, and typically require a higher monthly spending commitment.³⁶ For brevity, this Article refers to self-serve tools for small businesses, DSPs, and trading desks, collectively, as “buying tools.”

35. See generally Michael Sweeney, *The Anatomy of a Demand-Side Platform (DSP)*, CLEARCODE, <https://perma.cc/K9EQ-XKBH>. Note, demand side platforms and trading desks also connect to the ad serving tool used by marketers. See generally Arvind Kesh, *What Is a Demand-Side Platform and How to Choose One*, AD BEAT, <https://perma.cc/K86U-J2UK>.

36. See generally Kesh, *supra* note 35 (summarizing that most DSPs require monthly spend commitments of \$5,000-\$10,000 U.S. dollars).

Figure 1: The Buy-Side Intermediaries: Buying Tools*

*Advertisers must use buying tools to access the exchanges where ads are bought and sold.

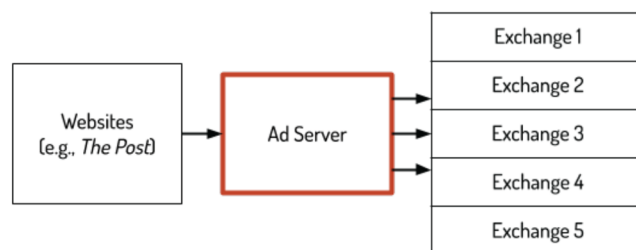
The counterparts of advertisers in this market are those selling ad space, including publishers such as *The Post* and *The Register*. Sellers use a different type of computerized intermediary called an “ad server” to sell their inventory on exchanges.³⁷ At a simple level, the ad server is inventory management software, which keeps track of the number of ad spaces a publisher has available to sell and houses sensitive information about the publisher’s campaigns, advertisers, and pricing.³⁸ As a part of

37. It is worth noting that Google recently blurred the distinction between its ad server and exchange by both reclassifying its ad serving revenues in its shareholder reports and merging the two into a new single product renamed Google Ad Manager (GAM). Jonathan Bellack, *Introducing Google Ad Manager*, GOOGLE: AD MANAGER (June 27, 2018), <https://perma.cc/T3HN-YCZV> (announcing that Google has merged its ad server and exchange together and renamed them Google Ad Manager). However, from 2008 through 2018, Google’s ad server and exchange were marketed as separate, distinct, products. Additionally, in every 10K SEC filing from 2008 (the year Google acquired DoubleClick) through 2014, Google distinguished its “ad serving software” from its exchange and ad network. It was only in 2015 that Google reclassified its ad serving software revenues from “other” to “advertising revenues” and stopped referring to its ad server as a separate product. See Google Inc. (2008-2015), *supra* note 10.

38. *NetGravity Launches AdServer, the Premier Advertising Management System Software for World Wide Web Publishers*, NETGRAVITY (Jan. 31, 1996), <https://perma.cc/7B2W-JB4M> (announcing launch of first “adserver”); Julia

this role, the ad server also acts as a link between a publisher's inventory and real-time trading venues, routing ad space to exchanges in real-time as they become available for sale.³⁹ After a publisher sells its ad space, information about the order goes into the ad server. The ad server then tracks these orders and ensures each advertiser's ads are displayed (i.e., are *served*) in the right spot, at the right time, to the right users.

Figure 2: The Sell-Side Intermediary: Ad Server*



Brockhoff et al., *Google/DoubleClick: The First Test for the Commission's Non-Horizontal Merger Guidelines*, 2 COMPETITION POL'Y NEWSL. (Eur. Comm'n Competition), 2008, at 53 (explaining the core functions of an ad server); DoubleClick Inc. and Compaq Computer Corp., *Advertising Services Agreement*, FINDLAW (Jan. 18, 1999), <https://perma.cc/5T83-RGJ3> (detailing commercial terms of an old DoubleClick license).

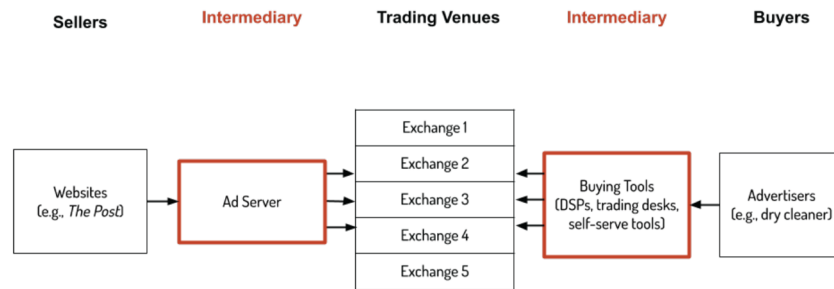
39. Specifically, when a user loads a publisher's webpage, the user loads the ad server's "tag," which is commonly Google's since Google owns the leading ad server in the market. Historically, Google's ad server limited interconnection with non-Google exchanges. See *infra* Part III.B. When this was the case, Google's ad server redirected the user's browser to call non-Google exchanges directly. See *How RTB Ad Serving Works*, AD OPS INSIDER (Dec. 15, 2010), <https://perma.cc/S3TR-T84E> (discussing how it worked historically). This process changed in part when Google's ad server introduced a product enhancement called Open Bidding. With Open Bidding, it is Google's ad server (and not the user's browser) that makes direct calls to integrated exchanges. See Jonathan Bellack, *Improving Yield, Speed and Control with DoubleClick for Publishers First Look and Exchange Bidding*, GOOGLE AD MANAGER (Apr. 13, 2016), <https://perma.cc/LMU4-ENCQ>.

*Websites must use an ad server to access the exchanges where ads are bought and sold.

The lifecycle of an ad trade flows through these three software components—the ad server, the exchanges, and the buying tools—and begins the moment a user visits a webpage.⁴⁰ The user’s visit triggers the publisher’s ad server to identify the user loading the page and to route the ad space on that page to one or more exchanges. The exchange then sends trading signals called “bid requests” to the buying tools that have a “seat” to bid, soliciting them to return a bid for that space without knowing what others are simultaneously returning as their bid.⁴¹ Each exchange then holds an auction, picks a winning bid, and returns it to the ad server. The ad server can then maximize the publisher’s inventory yield by selecting the advertisement associated with the highest exchange bid and returning it to the user’s page all before it finishes loading.

40. Websites might use another software called a supply side platform (SSP) between their ad server and exchanges. The SSP’s job is to route the site’s ads to exchanges in a way that maximizes yield. However, the ability today to route ad space to multiple exchanges synchronously largely renders SSPs obsolete, which is why the delineation between SSPs and exchanges has largely disappeared. See Maciej Zawadziński & Michal Wlosik, *What is a Supply-Side Platform (SSP) and How Does It Work?*, CLEARCODE (Oct. 18, 2018), <https://perma.cc/F5TG-UKVA> (explaining what an SSP is and does); Ryan Joe, *Defining SSPs, Ad Exchanges and Rubicon Project*, ADEXCHANGER (Feb. 7, 2014), <https://perma.cc/FQP2-JA8Q> (describing the disappearing delineation between SSPs and exchanges).

41. See generally Verizon Media, *Auction Mechanics 101*, VERIZON (Jan. 30, 2019), <https://perma.cc/53XX-CAQU> (explaining how advertising auctions work); *Authorized Buyers Real-Time Bidding Proto*, GOOGLE, <https://perma.cc/YKE6-N6DX> (explaining how Google shares advertisers’ bids post auction conclusion).

Figure 3: Electronic Ad Trading Altogether

B. Common Competition Problems in Electronic Trading Markets

In the online advertising market, as well as in other electronic trading markets, access to information, speed, and the routing of buy and sell orders are the linchpin of a healthy, competitive market. Access to information about what is trading on an exchange is critical to those competing to buy on the same venue. In advertising, the bid requests that exchanges send to buying tools contain important information used to decide whether and how much to bid for an ad. This includes the size of the ad space for sale (e.g., 300x250 pixels), the page address (e.g., nytimes.com/HowToDoLaundry), and some information about the identity of the user.⁴² Importantly, when these bid requests do not contain sufficient information about the identity of the user loading the page, which people in the industry have called the “skeleton key” of programmatic

42. For a list of what Google includes in bid requests, see Google Developers, *Real-Time Bidding: Example Bid Request*, GOOGLE, <https://perma.cc/X4ND-77V9> (last visited Oct. 4, 2020). For an example of what another major exchange includes in bid requests, see Xandr Bidders, *Open RTB 2.0 Bid Request*, XANDR, <https://perma.cc/AW5X-ST22> (last visited Sept. 29, 2020), which explains bid requests and the fact that they contain “all the necessary information for a bidder to produce a bid price.”

advertising, the buying tools bidding on behalf of advertisers sit out of auctions or bid significantly less.⁴³

Speed is critical to electronic trading, whether on advertising, stock, ticket, or cryptocurrency exchanges.⁴⁴ Online ad space trades in the milliseconds that it takes for users' pages to load and exchanges and buying tools communicate with each other at lightning speed. When an advertising exchange sends out bid requests, it sets the time each buying tool has to respond with a bid. Within this timeframe, which is usually between 100 to 160 milliseconds (one to two-tenths of a second), each tool races to unpack the data contained in the bid request, query additional user data (e.g., this particular user's spending habits), determine what price to bid, and return a bid back to the exchange before time is up.⁴⁵

43. Andrew Casale, *Identity: Programmatic's Skeleton Key*, VIMEO, at 5:40 (May 21, 2018), <https://perma.cc/E28F-EXQJ>.

44. See generally FirstPartner, *Digital Advertising: The Role of Cloud and Connectivity in Ad Trading and Delivery*, INTERXION (2020), <https://perma.cc/67ZR-QTUT> (explaining that "very fast response times" are "a precondition for competing" and "[t]rading and delivering ads at very high speed is a critical requirement, and depends on rapid interactions between partner companies"); Hasham, *How Network Latency Affects the RTB Process for AdTech*, DATAPATH (Apr. 21, 2016), <https://perma.cc/4W6Q-GUL2> (explaining that a "small improvement in latency can spell the difference between winning an auction and not being considered for the auction at all"); Tejaswini Tilak, *NEED FOR SPEED: Why the Online Ad Industry Is Converging on Equinix*, EQUINIX (Nov. 18, 2013), <https://perma.cc/G6GE-TV48>.

45. Google Ad Manager, *Bring More Bids to the Auction with Open Bidding*, GOOGLE, <https://perma.cc/YPH2-KPAL> (last visited Sept. 29, 2020) (sharing new Google ad server Open Bidding timeouts of 160 milliseconds); *BidResponse Object*, OPENX (Oct. 9, 2017), <https://perma.cc/37ME-6S9E> (discussing OpenX exchange timeouts of 125 milliseconds and how the exchange reduces the number of bid requests sent to bidders with frequent timeouts); PubMatic Technical Documentation, *OpenRTB 2.1 API Performance*, PUBMATIC, <https://perma.cc/36BA-42PK> (last visited Sept. 29, 2020) ("PubMatic's performance requires that the total latency should be within 130 milliseconds - 30 ms for connection establishment and 100 ms for bid response. If either of these independent thresholds are exceeded (connection and bid response time) during the transaction the bid is considered a 'timeout.'").

After the set time, the exchange closes the auction, excludes the bids that arrived too late, and chooses a winner.

Across any of these electronically traded markets, an exchange can distort competition between the different buyers competing in its marketplace by giving some an information or speed advantage. In advertising, an exchange might give some buying tools (bidders) superior information about the ad space (e.g., the user's identity) or let some colocate. Colocation, which is also central to equities trading, broadly refers to the practice of placing trading computers and exchange computers close together to reduce the time it takes for signals to travel between the two.⁴⁶ By collocating with an ad exchange, a bidder can receive and respond to bid requests faster than the bidders that are not colocated, allowing it to be included more often in exchanges that subject their auctions to strict time constraints.

Just as exchanges can distort competition between bidders, the trading intermediaries can distort competition between exchanges by the way that they route buy and sell orders to exchanges. When ad space on a site becomes available for sale, the ad server—like the broker in financial markets—determines whether to route that space only into Exchange A, or Exchange A, B, and C, on equal terms, and whether to do so at the same time. Similarly, when an advertiser uses a buying tool to bid on and buy ad space from exchanges, this intermediary determines whether to route the advertiser's bids only into Exchange A, or Exchange A, B, and C, on equal terms. A company that operates an intermediary, especially one that has significant market share and enjoys barriers to entry, can distort competition in the exchange market by, for example, preferentially routing buy and sell orders to a particular trading venue.

46. Geoffrey Rogow, *Colocation: The Root of All High-Frequency Trading Evil?*, WALL ST. J. (Sept. 20, 2012), <https://perma.cc/QM7B-HSA3> (defining colocation); Google Ad Manager Help, *How Google Ads and Display & Video 360 Work with Ad Exchange*, GOOGLE, <https://perma.cc/MWY3-JLP5> (last visited Sept. 26, 2020) (discussing speed and other advantages of colocation).

Also critical to competition is the way that trading intermediaries handle the material nonpublic information belonging to third party buyers and sellers. Problems often arise when companies trade on behalf of third parties, but also trade on behalf of themselves. For example, in financial markets, a broker might receive a Carl Icahn sell order for 10 million shares of Tesla. The broker can best serve Icahn's interests by keeping information about his trading activity confidential, or alternatively, the broker can use that information to advance its own interests. For instance, its proprietary trading division might use information about Icahn's trade to get rid of its Tesla shares before information about Icahn's trade becomes public and the price of those shares drops. To be discussed more in Part III, information use problems also arise in advertising markets when a company both handles trading activity for third parties but also buys and sells in the market for its own financial interests.

C. The Competition Principles We Apply in the Equities Trading Market

In the U.S. and globally, lawmakers manage these common electronic trading issues in the stock market through the application of a handful of broad principles.⁴⁷ While financial market regulation may sound intimidating, the basic principles are straightforward. One guiding principle is that exchanges must provide traders with fair access to the marketplace, including access to the *data* transmitted by exchanges as well as the *speed* at which data signals travel from exchanges to traders.⁴⁸ When exchanges

47. U.S. Congress started regulating the stock market in 1934 to prohibit unfair trading practices and "insure the maintenance of fair and honest markets." Securities Exchange Act of 1934, 15 U.S.C. § 78b.

48. In the U.S., stock exchanges must obtain approval for their trading rules from the SEC, who in turn must ensure "fair competition among brokers and dealers." 15 U.S.C. § 78k-1(a)(1)(C)(ii). Specific fair access rules are articulated in federal statutes. For example, Rule 610(a) and Rule 603(a)(2) of SEC Regulation NMS, prohibit the regulated National Market System (NMS) exchanges, including the NYSE and Nasdaq, from restricting efficient exchange access; these

permit colocation, terms must be transparent, pricing non-discriminatory, and the length of fiber-optic cord connecting the exchange engine to the trader servers the same length.⁴⁹ Even an extra foot of cabling in a colocation facility can systemically disadvantage some traders due to latency.

Competition is also protected through the identification and management of intermediary conflicts of interest.⁵⁰ One principle applied here is

rules also require exchanges to distribute information with respect to quotations or transactions in a manner “fair and reasonable” or “not unreasonably discriminatory.” *See respectively* 17 C.F.R. § 242.610(a) (2020) (prohibiting restrictions on “efficient access”); 17 C.F.R. § 242.603(a)(2) (2020). The SEC has interpreted these fair access rules to prohibit an exchange from sending data to some traders before the exchange sends the same data to consolidated feeds. *See, e.g.*, N.Y. Stock Exch. LLC, Release No. 67857 SEC, 2 (Sept. 14, 2012). While the non-NMS exchanges—the Alternative Trading Systems (ATSs)—are generally not subject to fair access rules, some are subject to the fair access standards of Regulation ATS. 17 C.F.R. § 242.301 (2020). In the European Union, access to regulated markets (RMs) and multilateral trading facilities must be transparent and non-discriminatory. Other jurisdictions globally also require trading venues to provide traders with fair access. *See generally* INT’L ORG. OF SECURITIES COMM’NS [IOSCO], REGULATORY ISSUES RAISED BY CHANGES IN MARKET STRUCTURES CONSULTATION REPORT 9 (2013) [hereinafter IOSCO MARKET STRUCTURE CONSULTATION REPORT].

49. Exchange colocation procedures need to be submitted to and approved by the SEC. For transparency around exchange colocation services, *see, e.g.*, *NYSE Price List 2020*, N.Y.S.E. 28-39 (2020), <https://perma.cc/T2XU-HFDF>; MORGAN HAUSEL, *THE BAD SIDE OF A GOOD IDEA* (Collaborative Fund ed., 2016), <https://perma.cc/AX7A-M6V6> (“NYSE measured the distance to the furthest cabinet, which is where people put their servers. It was 185 yards. So they gave every [high-frequency trader] a cable of 185 yards.”)

50. *See generally* Resolution on IOSCO Objectives and Principles of Securities Regulation and Methodology for Assessing Implementation of the IOSCO Objectives and Principles of Securities Regulation, Presidents Comm. of the Int’l Org. of Securities Comm’ns [IOSCO] (May 2017), <https://perma.cc/UG65-KS23> (summarizing that one key role of the securities regulator, or an industry self-regulatory organization, is to avoid, eliminate, disclose, or otherwise manage conflicts of interest); Carlo V. di Florio, *Conflicts of Interest and Risk Governance*, S.E.C. (Oct. 22, 2012), <https://perma.cc/L3RW-NY9W> (providing an overview of

a structural one: a company that runs an exchange like the NYSE cannot also operate a division involved in trading.⁵¹ However, when companies are permitted to participate in the market in more ways than one, conflicts of interest and disclosure rules kick in. For example, intermediary broker dealers can have conflicts: they trade in the market on behalf of third parties (the broker designation), as well as on behalf of themselves as a proprietary trader (the dealer designation), and they can even run a specialized trading venue called an Alternative Trading System (ATS).⁵² But these multi-service firms must manage their conflicts of interest and cannot simply route their customers' buy and sell orders (order flow) to the firm's electronic trading venue.⁵³

the importance of conflicts of interest management to securities regulation and the interplay between the existence of conflicts and increased market risk); Christoph Kumpan & Patrick C. Leyens, *Conflicts of Interest of Financial Intermediaries - Towards a Global Common Core in Conflicts of Interest Regulation*, 4 EUR. CO. AND FIN. L. REV. 72 (2008) (defining a conflict of interest as arising when "a person who has a duty to act in another party's interest has to decide how to act in the interest of that party and another interest interferes with his ability to decide according to his duty.").

51. Conversations with securities professionals indicate that the SEC enforces this structural separation through its power to reject public exchange applications.

52. Prop. Regulation of NMS Stock Alternative Trading Systems, 80 Fed. Reg. 80,998 (Dec. 28, 2015) (codified at 17 CFR § 240.3a1-1(a)) (stating that broker dealers operate ATSs).

53. It is the Best Execution Rule, grounded in common law principles of agency, industry self-regulation, and federal securities law, that prohibits de-facto preferencing or internalization and requires broker dealers to use reasonable diligence in determining where to route client orders. The rule's application in equities, however, is not uncontroversial and has application challenges (e.g., When does speed of execution trump best price? Is it unrealistic to apply such a rule to individual trades?). See Jonathan Macey & Maureen O'Hara, *The Law and Economics of Best Execution*, 6 J. OF FIN. INTERMEDIATION 188, 188-223 (1997). See also Paul G. Mahoney & Gabriel V. Rauterberg, *The Regulation of Trading Markets: A Survey and Evaluation*, in SECURITIES MARKET ISSUES FOR THE 21ST CENTURY, 221, 221-81 (Merritt B. Fox et al. ed., 2018).

Competition in the stock market—heavily shaped by access to data and information—also benefits from rules that regulate who may use what information when trading. For example, we require financial intermediaries (i.e., brokers and investment advisors) to act in the best interest of their customers, which forcibly vests property rights in customers’ information in customers themselves.⁵⁴ Brokers, therefore, cannot use information about their customers’ trading activity to trade in the market for their own financial gain.⁵⁵ This prohibition is further enforced through

54. Regulation Best Interest under the Securities Exchange Act of 1934 requires broker dealers to act in the “best interest” of their customers and not place their own interest ahead of retail investors when advising on securities or investment strategy. This code of conduct requires broker dealers to mitigate or eliminate certain some conflicts of interest and disclose others. It also requires broker dealers to exercise reasonable diligence, care and skill when advising retail clients. Sec. Exch. Act of 1934, 17 CFR § 240.15l-1(a)(2) (2019). Investment advisors, on the other hand, owe their customers a fiduciary duty, under the Investment Advisors Act of 1940, 17 CFR § 275 (1940). The SEC has interpreted this duty to permit investment advisors to sometimes merely disclose some types of conflicts to institutional clients; to retail customers, investment advisors may instead have to mitigate or eliminate conflicts entirely, especially complex ones. The fiduciary standard for investment advisors also includes an ongoing duty to monitor customer accounts. As background, per the Dodd-Frank Act, Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 929-Z, 124 Stat. 1376, 1871 (2010) (codified at 15 U.S.C. § 78o), the SEC was to “harmonize” the duties of broker dealers and investment advisors. When promulgating a “best interest” rule, as opposed to a parallel fiduciary rule, seven states, the District of Columbia, and others, filed suit, challenging the short falling of the “best interest” rule. Keith Blackman et al., *Second Circuit Upholds Regulation BI*, NAT’L L. REV. (July 3, 2020), <https://perma.cc/B8CY-D4TV>.

55. If a broker uses information about a customer’s trading activity to place and execute trades in advance of the customer’s, it is called trading ahead or front running, and is prohibited under common law principles of agency (which the law constructs regardless of contractual intentions), industry self-regulation, and federal securities law. See *Opper v. Hancock Sec. Corp.*, 250 F. Supp. 668, 676 (S.D.N.Y. 1966) (holding front running to be illegal under principles of agency and federal law), *aff’d*, 367 F.2d 157 (2d Cir. 1966); FINRA Rule 5270, FINRA Rules, FIN. INDUS. REG. AUTH., <https://perma.cc/5WPC-LMEF>; NORMAN S. POSER,

Congressionally mandated ethical walls—internal corporate policies and physical barriers that brokers must implement to prevent the flow of sensitive information from one business division (e.g., the broker division) to another (e.g., the dealer division).⁵⁶

On top of this, rules against insider trading further restrict certain parties from trading upon particular types of information advantages. The classic example prohibits corporate “insiders” from trading in the market using material nonpublic information.⁵⁷ However, insider trading

BROKER-DEALER LAW AND REGULATION 16-5 (4th ed. 2007) (discussing broker dealer duties).

56. In 1988, Congress passed the Insider Trading and Securities Fraud Enforcement Act of 1988, which increased penalties for insider trading and securities fraud and required registered brokers and dealers to enforce written policies and procedures to prevent the misuse of material nonpublic information. *See* Insider Trading and Securities Fraud Enforcement Act of 1988, H.R. 5133, 100th Cong. (1998). In 1990, the SEC clarified and outlined minimum requirements for broker dealers. Section 204 of the Investment Advisers Act contains a similar requirement for investment advisers. *See* 15 U.S.C. § 78o(g) (2018); DIVISION OF MARKET REGULATION U.S. SEC. AND EXCH. COMM’N, BROKER-DEALER POLICIES AND PROCEDURES DESIGNED TO SEGMENT THE FLOW AND PREVENT THE MISUSE OF MATERIAL NONPUBLIC INFORMATION (U.S. Sec. and Exch. Comm’n ed., 1990); 15 U.S.C. § 80b-4a; RALPH C. FERRARA, DONNA NAGY & HERBERT THOMAS, FERRARA ON INSIDER TRADING & THE WALL 9-7-9-12 (2017).

57. Before the SEC took an active role in defining, expanding, and regulating “insider trading,” information use when trading was primarily governed by state common law of fraud. The majority rule there rejected any fiduciary relationship between corporate insiders and shareholders, which would have triggered a duty to disclose material nonpublic information to shareholders before trading or to withhold from trading. At the helm of the SEC, Chairman William Cary sought to reign in how certain parties with access to nonpublic information, including corporate insiders and exchange floor members, could take advantage of such information access. JOEL SELIGMAN, THE TRANSFORMATION OF WALL STREET: A HISTORY OF THE SECURITIES AND EXCHANGE COMMISSION AND MODERN CORPORATE FINANCE 344-45 (3rd ed. 1977). It was during Cary’s tenure that the SEC began to use Section 10(b) of the 1934 Securities Exchange Act to prosecute trading on the basis of certain information advantages. Though insider trading doctrine developed over the years as requiring a breach of a fiduciary duty, some

rules also apply to “temporary insiders,” to prohibit those that become privy to sensitive information through an unrelated business relationship from trading on the same information.⁵⁸ These rules can promote economic efficiency by properly allocating property rights to information and by ferreting out trading activity thought to be grossly unfair.⁵⁹ In one of the seminal insider trading cases at the U.S. Supreme Court, *United States v. O’Hagan*, Justice Ginsburg relied on such rationale: unerodable information advantages that derive from misappropriated information can discourage people from participating in the markets in the first place.⁶⁰

scholars have argued that such fiduciary duties were “fictions” manufactured to prohibit trading based on information advantages deemed unfair. See, e.g., Donna Nagy, *Insider Trading and the Gradual Demise of Fiduciary Principles*, 94 IOWA L. REV. 1315 (2009) (discussing the “Supreme Court’s Fiduciary Fictions”).

58. The development of insider trading rules stem from Rule 10b-5 of Section 10(b) of the Securities Exchange Act (1934) that makes it unlawful “(a) to employ any device, scheme, or artifice to defraud, (b) to make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading, or (3) to engage in any act, or course of business which operates or would operate as a fraud or deceit upon any person, in connection with the purchase or sale of any security.” 17 CFR § 240.10b-5 (1951). Per the misappropriation theory of insider trading, Rule 10b-5 “bars trading on the basis of information that the wrongdoer converted to his own use in violation of some fiduciary, contractual, or similar obligation to the owner or rightful possessor of the information.” Barbara Aldave, *Misappropriation: A General Theory of Liability for Trading on Nonpublic Information*, 13 HOFSTRA L. REV. 101, 122-23 (1984).

59. Jonathan R. Macey, *From Fairness to Contract: The New Direction of the Rules Against Insider Trading*, 13 HOFSTRA L. REV. 1, 55 (1984) (summarizing the various motivations behind insider trading jurisprudence and arguing that a main motivation is the proper allocation of property rights in information).

60. *United States v. O’Hagan*, 521 U.S. 642 (1997) (citing Victor Brudney, *Insiders, Outsiders, and Informational Advantages Under the Federal Securities Laws*, 93 HARV. L. REV. 322, 356 (1979)) (additionally discussing why it is not socially useful to permit those that become in possession of relevant information in the course of rendering another service to trade on the acquired information advantages for their personal benefit).

Collectively, these principles—those prohibiting intermediaries from using certain information advantages when trading, those prohibiting intermediaries from preferentially routing order flow, and those requiring exchanges to provide traders with fair access to information and speed—help to protect competition in the electronically traded equities market. Online advertising, despite also trading on electronic trading venues at high speeds and facing the same competition issues, benefits from no parallel code of conduct.

III. GOOGLE DOMINATES ONLINE ADVERTISING MARKETS BY ENGAGING IN CONDUCT LAWMAKERS PROHIBIT IN OTHER ELECTRONIC TRADING MARKETS

Historically, Google was late to enter the programmatic advertising market, and, when it launched an exchange in the fall of 2009, it faced a lot of competition.⁶¹ Right Media's RMX exchange launched four years earlier and was processing billions of individual ad spaces daily.⁶² Microsoft and top Silicon Valley venture funds Sequoia Capital and Draper

61. In the late 2000s, the advertising exchange market was competitive. See generally AdExchanger Staff, *supra* note 33 (stating that the exchange market "is one area where Google is playing catch up with Yahoo and their RMX"); Case No COMP/M.4731 – Google/DoubleClick, Regulation (EC) No 139/2004 Merger Procedure, Comm'n of the European Communities Decision (Nov. 3, 2008) (discussing competition in the exchange and network markets between Google, Yahoo!, Microsoft, AOL/Time Warner, and others); Harry Gold, *Pros and Cons of Ad Exchanges*, CLICKZ (July 24, 2007), <https://perma.cc/M4GZ-JUTF> (further discussing exchange competition from Yahoo!, ContextWeb, AdBrite, and others).

62. Michael Arrington, *Panama Not Enough to Battle Google: Yahoo Acquires RightMedia*, TECHCRUNCH (Apr. 30, 2007), <https://perma.cc/9USU-XFSQ>; AdExchanger Staff, *supra* note 33 (clarifying that Right Media's exchange did not permit real-time bidding on individual impressions at the time). See also Clifford, *supra* note 3 (stating that in 2008, Right Media "handle[d] about six billion transactions a day"). See also, Yishay Mansour et al., *supra* note 4.

Fisher Jurvetson had their horses in the race as well with three other exchanges: AdECN, AdBrite and ADSDAQ, respectively.⁶³ Some eight exchanges crowded the market, competing against each other on price, auction mechanics, liquidity and inventory quality.⁶⁴ The same was true about Google's entry into the enterprise buying tool market. In 2009, Google owned Google Ads (then called AdWords), but Google had not yet launched an enterprise buying tool (DSP), and plenty of firms competed in that market segment.⁶⁵

Despite "playing catch up," by around 2013, Google's exchange overtook the competition to become the largest trading venue for ad space globally.⁶⁶ Shortly afterwards, Google's enterprise buying tool called Dis-

63. AdExchanger Staff, *Ad Exchange AdECN Acquired By Microsoft*, ADEXCHANGER (July 27, 2007), <https://perma.cc/9LC7-A6RH>; Kristen Nicole, *ContextWeb Launches ADSDAQ for Ad Trading*, MASHABLE (May 1, 2007), <https://perma.cc/74VB-PKE5>; adBrite, CRUNCHBASE (2020), <https://perma.cc/8G6K-WGGB>; Danny Schultz, *ContextWeb's ADSDAQ Exchange Reaches Record Size and Scope*, GOTHAM VENTURES (Nov. 21, 2008), <https://perma.cc/G7VV-DSGT>.

64. See generally AdExchanger Staff, *supra* note 33.

65. AdExchanger Staff, *The AppNexus Reveal: We're A Demand-Side Platform Says Pres Rubenstein*, ADEXCHANGER (Nov. 12, 2009) <https://perma.cc/Z92C-53X7> (discussing competition in this market segment from x+1, MediaMath, Invite Media, CPM Advisors, Adchemy, Fox Audience Network, DataXu, Turn, AdBuyer.com, and Triggitt). A 2011 market research report found the top DSPs in the market to be those belonging to AppNexus, Turn, MediaMath, and DataXu. Jason Del Ray, *MediaMath in AdAge "MediaMath Declared Winner, but Who's the Largest DSP in the Land?"*, MEDIAMATH (Dec. 14, 2011), <https://perma.cc/MCX4-ED8S> (showing AppNexus was the leading DSP processing 26 billion impressions monthly whereas Invite Media processed an estimated 10 billion monthly).

66. The first reference to the dominance of Google's exchange can be found in the year 2013. John McDermott, *Google's Display Advertising Dominance Raises Concerns*, DIGIDAY (Dec. 2, 2014), <https://perma.cc/Z7D3-KRLR> (noting that "Google is the operator of the largest ad exchange, AdX, while also operating a leading DSP, namely, DBM" (quoting Amir Efrati, *FTC Begins Probe of Google's Display-Ad Business*, WALL ST. J. (May 24, 2013)).

play & Video 360 (“DV360”), an outgrowth of Google’s acquisition of Invite Media, also eclipsed the competition to become the most used in the market.⁶⁷ By 2015, the early exchanges that had initially beat Google to the punch sold at a discount price or closed their doors.⁶⁸ The market shares of the DSPs that once led that market segment declined in parallel.⁶⁹ Google, with the language of tech likely obscuring parallels between ad trading and electronic trading in other markets, rose in the West by breaching the principles that regulators in the East had crafted over the years to help safeguard competition in a market with a parallel structure.

A. Google Has Information and Speed Advantages

1. Google Acquires Leading Ad Server DoubleClick

One reason why Google’s exchange and buying tools expediently surpassed their competitors comes down to an information advantage they have when buying and selling ads, which traces its origin to the ad server software company called DoubleClick that Google acquired in

67. Google acquired one of the first DSPs, Invite Media, in 2010, which Google re-launched into the market in 2012 as “DoubleClick Bid Manager” (now called DV360). Peter Kafka, *Google’s Final Price Tag for Invite Media: \$81 Million*, ALL THINGS D (June 9, 2010), <https://perma.cc/PP5S-AE9J>.

68. See Zachary Rodgers, *Microsoft Retires AdECN, Migrates to AppNexus RTB Engine*, CLICKZ (Mar. 30, 2011), <https://perma.cc/9R6A-5ZEL>; Anthony Ha, *Ad Exchange adBrite to Shut Down on Feb. 1*, TECHCRUNCH (Jan. 28, 2013), <https://perma.cc/2JQD-JRGN>; Jeff Fraser, *Yahoo Ad Exchange Closes Its Doors to Publishers*, MKTG. MAG (Jan. 13, 2015), <https://perma.cc/X3C5-RQQK>. The ADSDAQ exchange became ContextWeb, before PulsePoint acquired it. Today, PulsePoint appears to be focusing on the healthcare segment and operates header bidding technology (see *infra* Part III.B) but does not appear to be operating an exchange.

69. Today, Google’s tool DV360 is the leading one in the market. See generally CMA FINAL REPORT, *supra* note 7; AUTORITÉ DE LA CONCURRENCE, *supra* note 7 (finding that Google’s enterprise buying tool DV360 generates the most revenue and has significant growth).

2007.⁷⁰ DoubleClick—founded in 1996 and listed on the Nasdaq just two years later—was the leading ad server globally and claimed about 57% of the market in the U.S.⁷¹ A long list of news publishers, including *Sports Illustrated*, *AOL Online*, and *The Wall Street Journal*, used DoubleClick to migrate their business from print to digital and to automate the process of targeting and selling ads.⁷²

As an intermediary in this market, DoubleClick was privy to critical information about publishers' readers, which publishers use when selling their ad space on real-time electronic exchanges. One of the most important pieces of information in this category is the identity of users associated with publishers' ad space. To identify publishers' online readers, the ad server assigns users a "cookie" to track users by random, unique identifiers ("user IDs").⁷³ As long as users' internet browsers permit

70. Press Release, Google Inc., Google to Acquire DoubleClick (Apr. 13, 2007), <https://perma.cc/JZ58-LLT9>.

71. Information on DoubleClick publisher ad server market shares in 2008 is readily available. See Abbey Klaassen, *Google Leads in Ad-serving Share*, ADAGE (Dec. 18, 2008) (estimating Google's ad server market share, including DoubleClick and AdSense, totaled 57%); Brockhoff et al., *supra* note 38 (summarizing that the European Commission conducted an investigation into the ad server market and found that DoubleClick was the leading publisher ad server used by publishers in the European Economic Area, followed by the ad servers belonging to 24/7 Real Media/OpenAdStream and AdTech/AOL); Statement of Federal Trade Commission Concerning Google/DoubleClick, No. 071-0170 (F.T.C. Dec. 11, 2007), <https://perma.cc/636J-EF2B> ("DoubleClick is the leading firm in the third party ad serving markets. It faces competition from several significant competitors in the United States, such as 24/7 Real Media, aQuantive, and ValueClick."). Additionally, many smaller publishers also did (and still do) use Google's AdSense product to perform ad serving functions rather than licensing a standalone ad server such as Google's DoubleClick product.

72. See *What Customers are Saying About DART for Publishers*, DOUBLECLICK (Sept. 1, 2006), <https://perma.cc/6FW9-Z2LB>; Louise Story & Miguel Helft, *Google Buys DoubleClick for \$3.1 Billion*, N.Y. TIMES (Apr. 14, 2007), <https://perma.cc/UCJ7-X49Y>.

73. For a more thorough explanation of how cookies work, see AdSense Help, *DoubleClick Cookies*, GOOGLE (Mar. 1, 2017), <https://perma.cc/J5MT-MGFD>.

tracking through cookies by default, these IDs become a proxy for users' identity online.⁷⁴ Because DoubleClick was the number-one ad server in the market, it had cookie'd the most online users and was the leader in online identity information.⁷⁵

Tracking users with identifiers is of high value to advertisers who buy ad space for myriad reasons. At a basic level, user IDs are used to recognize users, remember information about their prior visits, and more effectively target ads.⁷⁶ For example, if John visits *The New York Times* on Monday and reads the article "How to Do Laundry," *The Times'* ad server can assign John an ID, such as 1Q2W3E.⁷⁷ When John returns on Friday, the ad server recognizes John as user 1Q2W3E who read about laundry earlier in the week. The ad server can use that information to show John

74. The way that user tracking works for mobile applications is different than the way it works for advertising on desktop or mobile web. For ads that display inside of mobile applications, the mobile device operating system (such as Apple or Android) assigns a user's device an advertising ID, and this ID is signaled to exchanges along with information about specific ads for sale. See MOBILE IDENTITY WORKING GROUP, MOBILE IDENTITY GUIDE FOR MARKETERS: A BEST PRACTICES PRIMER FOR MOBILE & CROSS-DEVICE MARKETING (IAB ed., 2017); Authorized Buyers Help, *Target Mobile Apps with IDFA or AAID*, GOOGLE, <https://perma.cc/6CK6-D63K> ("[B]id requests from Android devices pass the AAID [Android Advertising ID], . . . [a] device-specific, unique, resettable ID for advertising . . ."); Google AdMob Advantage, *Discover the AdMob Advantage*, GOOGLE, <https://perma.cc/7M4S-V233> (last visited Nov. 16, 2020) (explaining how the mobile app advertising vendor AdMob shares users' identities with exchanges).

75. We can infer that DoubleClick had IDs for the most users online because DoubleClick had partnerships with the most websites permitting DoubleClick to track websites' users using cookies. See Balachander Krishnamurthy & Craig Wills, *Privacy Diffusion on the Web: A Longitudinal Perspective*, INT'L WORLD WIDE WEB CONF. COMM. (Apr. 2009), <https://perma.cc/SGS3-Y5TM> (study of 1200 sites showing doubledclick.net as the number one tracker between 2005-2008).

76. STEVE JONES, ENCYCLOPEDIA OF NEW MEDIA: AN ESSENTIAL REFERENCE TO COMMUNICATION AND TECHNOLOGY 95-96 (2003).

77. Jolie Kerr, *How to Do Laundry*, N.Y. TIMES, <https://perma.cc/76PH-CVH8> (last visited Nov. 16, 2020).

an ad for detergent even though he might be reading an article about the weather. Access to the ID also permits advertisers bidding through exchanges to access information they already have about John or query more information about him from a third-party data vendor.⁷⁸ While John's page is still loading, it might query its internal customer records, or connect with a provider of audience data, to learn that John has sensitive skin and to refine its decisioning and targeting algorithms to show the ad for unscented detergent instead.⁷⁹

At the time of the Google-DoubleClick merger, the Federal Trade Commission (FTC) and others had faith that Google would not leverage its control of publishers' primary ad server to distort competition in the electronic trading market. The FTC rejected prescient concerns about data and competition raised by public interest groups and FTC Commissioner Pamela Jones Harbour (dissented), stating that the evidence showed that "it was unlikely that Google could manipulate DoubleClick's third-party ad serving products in a way that would competitively disadvantage Google's competitors in the ad intermediation market."⁸⁰ In covering the

78. Advertisers commonly query data from data management platforms (DMPs), which are specialized software companies that warehouse, analyze, and process data. For more on this, see Maciej Zawadziński, *What is a Data Management Platform (DMP) and How Does It Work?*, LINKEDIN (Sept. 1, 2015), <https://perma.cc/W7J8-M49T>.

79. Knowing the IDs of users is also used for non-targeting purposes. For example, advertisers do not want to inundate users with the same ad, and knowing the user's ID allows them to limit how many times they show the same ad to the same user. This feature of online advertising called "frequency capping" has been around since the early 2000s. Additionally, knowing the IDs of users viewing ads allows advertisers to measure the effectiveness of a campaign, since they allow advertisers to track whether a user took a subsequent action, such as clicking on an ad, signing up for a service, or purchasing a product. JONES, *supra* note 76.

80. Complaint and Request for Injunction, Request for Investigation and for Other Relief at 9-10, *In the Matter of Google, Inc. and DoubleClick, Inc.*, (F.T.C. April 20, 2007) (urging the FTC to open an investigation into Google's

merger for the wider public, *The New York Times* was equally optimistic. It acknowledged that Google's DoubleClick division would have conflicts of interest with Google's "Nasdaq-like exchange," but suggested that publishers and advertisers would "jump ship" if Google failed to properly manage its conflicts.⁸¹

Google's representations to government bodies furthered the belief that Google would properly manage its conflicts of interest, including when it came to data. To Congress, Google's general counsel assured that DoubleClick "data is owned by the customers, publishers and advertisers, and DoubleClick or Google cannot do anything with it."⁸² Indeed,

proposed acquisition of DoubleClick and to halt the merger absent assurances that Google will not merge DoubleClick datasets with Google datasets and engage in other data conduct that could hurt consumers); Second Filing of Supplemental Materials in Support of Pending Complaint and Request for Injunction, Request for Investigation and for Other Relief at 4, In the Matter of Google, Inc. and DoubleClick, Inc., (F.T.C. Sept. 17, 2007) (asking the FTC to condition the merger on Google and DoubleClick "maintaining separate databases of user information"); Pamela Jones Harbour, Dissenting Statement in Google/DoubleClick F.T.C. File No. 071-0170 (F.T.C. 2007), <https://perma.cc/Q57H-3YT8> (specifically warning that if Google and DoubleClick are permitted to merge without conditions, the firm may merge data between Google and DoubleClick, to negatively harm both consumer privacy and competition; also stating that the merger "has the potential to profoundly alter the 21st century Internet-based economy – in ways we can imagine, and in ways we cannot"); *Federal Trade Commission Closes Google/DoubleClick Investigation*, FED. TRADE COMM'N (Dec. 20, 2007), <https://perma.cc/B5JD-QVNC> [hereafter *FTC Closes Investigation*] (additionally stating that the FTC would "closely watch these markets and, should Google engage in unlawful tying or other anticompetitive conduct, the Commission intends to act quickly").

81. Story & Helft, *supra* note 72 ("The sale also raises questions about how Google will manage its existing business and that of the new DoubleClick unit while avoiding conflicts of interest. If DoubleClick's existing clients start to feel that Google is using DoubleClick's relationships to further its own ad network, some Web publishers or advertisers might jump ship.").

82. *An Examination of the Google-DoubleClick Merger and the Online Advertising Industry: What Are the Risks for Competition and Privacy?: Hearing Before the Subcommittee on Antitrust, Competition Policy and Consumer Rights*, 110th Cong. (2007), <https://perma.cc/39UD-MKDZ> [hereinafter *The Google-DoubleClick Merger*].

with ownership of such data contractually vested in the buyers and sellers in this market, to do anything with that data would be, by definition, a misappropriation.

However, the FTC's confidence was misplaced. DoubleClick and Google were already under fire for how they handled information and, in an electronically traded equities market, regulators must proactively manage conflicts of interest in order to ensure a company will not misuse inside information. When financial intermediaries are allowed to have conflicts, ethical walls and fiduciary (or best interest) duties restrict them from using their customers' information for their own financial gain. There was also a problem with jumping ship. As inventory management software integrated into back-end billing systems, it was a jump that some compare to changing engines mid-flight.⁸³

Thus, in a 4-1 vote, the FTC approved the merger without conditions. However, the concerns raised by the public interest groups and FTC Commissioner Harbour would come to fruition. Google's conflicts of interest would get the better of it. When it officially launched its exchange in 2009, Google began to restrict publishers' and advertisers' ability to access their DoubleClick data and to reserve for its own trading divisions an "essential" information advantage.⁸⁴

83. Ratko Vidakovic, *The Beginner's Guide to Header Bidding*, ADPROFS (Mar. 21, 2019), <https://perma.cc/98WQ-G42C> ("As a publisher, replacing your primary ad server is not a trivial task. Think of it like doing a mid-flight engine swap on an airplane. Except that it's your revenue engine. It's hard to imagine many publishers wanting to take such a risk."); Tim Cross, *Why Don't More Publishers Switch Ad Servers?* VIDEO AD NEWS (June 6, 2019), <https://perma.cc/9MD7-GU27>.

84. AdSense Help states the following: "Cookie ID in each DoubleClick cookie is essential to these applications. For example, DoubleClick uses cookie IDs to keep a log of which ads show to which browsers. When it's time to serve an ad to a browser, DoubleClick can use the browser's cookie ID to check which DoubleClick ads have already been delivered to that particular browser. That's how DoubleClick avoids showing ads the user has already seen. In the same way, cookie IDs allow DoubleClick to log conversions related to ad requests—such as when a user views a DoubleClick ad and later uses the same browser to visit the advertiser's website and make a purchase." AdSense Help, *supra* note 73.

2. *DoubleClick Ad Server Starts to Play Favorites When Sharing User Identity*

Competition in the exchange market, one step removed from the ad server that routes to exchanges, depends on the ability to recognize users associated with ad space for sale.⁸⁵ Without access to user IDs, the demand for ad space wanes and their clearing prices on exchanges drop dramatically as a result. Recent pricing and bid data from various exchanges illustrate the point. For example, a 2018 Google study reports that the prices for ad space trading on Google's exchange drop by 50+% when advertisers cannot identify users associated with ad space for sale.⁸⁶ Relatedly, Index Exchange has shared that the number of bids for ad space on Mozilla Firefox pages dropped by 38% after the internet browser started blocking cookies.⁸⁷ That is, without knowing the identity of the user, advertisers often sit out of ad auctions altogether. Although some

85. See generally AdSense Help, *supra* note 73; Ronan Shields, *Inside the IAB Tech Lab's New Consumer Privacy Proposals*, ADWEEK (Sept. 19, 2019), <https://perma.cc/3PP2-LS47> (discussing how access to user IDs inside bid requests is what permits firms to conduct basic programmatic advertising processes).

86. Deepak Ravichandran & Nitish Korula, *Effect of Disabling Third-Party Cookies on Publisher Revenue*, GOOGLE (Aug. 27, 2019), <https://perma.cc/79K4-RLHJ> ("We disabled access to cookies for a small fraction of randomly selected users (the treatment group). We observed that for the top 500 global publishers, average revenue in the treatment group decreased by 52%, with a median per-publisher decline of 64%."). See also Garrett Johnson et al., *Consumer Privacy Choice in Online Advertising: Who Opt's Out and at What Cost to Industry?* (Simon Business School, Working Paper No. FR 17-19, 2019) ("We estimate that opt-out consumers fetch 52% lower prices on the exchange than the counterfactual prices they would fetch with tracking cookies.").

87. Mike O'Sullivan, *The Impact of Mozilla Firefox: The Change Is Now*, INDEX EXCHANGE (Oct. 30, 2019), <https://perma.cc/W5J3-GT9V>; Ross Benes, *Publishers Are Already Feeling Pain from Apple's Move Against Ad Tracking*, DIGIDAY (Oct. 15, 2017), <https://perma.cc/4XAZ-S8NE> (reporting one publisher receives 15% less bids for Safari impressions).

advertisers do bid on this type of cookie-less ad space, data from the Rubicon exchange shows that the clearing prices on Safari pages drop by 60% overall.⁸⁸

To maximize competition for ad space in auctions, and in turn their clearing prices, all parties bidding on inventory need to recognize users associated with the ad space for sale. Publishers could facilitate this outcome by sharing their ad server user IDs with all bidders in a non-discriminatory manner. After all, ownership of DoubleClick data rested in publishers and advertisers, and Google could not do anything with it.

But ownership rights in the ad trading market are malleable: they vest from negotiating power and contract rights. When Google launched an exchange into a crowded market in 2009 and its ad server developed a conflict, the ad server started to restrict publishers' and advertisers' ability to access the ad server user IDs.⁸⁹ In fact, Google restricted how any party other than Google could access them. It did this by hashing the

88. Tom Dotan, *Apple's Ad-Targeting Crackdown Shakes Up Ad Market*, INFORMATION (Dec. 9, 2019), <https://perma.cc/69YT-QU38> (Rubicon Project CEO Michael Barrett explaining that "[t]he allure of a Safari user in an auction has plummeted" and "[t]here's no easy ability to ID a user"). See also Yoel Minkoff, *Safari Privacy Features Disrupt Ad Market*, SEEKING ALPHA (Dec. 10, 2019), <https://perma.cc/AYQ9-HJ6N>.

89. See AdExchanger Staff, *AdExchanger.com Q&A with Google DoubleClick Ad Exchange's Mohan and Spencer* [hereinafter *AdExchanger Q&A*], ADEXCHANGER (Sept. 21, 2009), <https://perma.cc/J3WN-YGPV>. Before Google's acquisition of DoubleClick, DoubleClick faced no conflict of interest, which may explain why DoubleClick's policy towards sharing user IDs was more neutral back then. Note, prior to 2003, DoubleClick had a division that licensed ad management software and another that acted as a sales broker for publishers who were part of the "DoubleClick Network." However, this changed in 2002 when DoubleClick divested its ad network division to focus on licensing ad serving software. See DoubleClick Inc., Registration Statement (Form S-1) (Nov. 18, 1998), <https://perma.cc/P3M7-322W> (discussing both lines of business activity at the time of the DoubleClick IPO); DoubleClick Inc., Annual Report (Form 10-K), <https://perma.cc/ZX55-R9R9> (discussing divestiture in 2002 through a series of transactions).

user IDs, which is a process of scrambling characters based on a mathematical formula.⁹⁰ If John's ID was 1Q2W3E, Google would share a different ID with the Iowa news publisher *The Register* (e.g., 0P9O8I) than it would share with the advertiser (e.g., MM99NN), thereby preventing both entities from realizing that the person in question was in fact the same user.

The change did not go unnoticed. Industry publication AdExchanger interviewed senior Google product manager Scott Spencer about the change, asking whether the new approach "break[s] the universal cookie model that helps create efficiencies for advertisers and, ultimately, more frictionless advertising for the user"⁹¹ Without delving into specifics, Spencer replied that a concern for user privacy motivated the change.

At the same time that Google's ad server started to restrict access to these IDs for privacy reasons, Google permitted its own exchange and buying tools to access them by default. First it was Google's buying tool for small businesses—Google Ads, which was then called AdWords.⁹²

90. Specifically, they are hashed differently for each publisher, advertiser, and intermediary. See *AdExchanger Q&A*, *supra* note 89 (discussing Google's decision to start hashing IDs); Google Developers, *Cookie Matching*, GOOGLE (Jan. 5, 2014), <https://perma.cc/A7WF-SAL7> ("For buyers, Google identifies users using a buyer-specific Google User ID which is an encrypted version of the doubleclick.net cookie, derived from but not equal to that cookie."); Google Ad Manager Help, *Data Transfer Fields*, GOOGLE (2020), <https://perma.cc/U62K-V5EX> ("The DoubleClick cookie ID associated with the user, encrypted."). One needs a "key" to unscramble the user id, but Google does not provide keys for that purpose. Campaign Manager Help, *User ID Encryption*, GOOGLE (2020), <https://perma.cc/GCE2-TGWE> ("You will never be able to decrypt user IDs, and Google will not disclose the encryption method. No encryption keys will ever be provided to any Campaign Manager customer or any third-party partner.").

91. *AdExchanger Q&A*, *supra* note 89.

92. Note, the buying tool is called AdWords, but the product for publishers is called AdSense. *Privacy Policy*, GOOGLE (Mar. 11, 2009), <https://perma.cc/VQ8C-ZB79> ("Google uses the DoubleClick advertising cookie on AdSense partner sites"); AdSense Help, *AdSense Program Policies*, GOOGLE (July 8, 2016), <https://perma.cc/9FGA-3S4Q> ("Google uses the DoubleClick

Then it was Google's exchange. When Google launched an exchange in the fall of 2009, the exchange recognized website visitors by their DoubleClick IDs.⁹³ Finally, it was Google's DSP, the enterprise buying tool. When Google launched its DSP, DoubleClick Bid Manager (now called DV360), in 2012, this software recognized users by their DoubleClick IDs as well.⁹⁴

The change to hashing user IDs for everyone other than Google reserved an information advantage for Google when it came to selling websites' ad inventory. Specifically, Google's exchange benefits from better recognizing online users, which allows it to better facilitate trades between websites and buyers, compared to rival exchanges.⁹⁵ An advertiser

cookie on publisher websites displaying AdSense for content ads."); News from Google, *Google Expands Advertising Monetization Program for Websites*, GOOGLE (June 18, 2003), <https://perma.cc/YR2Y-HYFL> (announcing and explaining the AdSense product).

93. *AdExchanger Q&A*, *supra* note 89.

94. Payam Shodjai, *Getting Real with DoubleClick Bid Manager*, DOUBLECLICK ADVERTISER BLOG (Oct. 24, 2012), <https://perma.cc/S9N6-TZ3W> (announcing the launch of Google's DSP DoubleClick Bid Manager and the sunset of Invite Media and that user id lists in advertisers' ad server are available in DoubleClick Bid Manager "without any data loss, leading to better reach and performance for remarketing campaigns"); Jason Miller, *Constantly Innovating: the DoubleClick Digital Marketing Platform*, DOUBLECLICK ADVERTISER BLOG (Sept. 19, 2012), <https://perma.cc/N8L6-NTRE> (explaining that buyers can easily target the list of users that saw their Google Search ads through Google's DSP since the integration between the two products does not require advertisers to install new site tags); Google Developers, *Cookie Matching*, GOOGLE, <https://perma.cc/WL6Q-GYPD> (last visited Nov. 16, 2020) ("For itself, Google identifies users with cookies that belong to the doubleclick.net domain under which Google serves ads.").

95. For example, suppose John was assigned a DoubleClick ID of 1Q2W3E but had not been assigned a Right Media RMX or Google Ad Exchange ID. If neither the Right Media nor the Google exchange could recognize John by an ID, each might have sold an initial ad targeted to John for a low \$1 CPM price, which stands for cost per one thousand impressions and is one common advertising pricing model. After the acquisition, Google's exchange could access John's DoubleClick ID by default, which allowed it to sell the initial same ad targeted to

that is a client of the DoubleClick ad server has to go *through* Google's exchange in order to efficiently buy more ads targeted to the same users because only Google tracks users by the same ID.⁹⁶ On the ground, this worked to lock-in clients of the DoubleClick ad server to Google's exchange and buying tools, fueling Google's reputation in the industry as a "walled garden."⁹⁷

3. *Google-Owned Intermediaries Have an Information Advantage on Google's Exchange*

Google's asymmetric approach to sharing websites' DoubleClick user IDs also distorts competition between the buying tools competing to purchase ad space from Google's exchange (e.g., DV360 and Google Ads versus rival buying tools). This helps explain how Google eventually leveraged its dominance in the ad server market, then the exchange market, into dominance in the buying tool market too, to the detriment of advertisers. Google's exchange shares users' DoubleClick IDs with the Google-

John for a higher price than could Right Media's exchange RMX. Google's exchange benefits from piggybacking off the Google DoubleClick ad server IDs in other ways too. *See infra* note 103.

96. The ability to share IDs facilitates better interoperability between Google and non-Google tools. For example, an advertiser using the DoubleClick ad server might have shared a list of user IDs directly with a publisher or non-Google intermediary to target more ads to the same users. This old advertising contract between DoubleClick and Compaq Computer from 1999 corroborates the understanding that before Google's acquisition of DoubleClick, DoubleClick permitted its customers more discretion over how to use their DoubleClick ad serving software data. DoubleClick Inc. and Compaq Computer Corp., *supra* note 38 (stating that "Compaq has the sole and exclusive right to use all data derived by its use of the DART [ad serving software] Service, for any purpose related to Compaq's business with Advertisers").

97. *See generally* John McDermott, *Welcome to the 'Walled Garden' Era of Ad Tech*, DIGIDAY (Feb. 12, 2015), <https://perma.cc/8N99-WRZ3>.

owned buying tools.⁹⁸ However, when sending bid requests to non-Google intermediaries, Google's exchange shares a different ID value.⁹⁹

The information asymmetry, flowing from Google's number-one exchange to the buying tools that have a seat to bid, distorts competition between bidders. To identify users associated with ad space for sale on Google's exchange, the non-Google intermediaries have to use cookies to assign users a new set of proprietary IDs and must synchronize their IDs with Google's hashed ones through a process called cookie syncing.¹⁰⁰ The problem is that the cookie syncing process is inherently inefficient.¹⁰¹ In addition to increasing page latency for users, the new IDs belonging to the non-Google intermediaries will not always match with Google's hashed IDs, resulting in advertisers sometimes not knowing the identity of users associated with ad space trading on Google's exchange. Industry

98. Google Developers, *supra* note 90.

99. AdExchanger Staff, *supra* note 90; Google Developers, *supra* note 90; Google Ad Manager Help, *supra* note 90; Campaign Manager Help, *supra* note 90.

100. To give a simple example, if Google's exchange sends a bid request indicating there is an ad available for user 0P9O8I, the non-Google buying tool will initially not know who that is because it tracks the user by a different ID (e.g., BB88VV). To solve this problem, Google's exchange and the non-Google buying tool swap their proprietary IDs for the same user through "cookie syncing." After a cookie sync has occurred successfully, the trader will know bid requests for user 0P9O8I correspond to user BB88VV in its own records. See Google Developers, *supra* note 90; Ronan Shields, *The Trade Desk Rolls Out Its Unified ID to Take on the Walled Gardens*, ADWEEK (Oct. 24, 2018), <https://perma.cc/C6XW-DAYR>; Maciej Zawadziński, *What Is a Cookie Syncing and How Does it Work?*, CLEARCODE BLOG (Dec. 14, 2015), <https://perma.cc/AWA4-BRK8>; *Infrastructure Options for RTB Bidders (Part 4)*, GOOGLE CLOUD, <https://perma.cc/LHE5-C97E> (last visited Nov. 16, 2020) (explaining cookie syncing and that syncing can also happen outside of bid requests).

101. Cookie syncing also has negative consumer welfare effects, including consumer privacy implications and slower page loads. See Shields, *supra* note 100.

insiders call these “blind” spots¹⁰² and quantify the attrition as “loss rates.”¹⁰³ When blind, advertisers bid less or not at all.

102. See generally *SSP to DSP Cookie Syncing Explained*, AD OPS INSIDER (May 1, 2011), <https://perma.cc/7KY2-QZEQ>; Ben Kneen, *What Exactly Is “Data Loss” and “Cookie Loss” in AdTech?*, QUORA (June 22, 2015), <https://perma.cc/P4NY-7AA7> (explaining loss rates); Chris O’Hara, *The Match Game: Match Rates Are the New Click-Through Rates*, AD EXCHANGER (Nov. 30, 2015), <https://perma.cc/T3WB-879X> (explaining that match rates of 60% are “overall pretty good” and of 70% are “excellent”).

103. Loss rates can occur because of technical glitches during the synchronization process, because users block or delete cookies, or because companies may not have enough time during page loads to sync with other companies involved in the trade. For instance, when users delete their cookies and the associated user IDs assigned to them, exchanges and buying tools race to assign those users new cookies and new IDs. Since so many consumers use Google Search and Gmail, and so many websites use Google’s ad server product, the company that can do this fastest is often Google. Because Google is the fastest, this can mean that Google’s exchange and buying tools can re-identify users the fastest too. On the other hand, competitors have to re-assign users new cookies and synchronize new IDs with Google’s, resulting in higher loss rates. *The Most Popular Email Providers in the U.S.A.*, SHUTTLECLOUD (Aug. 11, 2016), <https://perma.cc/HET2-DGGK> (stating that Google’s Gmail service has 130+ million U.S. users and has 53% share of the U.S. email market). Moreover, Google’s buying tools may also have a leg-up when it comes to user identity because of Google’s ability to avoid third-party cookie blocking (by ad blockers and internet browsers). Some ad blockers and browsers do not block Google Analytics first party cookies, enabling Google to get around the blocking by sharing data between the non-blocked Google Analytics cookies and its advertising divisions. *Which Ad Blockers Are Blocking Google Analytics?*, ANALYTICAL 42 (Aug. 10, 2016), <https://perma.cc/YVV2-D2MF> (discussing how ad blockers do not block Google Analytics cookies); Google Developers, *Google Analytics Cookie Usage on Websites*, GOOGLE ANALYTICS, <https://perma.cc/JGT4-5SDU> (last visited Sept. 28, 2020); Google Support, *About Remarketing Audiences in Analytics*, GOOGLE, <https://perma.cc/4MR3-CESG> (last visited Sept. 28, 2020) (both discussing how Google shares data from Google Analytics with Google advertising divisions); Parker Robben, *Here Are Your Options for Google Ads Tracking with Apple’s ITP 2.0*, METRIC THEORY (Sept. 18, 2018), <https://perma.cc/LGX4-YE9M> (explaining the linking of data pools between first-party cookies from Google Analytics and Google Ads and Google Tag Manager).

The Google-owned buying tools do not suffer from this information asymmetry. DV360 (enterprise) and Google Ads (small business) more frequently recognize the identity of users associated with ad space on Google's exchange, which means they more frequently make informed decisions about the value of inventory for sale and return informed bids on behalf of advertisers. This information advantage, reserved by Google for Google, is something that Google markets to advertisers and publishers as a synergy for using Google all the way through the trade: Google's intermediary on the sell-side (i.e., ad server), Google's exchange, and Google's intermediary on the buy-side (i.e., the buying tools).¹⁰⁴

104. See Google Ad Manager Help, *supra* note 46 (explaining that advertisers "minimize" losses related to "cookie matching" and "there is a higher likelihood they'll find impressions that meet their targeting criteria" when they use DV360 or Google Ads); Shields, *supra* note 100 (explaining generally that advertisers spend disproportionately with Google because it is comparatively easier to target audiences). Note, Google also explains to publishers that they should benefit from greater "auction pressure" because of the information advantages between Google's exchange and Google's buying tools. Google Ad Manager Help, *supra* note 46. However, the expected higher bid prices for publishers may be tempered by new "Unified Pricing Rules" that Google introduced in April 2019. These rules now prohibit publishers from routing their ads through Google's exchange at prices higher than they route them through competing exchanges. For further discussion on Google price parity restrictions and their effect on competition see *infra* Part III.B and Groth, *infra* note 183. Consequently, although Google states the information advantages of Google buying tools should garner higher bids for publishers, Google's Unified Price Rules (which are a condition of using Google's ad server) can make sure that ads are sold at the lowest price across the market. Jason Bigler, *An Update on First Price Auctions for Google Ad Manager*, GOOGLE BLOG (May 10, 2019), <https://perma.cc/F8JG-WVNA> (stating that publisher price floor will hereinafter "be applied to all partners equally, and cannot be set for individual buying platforms"); Google Ad Manager Help, *Unified Pricing Rules*, GOOGLE SUPPORT (Sept. 28, 2020) <https://perma.cc/A2YS-7WN6> (discussing beta rules); Jessica Davies, *"It's a Shakedown": Everything You Need to Know about Google's "Unified Pricing" Product Changes*, DIGIDAY (Apr. 25, 2019), <https://perma.cc/U6A2-C6VU> (stating that publishers had historically set higher floor prices for Google's exchange); Sarah Sluis, *Publishers Lash Out Against Google*

4. *Consumer Privacy Offered as Reason for Information Asymmetry*

Google's excuse for sharing information in an asymmetric fashion is consumer "privacy," but its reasoning does not hold water. Supposedly, Google does not want firms to combine consumer data records together.¹⁰⁵ By sharing John's data with Company A as belonging to user 1Q2W3E and sharing John's data with Company B as belonging to user 0P9O8I, Company A and B cannot join their respective information about John together, to create a more comprehensive profile of his internet activity. However, this is precisely what Google does. By migrating its exchange and buying tools to the same DoubleClick cookie, and by merging consumer data sets between Google business divisions, Google creates deeper and deeper profiles of consumers' internet activity.

Furthermore, Google contract terms already prohibit companies from combining their Google data records.¹⁰⁶ As a result, scrambling IDs has

over "Unified Pricing" Changes, *ADExCHANGER* (Apr. 18, 2019), <https://perma.cc/Z3Z7-AA3Z> (discussing reception of Google's Unified Pricing changes).

105. In 2009, Google did not explain what it meant by consumer privacy. However, online advertising industry executives have shared that Google has stated concern about companies combining consumer data records. Google shares this reasoning in a recent submission to the U.K. competition commission. See *AdExchanger Q&A*, *supra* note 89; *CMA FINAL REPORT*, *supra* note 7 at 409 (discussing how Google does not share granular consumer information because "[i]mposing consistent transaction IDs raises potential privacy concerns" by allowing advertisers to join user data). Further challenging Google's rationale is the fact that companies can obtain user consent for this practice and the fact that companies can combine these types of data records together after-the-fact through various database matching and merging techniques. Google has also raised concern about companies possibly using consistent user IDs to merge users' internet activity with users' real identity. However, Google itself engages in precisely this practice. See *CMA FINAL REPORT*, *supra* note 7 at 409 (discussing how Google states consistent IDs could permit "individual users to be identified"); Julia Angwin, *Google Has Quietly Dropped Ban on Personally Identifiable Web Tracking*, *PROPUBLICA* (Oct. 21, 2016), <https://perma.cc/QN9L-2MHB>.

106. *Authorized Buyers Program Guidelines*, *GOOGLE*,

the added effect of interfering with competition. An advertiser that uses Google's DoubleClick ad server now has a harder time using a non-Google buying tool because the two tools operate on different user IDs.

The privacy imperative has turned out to be Google's Trojan Horse in extracting synergies from DoubleClick. Since 2009, Google has continued to restrict competitors' access to trading data in various ways for privacy reasons, without imposing a parallel limitation on Google's use of the same information.¹⁰⁷ For example, in 2018, Google stopped allowing

<https://perma.cc/BL9Y-3Z9H> (last visited Sept. 28, 2020) (stating that buyers that do not win a specific impression are prohibited from using data associated with that impression to create user lists, profile users, or associating said data with third-party data; also prohibiting buyers that do win specific impressions from retaining impression data outside of Location at a for any use other than for forecasting inventory through Google's exchange). Additionally, other exchanges do not necessarily approach privacy in this way. *See, e.g.*, AdExchanger Staff, *supra* note 90 (comparing Right Media exchange's practice of storing advertisers ID in the RMX cookie with Google's exchange practice of sharing unique hashed user IDs); *Outgoing Bid Request to Bidders*, XANDR, <https://perma.cc/5VWW-7B9L> (last visited Sept. 28, 2020) (discussing how the Xandr exchange shares a unique 64-bit ID for a specific user if the seller permits the sharing of user IDs and that IDs remain stable until the user clears his or her cookies); *List of Supported OpenRTB Bid Request Fields*, INDEX EXCH., <https://perma.cc/KT5F-PWAD> (last visited Nov. 17, 2020) (stating the Index Exchange IX shares with buying tools a "IX static identifier for this user"); David Simerly & Catherine Racette, *OpenRTB 2.3 Bid Request Objects and Parameters*, PUBMATIC (Oct. 26, 2020), <https://perma.cc/HSU3-PHH7> ("Exchange-specific ID for the user. At least one of ID or buyeruid is recommended.").

107. *See, e.g.*, James Hercher, *How We Got Here: A Look Back at the Privacy Changes That Reshaped Google*, ADEXCHANGER (Oct. 7, 2019 12:36 AM), <https://perma.cc/MJQ6-V4ES>; Eric Berry, *How Will Google's Move to Restrict Third-Party Cookies Affect Publishers?*, ADEXCHANGER (Apr. 5, 2019), <https://perma.cc/MMG8-Z9QN>. Conversely, Google has decreased consumers' privacy with respect to Google itself over the years. For example, Google today owns and operates the most widely distributed online trackers. These trackers are also particularly invasive, due to a privacy change Google made in 2016 that permits Google to combine data obtained from its DoubleClick trackers with in-

advertisers to access the encrypted user IDs from campaign reports, which advertisers need to access in order to hire non-Google campaign measurement firms.¹⁰⁸ Google stated that the change was made to protect user privacy and alluded to Europe's new General Data Protection Regulation (GDPR) privacy legislation, though no provision of GDPR appears to require Google to take this approach.¹⁰⁹ Meanwhile, advertisers, provided they stay within Google's Walled Garden and use Google's new Ads Data Hub product, can still access these IDs.¹¹⁰

formation it knows about consumers' real identity, in order to conduct non-anonymized surveillance of consumers. Steven Englehardt & Arvind Narayanan, *Online Tracking: A 1-Million-Site Measurement and Analysis*, PRINCETON WEB CENSUS, <https://perma.cc/Y2LE-QQR6> (last visited Sept. 28, 2020) (empirical study of 1 million sites showing that the top five third-party domains distributed on websites online and twelve of the top twenty are owned by Google; stating the top five are google-analytics.com, gstatic.com, doubleclick.net, google.com, and fonts.googleapis.com); Angwin, *supra* note 105.

108. Alison Weissbrot, *4 Ways the Death of the Cookie in Chrome Could Affect Marketers*, ADExCHANGER (Jan. 17, 2020), <https://perma.cc/NWM7-DB8F>.

109. See also *Understanding the Digital Advertising Ecosystem and the Impact of Data Privacy and Competition Policy: Hearing Before the S. Comm. on the Judiciary*, 116th Cong. (2019) (questions for the record from Senator Lindsey O. Graham to Mr. Brian O'Kelley) (Brian O'Kelley, former CTO of the first advertising exchange at Right Media and later founder of AppNexus, stating: "In effect, GDPR [EU privacy regulation] gave Google to take anti-competitive actions on the basis of privacy that made it almost impossible for competitors to operate").

110. Google still shares the IDs with Ads Data Hub, a product of Google Cloud, which means advertisers need to use Data Hub to run these calculations. Weissbrot, *supra* note 108; Seb Joseph, *Advertisers See Google's New DoubleClick ID Rules Cementing Its Dominance*, DIGIDAY (Oct. 5, 2018), <https://perma.cc/C5KX-WP28>; George Slefo, *Google's Removal of DoubleClick ID Presents Litany of Issues for Brands, Agencies*, ADAGE (May 8, 2018), <https://perma.cc/QA7P-7CND>. "Some have noted that Google's Ads Data Hub, Google's DMP-like offering, will retain use of the DID – presenting it with a nearly incomparable advantage. Some agencies have already gone on the record questioning this change and what it means for their clients – noting that it's nearly impossible for a marketer to live in a world completely independent from the Google stack given their dominance in the DSP, ad server and site analytics world and questioning what this will mean

Further complicating matters, in January of 2020, Google's internet browser Chrome (61% market share) announced that it would block the technology of third-party cookies altogether within two years.¹¹¹ Competing exchanges and buying tools will soon no longer be able to use cookies to assign users IDs for the purpose of buying and selling ads.¹¹² It is not clear how the market will adjust to these changes. At the same time, there is concern that the changes will disproportionately impact rivals because Google has alternative ways of deducing users' identity.¹¹³

for choice in the marketplace." Sonja Kristiansen, *Ending DoubleClick's ID Export*, MEDIUM: LIFT LETTERS (May 6, 2018), <https://perma.cc/646P-DC7G>. Additionally, in 2019, Google removed descriptive information about the pages that ad space will appear on (e.g., "health") from bid requests under the guise of privacy concerns. Here, Google's stated concern made little sense to people in the industry because Google's exchange still shares the user's page URL (e.g., webmd.com/hiv-aids), which is much more intrusive on a user's privacy. Chetna Bindra, *Additional Steps to Further Safeguard User Privacy*, GOOGLE BLOG (Nov. 14, 2019), <https://perma.cc/SZ4N-Y3G7>; Lara O'Reilly, *Ad Tech Industry Questions Intentions Behind Google's Latest Privacy Moves*, DIGIDAY (Nov. 19, 2019), <https://perma.cc/M8S9-8AZQ>.

111. Justin Schuh, *Building a More Private Web: A Path Towards Making Third Party Cookies Obsolete*, CHROMIUM BLOG (Jan. 14, 2020), <https://perma.cc/TR97-8L34> (announcing Chrome changes); *Desktop Browser Market Share in United States of America*, STATCOUNTER (Jan. 2020), <https://perma.cc/6QTM-KNAN> (estimating Google has 61% market share in the U.S.).

112. See Berry, *supra* note 107; John McCarthy & Andrew Blustein, *As Google Chrome Crumbles the Third-Party Cookie, What's next for Adtech?*, DRUM (Jan. 15, 2020), <https://perma.cc/TN67-T9FD>; Maciej Zawadziński & Michael Sweeney, *Google Chrome to Kill Off Third-Party Cookies: What It Means for AdTech*, CLEARCODE, <https://perma.cc/FYA8-DA5Q> (last visited Sept. 28, 2020); Ari Paparo, *Google, You Finally Really Did It*, ADEXCHANGER (Jan. 14, 2020), <https://perma.cc/EZ7R-SCU9>; Weissbrot, *supra* note 108.

113. See Seb Joseph, *Winners, Losers and Fallout from Google's Plan to Drop Cookies*, DIGIDAY (Jan. 16, 2020), <https://perma.cc/67WG-6RZV> ("Unsurprisingly, Google stands to profit the most from the death of the third-party cookie. In the absence of third-party cookies' use with Chrome, the alternative for advertisers is to use Google's first-party data within its own tools."). "For example, exchange bidding could pass a hashed ID of the Google cookie to its partners and similarly

For instance, Google Chrome started to track consumers' web activity directly at the browser level, obviating Google's need to rely on cookies at all for identity information.¹¹⁴

More recently, Google's exchange has relied on California privacy legislation, the California Consumer Privacy Act ("CCPA"), to starve rival exchanges of liquidity and exclude non-Google buying tools from auctions altogether. If a California consumer visits a website, and selects the "Do Not Sell My Information" link as mandated by CCPA, Google's ad server does not permit non-Google exchanges and buying tools to bid for publishers' ad space at all.¹¹⁵ Google's approach contrasts with that of

make the same available on a server-to-server basis for various pixel calls. To the extent that Google is the only platform that makes this available, it would have the added benefit of effectively forcing everyone (except Amazon) into exchange bidding if they want user data, and thus into Google's single auction." Berry, *supra* note 107; McCarthy & Blustein, *supra* note 112 ("Google is building a moat. It doesn't need third-party cookies to track people. It has code live on virtually every single website and app."); Weissbrot, *supra* note 108 (joint statement issued by industry trade groups the ANA and the 4A's stating "Google's decision to block third-party cookies ... would threaten to substantially disrupt much of the infrastructure of today's internet without providing any viable alternative, and it may choke off the economic oxygen from advertising that startups and emerging companies need to survive.").

114. Specifically, Google currently always and automatically logs users of Chrome into the browser itself when users log into a Google service like Gmail or YouTube. If a user then attempts to log out of Chrome, Google automatically also logs them out of the Google service, thereby prohibiting users from using a Google service while not simultaneously being logged into the Chrome browser. On top of this, Google steers users towards syncing their Chrome user data with other Google user data and granting Google permission to use this data for the purpose of selling Google advertising, including "to personalize Search, ads, and other Google services." Screenshot of Google Chrome Terms (2020) (on file with author); see also Matthew Green, *Why I'm Done with Chrome*, CRYPTOGRAPHY ENG'G (Sept. 23, 2018), <https://perma.cc/ES7H-24DR> (discussing how Chrome steers users to give Google permission over their browsing history data and how this is deceptive and a "dark pattern").

115. Google Ad Manager Help, *Integration with IAB CCPA Framework Technical Specifications*, GOOGLE SUPPORT, <https://perma.cc/Q9WU-M3AQ> (last visited

the industry trade group—the Internet Advertising Bureau (IAB)—and rival exchanges.¹¹⁶ Other exchanges instead send the same bid requests to all bidders, signaling that a user associated with ad space has exercised an opt-out under CCPA.

The approach taken by the IAB and rival exchanges mirrors the broader competition approach that lawmakers take in the equities market. Stock exchanges must provide all traders with access to relevant trading information. Then, firms must comply with industry-specific privacy rules to safeguard consumer data transmitted during trading.

5. *Google-Owned Intermediaries Have a Speed Advantage on Google's Exchange*

When financial markets migrated to electronic trading, non-discriminatory access to exchanges—specifically, access to data and trading speed—became critical to competition. The financial traders who had their computers located physically closer to exchange servers noticed that they could access relevant trading information first and place orders faster than the traders whose computers were located further away. This led to a speed “arms race.”¹¹⁷ In the early 2000s, some traders moved their computers closer to the new computerized exchanges in New York City’s Financial District to increase trading speeds, before colocation in the same room with exchanges became the trend.¹¹⁸ Despite the decentralized

Sept. 28, 2020) (“When restricted data processing is enabled, Google does not call out to third parties via RTB and the signal would not be propagated further to other vendors”).

116. IAB PRIVACY, IAB CCPA COMPLIANCE FRAMEWORK FOR PUBLISHERS & TECHNOLOGY COMPANIES: VERSION 1.0 (2019); *Bid Request to Bidders*, *supra* note 106.

117. Aaron Lucchetti, *Firms Seek Edge Through Speed as Computer Trading Expands*, WALL ST. J. (Dec. 15, 2006), <https://perma.cc/8EVV-8GWS> (quote of Tradebot Systems principle David Cummings).

118. *Id.* (sharing that trading firm Tradebot Systems Inc. moved their computers from Kansas City to New Jersey and New York to colocate with exchanges

nature of the Internet, having servers in closer proximity with each other yields faster response times.

Though trading speed emerged as critical to competition in the early 2000s, it was not until Michael Lewis released a book called *FLASH BOYS* in 2014 that a wider audience began to appreciate the implications of speed and latency with electronic trading.¹¹⁹ Lewis, a renowned chronicler of Wall Street culture, broke down how speed shaped competition on stock exchanges and how traders were going to greater and greater lengths to acquire incremental speed advantages. In an illustration of how ridiculous the race for speed had become, Lewis recounted how one enterprising group spent hundreds of millions of dollars drilling through the Allegheny Mountains of Pennsylvania to lay straighter wires between the Chicago and New York exchanges to shave off three milliseconds when trading between the two. Being able to trade a few milliseconds faster gives traders an edge.

There are speed parallels in advertising markets. Speed shapes competition between buying tools on ad exchanges.¹²⁰ Ads trade in milliseconds and exchanges limit the amount of time that those intermediaries have to return bids. If a trading desk, DSP, or other buying tool is too slow, an exchange will exclude it from the instant auction. Similarly, if a buying tool is slow too often, an exchange might “throttle” it.¹²¹ Meaning,

in 2002 and that from 2002 to 2006, about 40 small trading firms and large brokerages moved their computers closer to exchanges); Michael J. McGowan, *The Rise of Computerized High Frequency Trading: Use and Controversy*, DUKE L. & TECH. REV. 24 (2010).

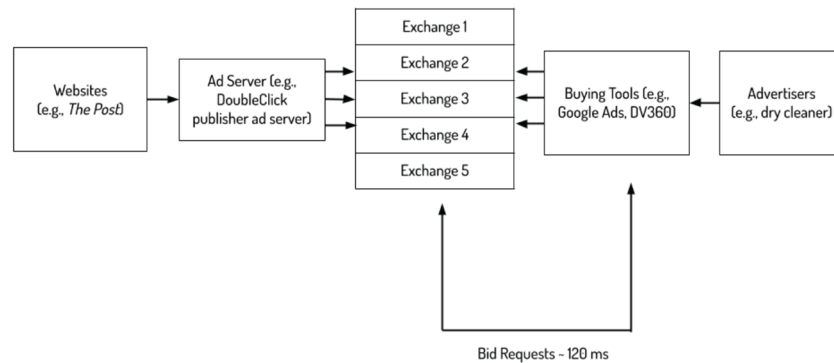
119. MICHAEL LEWIS, *FLASH BOYS: A WALL STREET REVOLT* (W. W. Norton & Company 2014).

120. See generally *supra* notes 44-45.

121. Specifically, the exchange will send the buying tool fewer bid requests, allowing it to participate in only some ad auctions until it improves trading speeds. See e.g., *Latency Restrictions and Peering*, GOOGLE DEVELOPERS, <https://perma.cc/C62T-UKAP> (last visited Sept. 28, 2020) (“We require that 85 percent of responses be received within the deadline from the perspective of the trading location and will throttle bidders that cannot consistently achieve this.”).

the exchange will exclude it from a percentage of future auctions. Because the buying tools encounter varying levels of traffic and delay when conveying their bids back to exchanges (network latency), they need to leave enough time to account for such traffic.¹²² Thus, as a general matter, bidders that receive bid requests and respond to them fastest have advantages over those that are slower.

Figure 4: Time Restrictions in Bid Requests



Like the trading firms on Wall Street that benefit from speed advantages, the Google-owned intermediaries DV360 and Google Ads also have speed advantages. Google explains to current and prospective customers that when DV360 and Google Ads compete against the non-Google buying tools for the ad space trading in Google's exchange, they have a speed advantage from colocation.¹²³ By collocating DV360 and Google Ads with Google's exchange, the bids submitted by DV360 and Google Ads can be excluded less often than the bids submitted from bidders that are not colocated.¹²⁴

122. Hasham, *supra* note 44 (discussing network congestion, Google recommended buffers, and recommended buffers of 20 milliseconds).

123. Google Ad Manager Help, *supra* note 46.

124. *Id.*

In fact, colocation may just reduce the frequency of exclusion for the Google-owned intermediaries from 1-in-4 to zero. According to a post by Google, DV360 and Google Ads have “no network latency or timeout issues,” meaning that Google’s exchange “always receive bids” from advertisers that use them.¹²⁵ Conversely, in Google’s experience, “latency issues can prevent advertisers from successfully submitting a bid on up to 25% of bid requests.”¹²⁶ That is, one out of every four bids submitted to an exchange by a non-located buying tool may be disregarded simply because of speed.

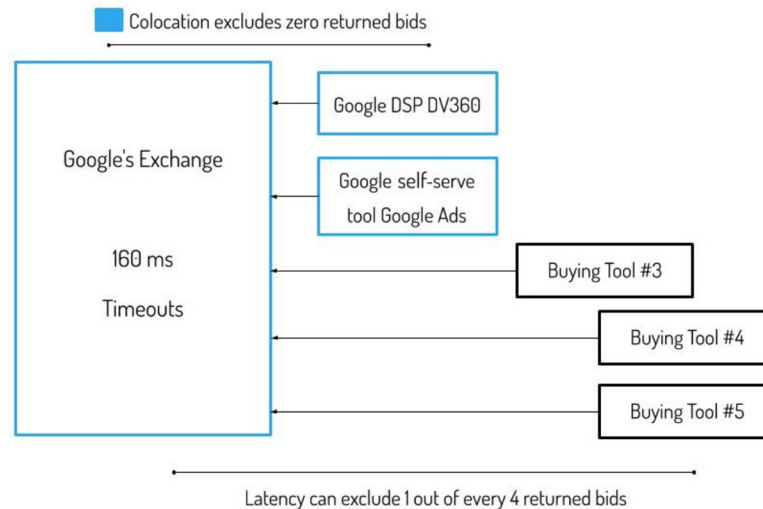
Colocation also provides intermediaries like DV360 and Google Ads with another distinct benefit. Because they must allocate less time to network travel—the time it takes for the bid request to travel from Google’s exchange to a non-located bidder and back—DV360 and Google Ads have more time to query additional data about the user to better determine the value of ad space for sale.¹²⁷ That is useful because online advertisers aim to target particular consumers, drive web traffic, or sell more widgets, all of which require *time* to query data, crunch data, and pick an advertisement that has the highest likelihood of persuading a user to take a particular action. *Time* permits DV360 and Google Ads to bid smarter.

125. *Id.*

126. *Id.*

127. See generally Vasavi Pandey, *5 Questions to Ask When Considering Server Side Header Bidding*, INDEX EXCH. (Mar. 1, 2017), <https://perma.cc/LP4E-SWMK>.

Figure 5: Google Colocation & Unequal Access to Speed Excludes Bids from Slower Traders



Today, the Google-owned intermediaries are the number-one buying tools in the market for both small and large advertisers and it is unclear to what extent this is due to speed advantages on Google's number-one exchange. In financial markets, the traders that send and receive signals to and from financial exchanges fastest and have systemic advantages over others trading on the same venue.¹²⁸ Systemic speed advantages also

128. See generally AQUILINA ET AL., *supra* note 24 (providing an overview of the role of speed and data in the securities market); McGowan, *supra* note 118 (discussing the shift to computerized trading and the role that superior speed and data plays with high-frequency trading); Liz Moyer & Emily Lambert, *The New Masters of Wall Street*, FORBES (Sept. 2, 2009), <https://perma.cc/HVV5-QZBW> (discussing generally how slower traders were excluded from competing against faster ones); Gregory Meyer et al., *How High-Frequency Trading Hit a Speed Bump*, FIN. TIMES (Jan. 1, 2019), <https://perma.cc/2BGZ-26XT> (discussing ongoing competition around speed and data); Thierry Foucault et al., *Equilibrium High Frequency Trading*, Int'l Conf. Of the French Fin. Ass'n (Sept. 2011),

translated to market power. The firms in the early 2000s that first made speed their strategy—Citadel, Virtu Financial, Getco and Tradebot—emerged as the eventual market leaders.¹²⁹

Even if speed advantages can explain the market power of Google intermediaries DV360 and Google Ads, Google does offer some form of colocation to competitors. Since 2013, Google has let competitors colocate through Google's proprietary computer infrastructure services division Google Cloud.¹³⁰ In addition to Cloud colocation, Google has partnerships with non-Google data centers that guarantee round trip network

<https://perma.cc/8ZTN-92DD> (studying how differential access to market data and speed forecloses competition between traders). *But see* Robert Litzenberger et al., *The Impacts of Automation and High Frequency Trading on Market Quality*, 4 ANNUAL REV. FIN. ECON. 58-59 (Oct. 2012) (arguing that discriminatory access to speed forecloses competition between high frequency traders but not retail investors, who compete instead on different fundamentals).

129. Michael Mackenzie, *US: High Frequency Trading Dominates the Debate*, FIN. TIMES (Oct. 20, 2009), <https://perma.cc/3TUR-9M8E> (reflecting that high-frequency traders using speed strategies accounted for approximately 70% of U.S. equity trading volume in 2009, up from 30% a few years prior); Concept Release on Equity Market Structure, 75 Fed. Reg. 3594, 3606 (proposed Jan. 21, 2010) (to be codified at 17 C.F.R. pt. 42) (“Estimates of HFT volume in the equity markets vary widely, though they typically are 50% of total volume or higher.”); Meyer, et. al., *supra* note 128 (providing the same estimate, attributed to the Tabb Group, and discussing how Virtu Financial leveraged speed early-on to become the largest proprietary trading firm in the U.S.); Jonathan Spicer & Herbert Lash, *Who's Afraid of High-Frequency Trading*, REUTERS (Dec. 2, 2009), <https://perma.cc/MRT2-8A5Y> (reporting that trading firms Tradebot and Getco that were amongst the first to adopt speed as their strategy regularly accounted for 20% of the trading volume in the U.S. stock market); Kim Janssen, *Citadel Trader Testimony Reveals Little of World That Helped Mint Ken Griffin*, CHI. TRIB. (Oct. 28, 2015), <https://perma.cc/W5AR-2734> (discussing how Citadel is a major firm in the high-frequency trading space).

130. *Open Bidder (Beta)*, GOOGLE DEVELOPERS (May 19, 2013), <https://perma.cc/DE5G-9ER3>; Noam Wolf, *Google I/O 2013 - Introducing Open Bidder: Leverage Cloud Platform to Reinvent Display Advertising*, YOUTUBE (May 19, 2013), <https://perma.cc/XB2N-2GTV>. *Google Compute Engine — Cloud Platform*, GOOGLE (Aug. 5, 2013), <https://perma.cc/22VR-QDAY>.

travel with Google within 5 milliseconds.¹³¹ It is not clear whether 5 milliseconds of latency make or break a rival's ability to bid for ad space trading in Google's exchange.

At least when it comes to Google Cloud colocation, it appears that few firms have taken Google up on its offer. One exception is advertising exchange OpenX, which publicly announced a five-year, \$110 million colocation agreement with Google in January 2019.¹³² In discussing the OpenX deal, Google reiterated the competitive benefits of colocation: "[colocation] reduced overall latency, especially when sending requests to Google ... It increases the speed that bids come into the OpenX Exchange from potential buyers, driving increased revenue potential by allowing publishers to see greater demand for their audiences before an auction closes."¹³³ Despite Google's arguments for colocating, few other companies have chosen to follow in OpenX's footsteps.

It is possible that rivals do not colocate with Google in Cloud because Google charges high colocation rents or rivals are not comfortable colocating on Google territory. In financial markets, colocation practices are tightly regulated: procedures and prices have to be approved by the Securities and Exchange Commission (SEC) and the length of cord in colocation facilities has to be exactly the same to ensure non-discriminatory access. In advertising, the common practice is for ad exchanges and buying tools to control for some of these neutrality concerns by meeting on

131. See Choosing Colocation Facility Locations, GOOGLE CLOUD, <https://perma.cc/KPN7-6N38> (last visited Sept. 28, 2020).

132. George Slefo, *Google Cloud, Looking to Invade Amazon's Turf, Inks Deal with OpenX*, ADAGE (Jan. 24, 2019), <https://perma.cc/57ZL-TD7Q> ("It's the first time that Google Cloud has struck a deal with a well-known, or large exchange, according to both companies."); Andrew Blustein, *OpenX Bets Future Is Serverless in Move to Google Cloud Platform*, DRUM (Jan. 24, 2019), <https://perma.cc/TK7Y-SB3Q> ("You have to operate at speed, efficiency, closeness to the publisher and the demand-side of Google, and if you don't . . . you aren't going to be able to compete in the adtech space.").

133. *OpenX: Powering the Future of Advertising with Google Cloud*, GOOGLE CLOUD <https://perma.cc/84RY-FPPF> (last visited Sept. 28, 2020).

independent ground. For instance, AT&T XNDR hosts its exchange with intermediaries in independent data centers, including at Equinix—the same data center that often acts as a neutral arbiter of colocation for stock exchanges, including the NYSE, Nasdaq, the Chicago Board Options Exchange, BATS, and trading firms.¹³⁴ Google, unlike Equinix, has conflicts of interest. Google Cloud’s job is to nullify speed advantages between competitors, but Google also operates buying tool intermediaries that benefit from speed advantages over those customers.

When it comes to speed and competition, one problem is that a lack of transparency makes it difficult for market participants to understand the true extent that speed favors Google and excludes others. Does colocation really reduce Google Ads’ exclusion from Google’s exchange from 1-in-4 to zero? While Google’s exchange shares centralized auction reports back with publishers, those reports do not include information about the bids that Google’s exchange excludes due to latency.¹³⁵ In other

134. *Datacenters*, XANDR CLOUD SERVICES, <https://perma.cc/QWT3-7WAK> (last visited Sept. 28, 2020); Matthew Leising & Annie Massa, *Inside the Nondescript Building Where Trillions Trade Each Day*, BLOOMBERG (Apr. 13, 2016), <https://perma.cc/QT9J-F896> (discussing colocation in the securities market). Other major ad exchanges, including those belonging to Index, OpenX, and PubMatic, take the same approach. *OpenX Selects Zayo for Data Center Expansion*, ZAYO (Mar. 15, 2016), <https://perma.cc/XU54-RVV7>; Vasavi Pandey, *Tour IX’s Amsterdam & Frankfurt Data Centers*, INDEX EXCH. (July 2, 2018), <https://perma.cc/L7AJ-CVY9>; *Digital Realty SFR1*, INFLECT (2020), <https://perma.cc/J3QV-9AVS> (last visited Sept. 28, 2020).

135. See *Bids Data in Ad Manager Data Transfer (Beta)*, GOOGLE AD MANAGER HELP (2020), <https://perma.cc/R6DN-ZJHV> (making no mention of reporting on bids due to latency); Jason Bigler, *Rolling Out First Price Auctions to Google Ad Manager Partners*, GOOGLE <https://perma.cc/QL6V-LHXN> (last visited Sept. 26, 2020) (stating that new beta market trading files include data from “bids submitted to your auctions”) (emphasis added). The Google Ad Manager reports on “metrics” and “dimensions” do not include data about bids excluded due to latency or timeouts. See *Ad Manager Report Metrics*, GOOGLE AD MANAGER HELP, <https://perma.cc/Q7FQ-2FWN> (last visited Sept. 26, 2020); Google Ad Manager Help, *Ad Manager Report Dimensions*, GOOGLE (2020), <https://perma.cc/QZ8Q->

words, if Google's exchange hosts a 100 millisecond auction for an ad, and reports that a Google-owned intermediary won the auction at a price of a \$2 CPM—which stands for cost per one thousand ad spaces (“impressions”)—a publisher would not know if Google's exchange excluded a higher \$3 CPM bid received just 2 milliseconds late.

In financial markets, specific investigations and enforcement actions have been critical to discovering speed problems, enforcing fair access rules, and protecting competition. For example, in 2012, the NYSE settled charges levied by the SEC for giving some trading firms access to the market single digit milliseconds to multiple seconds before others.¹³⁶ Following FLASH BOYS' release in 2014, the FBI, the SEC, and the securities enforcement division of the Office of the New York Attorney General (NYAG) opened investigations into whether other exchanges were in violation of existing fair access rules.¹³⁷ The second-largest public exchange, BATS, soon settled charges brought against them for providing some traders with superior access.¹³⁸ In advertising, a lack of transparency by

V6DT. The following NetworkBackfillBids report states it includes bids categorized as “Other,” but does not mention latency; the prior documentation suggests that “Other” would exclude bids due to latency. *See also Ad Manager Data Transfer Reports*, GOOGLE AD MANAGER HELP, <https://perma.cc/8QSV-YBQF> (last visited Sept. 28, 2020) (describing the various market trading reports Google offers). The NetworkBackfillBids report contains data about Google's market trading activity and pulls from winning bids, bids excluded because they were lower than the auction “Floor,” bids that were “Outbid,” and bids excluded due to “Other,” or those Google calls “lost for another reason, such as URL filtering.” Google Ad Manager Help, *Bids Data in Ad Manager Data Transfer (Beta)*, GOOGLE, <https://perma.cc/2HN6-AVY4> (last visited Dec. 2, 2020).

136. N.Y. Stock Exch. LLC, *supra* note 48.

137. *See generally* Michael Lewis, *Michael Lewis Reflects on His Book Flash Boys, a Year After It Shook Wall Street to Its Core*, VANITY FAIR (Mar. 12, 2015), <https://perma.cc/U92W-DKLL> (summarizing onset of regulatory scrutiny after the release of FLASH BOYS).

138. N.Y. Stock Exch. LLC, *supra* note 48 (two exchanges owned by BATS Global settle their charges for not adequately disclosing how their order types worked and for giving information about order types to some traders but not

trading intermediaries, combined with a lack of regulatory oversight, may permit speed exclusion problems to go under the radar.

Finally, it is important to note how unequal trading speeds can negatively affect the efficiency of the trading market, in addition to leading to market concentration. Unequal access to speed can operate to line the pockets of the middlemen. The following hypothetical provides one example of how this could happen. When Google's exchange excludes rival intermediaries for being too slow, the Google-owned intermediary Google Ads would have been able to acquire publishers' ad space for lower prices. But it is not clear whether the small mom-and-pop advertisers using Google Ads benefitted from such lower prices. Instead, the setup could have permitted Google as the intermediary to engage in a wider arbitrage—keeping a larger difference between the price it sells an ad to a Google Ads advertiser and the price the ad space actually clears for on Google's exchange.¹³⁹ Like in finance, the mechanics of highly-sophisticated electronic trading markets and their accompanying speed

others); *In re Ubs Sec. LLC Respondent.*, SEC Admin. Release No. 9697, 2015 WL 179551 (Jan. 15, 2015), <https://perma.cc/7KXP-EMJ5> (UBS settles its charges for violating Regulation NMS by allowing some traders to place orders in small increments, which allowed some orders to jump ahead of others).

139. Though not completely on point, there is one case in which an intermediary in the event ticket market sequenced buyers through two consecutive marketplaces that it owned and was thereafter charged with violating Section 5 of the FTC Act. LiveNation, the company that owns the Ticketmaster marketplace, also operates a second marketplace called TicketsNow. In the late 2000s, Ticketmaster automatically re-directed consumers looking to purchase tickets on Ticketmaster to the TicketsNow marketplace. TicketsNow listed the same tickets at higher mark-ups, which permitted the parent company to obtain higher commissions on these trades. The FTC brought charges against Ticketmaster and TicketsNow for steering consumers from one marketplace to another, alleging that this conduct was deceptive and unfair and constituted a violation of Section 5 of the FTC Act. The two companies settled and agreed to pay consumers the difference between what they paid to purchase the tickets in the TicketsNow marketplace and what they would have paid in the Ticketmaster marketplace.

aces may just wash over the heads of the least sophisticated market participants.

B. Discriminatory Routing of Orders and More Speed Races

1. Routing Orders to Google's Exchange and Owned Properties

While exchanges can distort competition between intermediaries by sharing data and speed in an asymmetric fashion, the intermediaries can distort competition by routing buy and sell orders in a discriminatory manner. In the equities trading market, we temper competition and welfare problems associated with this conduct by identifying and managing intermediary conflicts of interest. Your broker cannot steer you to purchase stock in which they have an underlying financial interest. Neither can the broker steer you to purchase shares of stock from the broker's exchange if the same shares trade on a rival's exchange for lower prices.

Google takes advantage of the lack of conflicts of interest oversight in advertising markets to distort competition in similar ways. For example, when this author opened a Google Ads account, Google Ads required the author to start a Google Search campaign in order to complete the account setup process.¹⁴⁰ In other words, Google Ads does not merely steer

See Ticketmaster and TicketsNow Settle FTC Charges of Deceptive Sales Tactics, Refunds for Springsteen Concertgoers Provided; FTC Warns Other Ticket Resellers, FED. TRADE COMM'N (Feb. 18, 2010), <https://perma.cc/LM9R-947W>. Separately, in the foreign exchange market, which is not subject to the rules and regulations that apply to the equities market, the DOJ and SEC brought civil charges against the asset manager State Street for defrauding investors by charging hidden mark-ups and not properly disclosing how its electronic platform for trading U.S. Treasuries worked. *See David Lynch, State Street Agrees \$35m Fraud Settlement with SEC*, FIN. TIMES (Sept. 7, 2017), <https://perma.cc/Q8QR-4Z5K>.

140. How Google Ads Requires Advertisers to Purchase Search Ads (2020) (on file with author). Additionally, according to a recent Wall Street Journal investigation, Google Search also steers users to YouTube videos. Sam Schechner et al., *Searching for Video? Google Pushes YouTube Over Rivals*, WALL ST. J. (July 14, 2020), <https://perma.cc/P59U-RQCR>.

advertisers to Google Search, it sometimes requires them to purchase Google Search ads before they can bid on display space belonging to publishers such as *The Seattle Times*.

Exacerbating steering and tying conduct is the fact that many advertisers must use a Google-owned buy-side intermediary to purchase Search or YouTube ad space, properties many advertisers cannot forgo. Since 2015, advertisers that want to purchase YouTube ads must use DV360 or Google Ads because Google withholds YouTube ad space from rival buying tools.¹⁴¹ It is less clear whether and to what extent Google withholds Search inventory from rivals. In January 2012, the Federal Trade Commission found that Google restricted third-party tools from selling Google Search ads and that such restrictions were anticompetitive.¹⁴² But the FTC ultimately declined to file suit, and Google loosened

141. Jeff Fraser, *Google Cuts out Third-Party DSPs from YouTube Inventory*, MARKETING (Aug. 7, 2015), <https://perma.cc/N6JD-SPYT> (explaining how Google withdrew YouTube inventory from third-party buying tools).

142. Staff report from the competition bureau stated the following: “Staff has investigated whether Google has employed anticompetitive contractual restrictions on the automated cross-management of advertising campaigns. Google’s main rival (Microsoft) has alleged that Google is denying Microsoft critical scale by employing these restrictions, and thus impairing Microsoft’s ability to compete effectively in the markets for general search and search advertising. We conclude that these restrictions should be condemned under Section 2 because they limit the ability of advertisers to make use of their own data, and as such, have reduced innovation and increased transactions costs among advertisers and third-party businesses, and also degraded the quality of Google’s rivals in search and search advertising.” *The FTC Report on Google’s Business Practices*, WALL ST. J. (Mar. 24, 2015). David Drummond, *The Federal Trade Commission Closes Its Antitrust Review*, GOOGLE (Jan. 3, 2013), <https://perma.cc/XUJ5-B9W4> (explaining how Google would start permitting third-party tools that connect to the AdWords API to “mix and copy campaign ad data,” as advertisers are permitted to do when they use AdWords directly); Greg Sterling, *From Praise to Outrage: Reactions to Google’s Antitrust Settlement*, SEARCH ENGINE LAND (Jan. 4, 2013), <https://perma.cc/SMU8-5K2V> (summarizing how Google’s changes helped third-party tools like Marin Software and Kenshoo better sell Google Search ads). Separately, for Google’s share of the US search market, see *Search Engine Market Share*

its restrictions. The competition agency in the U.K. recently re-investigated the matter.¹⁴³

On top of pressuring advertisers to use Google's buy-side tools, Google pressures advertisers to use just one tool at a time (i.e., to single home).¹⁴⁴ Because Google scrambles DoubleClick IDs for everyone but Google, advertisers that use more than one buying tool at a time risk inadvertently bidding against themselves in exchanges. Buying Tool 1 might bid on user 12345, while Buying Tool 2 might try to outbid the first for user 09876, without the two knowing that user 12345 and 09876 are in fact the same person. By using two tools at once, advertisers can drive their acquisition prices up. As a result, advertisers have pressure to single home, and if they want to purchase advertising on YouTube, they should single home using DV360 or Google Ads.

According to Google, conflicts of interest should lead to efficiencies rather than distortions in the market: "the combination of Google's search business and its vertical ad tech integration should give it incentives to

in 2020, OBERLO (2020), <https://perma.cc/27VF-7DXY> (stating that Google has an 88+% share of U.S. search queries and a 92+% share of worldwide search queries).

143. The competition agency in the UK, Competition Markets Authority, is investigating non-Google buying tools' access to Search inventory. The CMA FINAL REPORT stated that: "Transaction costs faced by advertisers in using multiple search engines appear likely to benefit Google and create a barrier to entry for smaller rivals. Most of the larger advertisers we contacted did not suggest there was a difficulty in multi-homing across multiple search engines and used tools such as SA360, or those provided by third parties such as Marin and Kenshoo, to do so. However, a minority of the larger advertisers who responded to our questionnaire choose to single-home as Google had a sufficiently large market share and reach to meet all their needs. Based on evidence from the qualitative research set out in Appendix N, many smaller advertisers choose to single-home, using the simple interface provided by Google Ads and benefiting from its broad reach." CMA FINAL REPORT, *supra* note 7, at 227.

144. For a discussion of the risks of bidding against oneself when targeting individual users in advertising auctions, see Jaysen Gillespie, [RESEARCH] *Why You Should Only Use One Retargeter*, CRITEO (July 1, 2019), <https://perma.cc/FWK6-PSZC>; Brian O'Kelley, *DSP User: In What Situations Am I Bidding Against Myself?*, QUORA, <https://perma.cc/2CRT-4J7F>.

balance the interests of all ecosystem participants¹⁴⁵ However, the data tell a different story.¹⁴⁶ Google's public filings generally show how the split in the allocation of advertising revenues between Google and non-Google properties has widened almost every year since 2004.¹⁴⁷ In 2007, the share going to Google properties increased to 64%, in 2008 to 68%, eventually to 71% (2011), then 75% (2014), 77% (2015), 80% (2016), 81% (2017), and 82% (2018). It increased again in 2019 with just 16% of the \$134 billion dollars that advertisers spent through Google going to the 2+ million non-Google properties, like *The Post*, *The Register*, *Le Monde*, or *The Times of India*, that also sell their ad space through Google's exchange and buying tools.¹⁴⁸ Early 2020 data suggest this squeeze will continue. In the midst of a global pandemic, Q1 2020 data reveals the share going to news publishers has further declined to 15%.¹⁴⁹

Google Search in particular accounts for 73% of Google advertising revenues, though it is not clear why.¹⁵⁰ One cannot definitively attribute revenue growth to usage growth because Google stopped reporting Search usage and query growth.¹⁵¹ Some external estimates even suggest

145. Bitton & Lewis, *supra* note 15, at 12 ("Google's presence across the buy and sell-side of ad tech also gives it incentives to promote efficiency traditionally associated with vertical integration, including the reduction of double marginalization . . .").

146. The fact that these types of competition problems arise again-and-again in electronic trading markets also pushes back on that vertical integration hypothesis. A similar issue came up in the market for electronically traded airfares. When the airline-owned electronic marketplaces for airfares engaged in a similar pattern of withholding then steering behavior in the 1970s, lawmakers intervened to put a stop to it. *See infra* note 209.

147. Google Inc. (2005-2016) and Alphabet Inc. (2017-2020), *supra* note 10.

148. *See* Alphabet Inc. (Feb. 4, 2019), *supra* note 10; *About Targeting for Display Network Campaigns*, GOOGLE ADS HELP, <https://perma.cc/U24D-PRRW>.

149. Alphabet Inc. (Feb. 3, 2020), *supra* note 10.

150. Bitton & Lewis, *supra* note 15, at 10; Alphabet Inc. (Feb. 4, 2019), *supra* note 10, at 29.

151. *See* Danny Sullivan, *Google Now Handles at Least 2 Trillion Searches per Year*, SEARCH ENGINE LAND (May 24, 2016), <https://perma.cc/LT4T-HCTQ>.

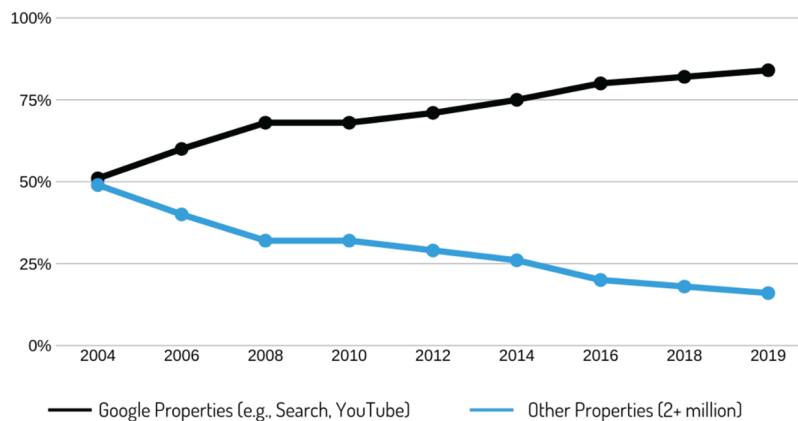
growth post-2012 was stagnant or slow.¹⁵² To shareholders, Google has been generally attributing revenue increases to “interrelated factors,” including “growth in advertiser activity.”¹⁵³ But as this author’s experience with Google Ads shows, Google has the ability to generate advertiser activity through steering and tying. It is impossible to know whether Google also quietly steers demand by the way that it allocates the use of data when making ad-matching decisions.¹⁵⁴

152. See Danny Sullivan, *Google Still Doing at Least 1 Trillion Searches per Year*, SEARCH ENGINE LAND (Jan. 16, 2015), <https://perma.cc/9URP-VU7B> (summarizing that Google was issuing the same daily search number of 3 billion in 2015 that it disclosed in 2012, that comScore numbers showed a 5% gain from 12/2012 to 12/2014, and that the analysis by journalist Charles Arthur suggests low search usage from mobile devices).

153. Alphabet Inc. (2019), *supra* note 10, at 30 (attributing revenue increases to “interrelated factors including increases in search queries resulting from ongoing growth in user adoption and usage, primarily on mobile devices, continued growth in advertiser activity, and improvements we have made in ad formats and delivery”).

154. Google charges advertisers by user conversion (i.e., when a user takes a specific action). Thus, when Google knows that a user is a conversion target, it can distort competition between sellers by displaying an ad to that user when they are on a Google property, as opposed to a third-party property. In financial markets, trading intermediaries owe fiduciary or best interest duties to customers, which requires them to allocate trading decisions in a fair and equitable manner. For example, intermediaries cannot engage in “trade allocation,” the allocation of favorable trades to certain accounts and less favorable trades to other accounts.

Figure 6: Share of Google Ad Revenues Going to Google vs. Non-Google Properties 2004-2019¹⁵⁵



In addition to steering advertisers to Google properties, Google's trading intermediaries steer buyers and sellers to execute orders on Google's exchange. Until 2016, on the buy-side, Google Ads *only* routed advertisers' bids to Google's exchange.¹⁵⁶ Meaning, if the local dry cleaner used Google Ads to bid on ad space belonging to *The Register*, Google Ads did not route the dry cleaner's bids to competing exchanges belonging to AppNexus, Index, and Pubmatic, where *The Register* inventory may have been trading for lower prices. According to a claim by the CEO of rival exchange AppNexus, Google's enterprise buying tool DV360 engaged in similar conduct.¹⁵⁷ Today, though both DV360 and Google Ads

155. See Google Inc. (2005-2016) and Alphabet Inc. (2017-2020), *supra* note 10. Note: Google acquired YouTube during Q4 of 2006. "Google Properties" also includes properties such as Gmail. See *supra* notes 10-12.

156. *DoubleClick Ad Exchange*, *supra* note 34.

157. Sarah Sluis, *AppNexus CEO Brian O'Kelley on Waging a Price War*, ADExchanger (Nov. 9, 2017), <https://perma.cc/8KHY-MGX6> (then-CEO of

technically route orders to non-Google exchanges, they would still disproportionately route orders to Google's because of the speed and information advantages discussed in Part III.A.¹⁵⁸

Google's ad server, the dominant intermediary on the sell-side, also steers orders to Google's exchange. From 2010 through 2018, the ad server restricted websites from transacting with advertisers through non-Google trading venues in two ways.¹⁵⁹ First, Google prohibited websites from routing their ad space to multiple venues at the same time,¹⁶⁰ the

Google rival exchange AppNexus stating that "Google is quietly allocating demand toward AdX, but without making any rationale to the buyer as to why. It's bad for the buyer. It's bad for the publisher").

158. GOOGLE, ONLINE PLATFORMS AND DIGITAL ADVERTISING COMMENTS ON THE MARKET STUDY INTERIM REPORT 11 (2020), <https://perma.cc/CL3R-ZL4M> (Google claiming that it is "wrong" to think that Google Ads and DV360 prefer Google's exchange). *But see* Google Ad Manager Help, *supra* note 46 (explaining that publishers benefit from greater "auction pressure" and higher demand for their inventory in Google's exchange when advertisers use DV360 and Google Ads because of user ID and speed reasons).

159. For a thorough explanation on how Google's ad server restricted competition in the exchange market, see Damien Geradin & Dimitrios Katsifis, *An EU Competition Law Analysis of Online Display Advertising in the Programmatic Age*, 15 EUR. COMPETITION J. 55 (2019).

160. The process of routing advertising impressions to exchanges in sequence was also called "waterfalling" or "daisy-chaining." In the online advertising market's early days, before the invention of real-time impression-by-impression bidding through exchanges, it was rational for the ad server to provide publishers with sequential routing because publishers sold their ad space to advertisers and through ad networks for fixed CPM prices. However, once the market structure migrated to real-time impression-by-impression bidding in the late 2000s, sequential routing stopped being rational and started to operate as a restriction on exchange competition. A rough parallel today might be if a financial intermediary prohibited financial exchange competition based on a legacy practice designed in the days of floor-based trading. *See* Gavin Dunway, *What Is the Waterfall?*, ADMONSTERS (Feb. 23, 2017), <https://perma.cc/Q8BR-2M9V> (further discussing history of waterfalling); Bitton & Lewis, *supra* note 15, at 13 (further explaining how waterfalling has its origins in the early 2000s and was used by

way that shares of stock, airline tickets, and sports tickets trade in multiple marketplaces at once.¹⁶¹ Pitting ad exchanges against each other would let the demand in each exchange naturally drive prices up. In advertising, however, websites had to go through their ad server, which was most commonly Google's (90+% market share).¹⁶² Google's ad server let publishers route their inventory to one exchange at a time, in sequential order—requiring a site like *The Register* to route ad space first into Exchange A, then to Exchange B, only if Exchange A passed on the opportunity.

A second way that Google's ad server restricted competition between exchanges was by incentivizing websites to route their ad space to Google's marketplace first: if a site did, the server permitted a limited

publishers selling inventory for fixed prices); George Slefo, *Google's Exchange Bidding Makes Its Debut: Here's What You Need to Know*, ADAGE (Apr. 4, 2018), <https://perma.cc/E5HH-N6NZ> (reporting on Google's official launch of "Exchange Bidding," which permitted publishers to route their ads from their Google ad server to multiple exchanges at the same time).

161. Stocks trade on public exchanges, such as the NYSE and Nasdaq, and on 30+ Alternative Trading Systems (ATSs).

162. Complaint at 42, *Devaney v. Google*, No. 5:20-cv-04130 (N.D. Cal. June 22, 2020); Keach Hagey & Vivien Ngo, *How Google Edged Out Rivals and Built the World's Dominant Ad Machine: A Visual Guide*, WALL ST. J. (Nov. 7, 2019).

form of exchange competition (that highly favored Google) in return.¹⁶³
 Most publishers did exactly that to maximize yield on their inventory.¹⁶⁴

163. Specifically, if publishers routed their ad space to Google's exchange through a feature Google called "Dynamic Allocation," Google's ad server permitted Google's exchange—and only Google's exchange—to compete against the "floor prices" that publishers statically set for rival exchanges. To be clear, those floor prices were required by the ad server to be manually set by publishers. Publishers commonly set those values to equal what an exchange historically cleared ad space for on average. Static floor prices post-2010 made little sense, since exchanges could return a live informed bid for particular impressions if Google's ad server permitted them to do so. Such was Google's ad server's official setup from 2010 through 2018, though the market migrated to real-time impression-by-impression bidding in the late 2000s. The subject of Google's ad server's continuance of this Dynamic Allocation conduct post-2010 is a point of particular contention. In a recent filing to the Australian competition regulator, Google defended its conduct on the basis that it was DoubleClick, not Google, that introduced Dynamic Allocation before Google's acquisition of the company in 2008. It pointed to the fact that a page on DoubleClick's website from 2007 discusses Dynamic Allocation in conjunction with a DoubleClick exchange. However, the public record shows that DoubleClick at the time had neither officially launched an exchange nor put to practice this Dynamic Allocation conduct. The competitive effects of any dynamic allocation conduct in 2007 would also have been substantively different, since plans for a DoubleClick exchange did not include real-time impression-by-impression bidding. Additionally, a former DoubleClick employee shared with me (uncorroborated) that DoubleClick had developed plans for an exchange to spur acquisition interests and that such interests did follow *The New York Times'* coverage of DoubleClick's exchange plans. Telephone Interview with former DoubleClick employee (Feb. 14, 2020). Based on this person's account, DoubleClick specifically pitched the sale of the DoubleClick ad server as something that a firm in the intermediary trading market could leverage and claimed that Google executive Neal Mohan had a spreadsheet that specifically modeled rent extractions through such leveraging during merger negotiations. Note: that narrative may counter the FTC's assessment of the merger and its conclusion that Google would not be able to leverage the DoubleClick ad server to preference itself in the ad trading intermediation market. See *Maximizing Advertising Revenues for Online Publishers*, GOOGLE (2010), <https://perma.cc/3VE9-YWPF> (original announcement describing how Google's ad server let Google's exchange compete in real-time against other exchanges' static prices); Google Ad Manager Help, *Dynamic Allocation*, GOOGLE (2020),

Discriminatory routing of order flow from the sell-side and buy-side to Google's exchange jumpstarted Google's entry into the exchange market. Google entered a crowded market in 2009, and by 2013, Google's exchange was trading the most volume. Rival exchanges, starved of liquidity, fell quietly in parallel.

But this practice and resulting competition problem is neither new nor novel. Operating parallel to Google's timeframe, in the equities market, the broker dealer Barclays started preferentially routing its clients' stock orders into Barclays' recently launched "dark pool"—a trading venue where parties can trade with each other anonymously.¹⁶⁵ By 2013,

<https://perma.cc/929B-GDRA> (further explaining how this tactic worked and continues to work in limited form); Michalis Pachilakis et al., *No More Chasing Waterfalls: A Measurement Study of the Header Bidding Ad-Ecosystem*, ASS'N COMPUTING MACHINERY (2017), <https://perma.cc/RSZ4-M4BC> (summarizing that Google's exchange historically competed against other exchanges' "average price of [] past purchases"); Sarah Sluis, *The Rise of "Header Bidding" and the End of the Publisher Waterfall*, ADExCHANGER (June 18, 2015), <https://perma.cc/MPY6-6X9F> (further explaining how Google's ad server preferentially routed advertising inventory to Google's exchange); Bitton & Lewis, *supra* note 15, at 15-16, 25 (defending Dynamic Allocation preferencing conduct as something invented by DoubleClick and not Google); Louise Story, *DoubleClick to Set Up an Exchange for Buying and Selling Digital Ads*, N.Y. TIMES (Apr. 4, 2007), <https://perma.cc/2LBZ-5PQY> (reporting on DoubleClick's plans to launch an exchange); *FTC Closes Investigation*, *supra* note 80; *supra* Part III.A.1. Additionally, in 2015, Google's ad server let Google's exchange access and sell additional high-value website advertising inventory and did not grant non-Google exchanges access to the same. John McDermott, *Google Sweetens Deal for Publishers with Dynamic Price Floors*, DIGIDAY (Mar. 5, 2015), <https://perma.cc/8PKK-CE7L> (reporting that, according to a Google customer support page, Google's ad server routes publishers' direct-sold impressions only to Google's ad exchange).

164. Barry Levine, *MarTech Landscape: What Is Header Bidding — and Why Should Publishers Care?*, MARTECH TODAY (Dec. 21, 2015), <https://perma.cc/NQC3-NAFF> ("Many of the site publishers utilizing Google's DFP ad server employ a setting that allows its Ad Exchange (AdX) to outbid any of the winning waterfall bidders by even a penny per CPM, because AdX gets the last bid. This is supposed to maximize yield, but it also puts AdX in a privileged position.").

165. Amended Complaint, *New York v. Barclay Inc.*, No. 451391/2014

Barclays' specialized trading venue became one of the top two in the U.S. In the equities market, however, we protect the market from these types of competition problems by prohibiting this type of steering conduct. The investment bank eventually paid \$70 million dollars in fines to settle charges brought by the NYAG and the SEC.¹⁶⁶

In addition to distorting competition in the exchange market, it is important to note how routing order flow to Google's exchange may have also resulted in welfare problems. For example, by blocking a publisher from routing its ad space to exchanges simultaneously, Google's ad server could sell the publisher's space to, for example, the Google-owned intermediary Google Ads for a high bid of a \$10 CPM, even though demand from advertisers in rival exchanges might have otherwise pushed this clearing price up.¹⁶⁷ In other words, by excluding competition, a publisher like *The Post* might have made less advertising revenue than it otherwise would have. Did these lower clearing prices benefit the advertisers buying through Google Ads? Again, the answer to this question remains unclear. Because Google arbitrages between two Google-controlled marketplaces, lower prices may have instead permitted Google as the intermediary to retain a wider spread.¹⁶⁸

2. Market Creates Invention to Circumvent Routing Restrictions

(N.Y.S. 2d 2015), [hereinafter Barclay Inc.] (discussing Barclays' preferential order routing practices, market share, and alleging Barclay made material misrepresentations to customers about how it operated its dark pool).

166. *Barclays, Credit Suisse Charged with Dark Pool Violations*, U.S. SECURITIES AND EXCHANGE COMMISSION (Jan. 31, 2016), <https://perma.cc/54KJ-LWWD> (announcing settlement of NYAG and SEC claims against Barclays).

167. Note that bids from non-Google intermediaries could be excluded from participating in Google's exchange due to latency reasons discussed in Part III.A.

168. See *supra* note 15.

and Set Own Speeds

Of all Google's steering and discriminatory routing conduct, the one that drew the most ire in the industry was Google's ad server not letting publishers simultaneously route their ad space to more than one exchange at once. When exchanges like the NYSE reflected a huddle of traders on a street "curb" or trading floor, it was a physical feat to trade on more than one exchange at a time. That was also why the NYSE was a natural monopoly for over a century. But the advent of electronic communications broke down these walls and ushered in a watershed of electronic exchange competition. Shares of Microsoft stock now trade on dozens of electronic trading venues at the same time, pitting exchanges against each other to fight for market share and drive down trading costs. Why couldn't ads?

At the tail end of 2014, publishers started to use a technological hack to get around Google routing restrictions and push the advertising market to function more like other sophisticated electronic trading markets.¹⁶⁹ The invention, commonly called "header bidding," required websites to insert a piece of JavaScript code into the *header* section of their webpages. As soon as a user visited a page, the JavaScript would route the website's ad space to multiple exchanges simultaneously, before

169. The industry has copiously covered header bidding and how this workaround was designed to circumvent Google restrictions specifically. See *Header Bidding: Holistic Ad Serving Is Here*, AD OPS INSIDER (June 1, 2015), <https://perma.cc/WR2F-WHCN>; Sluis, *supra* note 163; Ross Benes, 'An Ad Tech Urban Legend': An Oral History of How Header Bidding Became Digital Advertising's Hottest Buzzword, DIGIDAY (June 16, 2017), <https://perma.cc/97F8-F3ZJ/>; Michal Wlosik, *Client-Side vs. Server-Side Header Bidding: Pros and Cons*, CLEARCODE (Apr. 17, 2019), <https://perma.cc/6N8Q-NJJZ> (stating that header bidding "originally emerged as a novel solution to remedy the inefficiency, and Google's preference, of its own ad exchange (AdX), during the waterfall ad-buying process . . ."); Sarah Sluis, *The Year Header Bidding Went Mainstream*, ADEXCHANGER (Dec. 27, 2016), <https://perma.cc/E6AW-QNGZ/> ("After all, the priority that Google gave its Ad Exchange service kicked off the whole header bidding trend.").

Google's ad server had time to kick in and prevent them from doing so.¹⁷⁰ The invention permitted a site like *The Post* to start routing its inventory to a dozen exchanges at once, instead of routing them to Google's exchange first, something *The Post* now does.¹⁷¹

The original version of header bidding (called "client-side") also provided buyers and sellers with advantages when it came to speed. Specifically, it let publishers set the time that exchanges have to respond with their winning bids, which publishers started lengthening to account for more bids from slower traders.¹⁷² Setting speeds several seconds long would cause users to load pages without ads or cause users to leave the page while impatiently waiting for pages to load. But giving exchanges *incrementally* more time—a fraction of a second that users might not notice—excluded fewer bidders from auctions and resulted in more and higher bids returned.¹⁷³

Typically, publishers set these exchange timeouts to 500-1000 milliseconds (one-half to one second), but the default for the leading header

170. See Vidakovic, *supra* note 83; Pachilakis et al., *supra* note 163.

171. # ADS.TXT FILE FOR WASHINGTONPOST.COM, <https://perma.cc/46UY-23SL> (last visited Nov. 17, 2020) (an initiative from the Interactive Advertising Bureau Technology Laboratory listing the companies authorized to sell *The Washington Post* inventory).

172. With client-side header bidding, websites use a "wrapper" to set a "universal timeout," which is the time limit within which all exchanges competing for ads must submit a bid. See, e.g., *Basic Prebid.js Example*, PREBID (2020), <https://perma.cc/59DN-RMSR>.

173. See, e.g., Lynne Johnson, *Publishers Should Experiment with Timeouts to Bring in Higher Bids*, ADMONSTERS (Sept. 26, 2019), <https://perma.cc/M4YP-FLDR>; *Index Exchange Introduces Adaptive Timeout, Incorporating Machine Learning into Header Bidding*, GLOBENEWSWIRE (May 20, 2019), <https://perma.cc/2HB3-NLX4> (explaining the correlation between auction speed and revenue: "By adaptively modifying the timeout, the feature ensures the maximum number of bids make it to the publisher, thereby increasing revenue, while improving user experience in each unique condition . . ."); *How to Optimize Header Bidding Setup*, PREBID, <https://perma.cc/NG7G-HWKC> ("Working with 10 bids (orange) makes incrementally more money as the ad server waits longer. But the 5 bids revenue plateaued.").

bidding vendor PreBid is set to 3000 milliseconds (three seconds).¹⁷⁴ One report based on data from 300+ publishers recommended publishers set their timeouts to at least 1157 milliseconds, finding publishers routinely exclude higher bids from slightly slower traders when they set stricter timeouts.¹⁷⁵ In a roundabout way, this setup empowered sellers of ad space to neutralize any speed advantage that Google Ads and DV360 had in Google's exchange due to colocation.

The client-side header bidding invention also increased trading transparency, permitting market participants to better understand how speed and competition go hand-in-hand. Publishers could now monitor how many milliseconds it took exchanges to return bids.¹⁷⁶ If a publisher set its timeouts at 800 milliseconds, and saw that this timeout excludes higher bids from exchanges that arrived at 820 milliseconds, the publisher might re-set its timeouts to 820 milliseconds to increase competition for its ad space and drive prices up.

174. *Publisher API Reference*, PREBID (2020), <https://perma.cc/P23L-2824>. Though 3,000 milliseconds (three seconds) was a long time for users, a study of 35,000 websites showed that this amount of time in fact captured 90% of bids returned on average. Note: an observed overall timeout is different than the exchange timeout set by the publisher. Pachilakis et al., *supra* note 163 (showing that 600 milliseconds was an observed median timeout and 3,000 milliseconds was a common timeout that captured 90% of bid responses). Ultimately, publishers tested different millisecond settings, weighing their interests in readership and revenue to find an optimal balance for their own business. *See generally* Johnson, *supra* note 173; *Prebid.js FAQ*, PREBID (2020), <https://perma.cc/9AYE-BR5E> (summarizing that publishers should adjust speeds to fill inventory “at the highest CPMs without adding too much latency in the process”).

175. Johnson, *supra* note 173; *MonetizeMore Publisher Metrics August 2019*, MONETIZEMORE (2019), <https://perma.cc/V49A-2FAA>.

176. Vidakovic, *supra* note 83 (showing a screenshot of this transparency); *see also* Appendix B.

Google initially argued that header bidding disadvantaged websites because it was too slow.¹⁷⁷ But the advantages that the invention provided—transparency, control over latency restrictions, and the ability to route inventory to multiple exchanges simultaneously—led publishers to rapidly adopt it. In 2015, within months of its debut, header bidding was already the hot topic at industry conferences.¹⁷⁸ By 2016, approximately 70% of major U.S. publishers adopted it.¹⁷⁹ By early 2018, 80% of news publishers were on board.¹⁸⁰

The effects of unleashed competition reverberated quickly through the industry. More competition from exchanges and slower bidders

177. Levine, *supra* note 164 (discussing an AppNexus executive's rebuttal that header bidding decreased latency since 78% of header bidding transactions concluded within 200 milliseconds, whereas only 12% of sequential auctions did).

178. *Id.* ("Next to ad blocking, header bidding is one of the hottest topics among digital advertisers and website publishers."). This market development was widely viewed in the industry as presenting a viable mechanism to challenging Google's hold in the exchange and buying tool markets, as well as Google's ability to possibly extract wide intermediary spreads. *See generally* Ciaran O'Kane, *Why 2016 Was the Beginning of the End of the Current Ad Tech Cycle*, EXCHANGEWIRE (Dec. 23, 2016), <https://perma.cc/GPX7-EM6G> ("Header bidding was the ultimate assault on the ad server. It caught Google completely off guard. Its money pit – dynamic allocation – was being challenged through its own tech."); Sluis, *supra* note 169 (where an industry executive notes how fast Google took note of and responded to header bidding).

179. *See generally* Sluis, *supra* note 169; Wlosik, *supra* note 169 (discussing why header bidding became the new industry standard); *Header Bidding Gains Momentum, Drives Up Publisher Ad Revenue*, BUS. INSIDER (May 3, 2016), <https://perma.cc/YFF2-KBVJ> (executive with AppNexus sharing that nearly 70% of top publishers in the U.S. adopted header bidding); A. Guttman, *Share of Publishers Doing Header Bidding in the United States as of November 2017*, STATISTA (Oct. 1, 2017), <https://perma.cc/J5HY-8QDL> (showing 71.6% of publishers in the study in the U.S. adopted header bidding); *U.S. Websites that Use Header Bidding, by Category, Sep 2017-May 2018*, EMARKETER (2017), <https://perma.cc/KF2V-ZH8H> (showing that as of May 2018, 81% of news publishers in the US were using header bidding).

180. *U.S. Websites that Use Header Bidding*, *supra* note 179.

caused publishers' ad revenue to soar overnight, often by 40-70%.¹⁸¹ Ad prices on one entertainment and news media publisher increased by 50%.¹⁸² Another publisher reported a daily revenue increase of 40% within the first day of routing to multiple exchanges and an increase of 100% in the longer-term.¹⁸³ Other sites echoed revenue increases of over 100%.¹⁸⁴ What this all meant was that by suppressing competition from non-Google exchanges, Google had cost publishers real revenue, sometimes significant sums. This was no small development for publishers large and small reeling from the demise of print advertising and migrating to sophisticated electronic trading.

3. *Google AMP Speed Protocol Restricts Trading Through Non-Google Venues*

With stock trading, speed races have shifted from physical proximity, colocation, and re-wiring cables in a straight line, to the installation of

181. Levine, *supra* note 164 (executives from Index and PubMatic exchanges noting adoption of header bidding resulted in a 30-50% lift in CPM prices); Ricardo Bilton, *With Header Bidding, Publishers Are Boosting CPMs by as much as 50 Percent*, DIGIDAY (Nov. 12, 2015), <https://perma.cc/SZZ9-5TBM>.

182. PubMatic Staff, *How PubMatic's Header Bidding Technology Helped an Entertainment and News Media Company Increase CPMs By 50%*, PUBMATIC (Apr. 28, 2016), <https://perma.cc/343S-4JQ9> (stating that the adoption of header bidding caused entertainment and news publisher CPMs to increase on average by 50% and caused a daily revenue increase of 9-16X on Pubmatic's exchange).

183. Alex Groth, *Header Bidding Is a Game Changer for Smaller Publishers*, ADMONSTERS (Nov. 3, 2016), <https://perma.cc/JSF9-PMUJ> (noting that publisher and ad network Gladly states average daily revenue increased by 40% after the first day of routing to multiple exchanges at the same time and that average revenue in the long-term increased 100%).

184. *PulsePoint Enables Publishers to Bypass Waterfall Inefficiencies with Header Bidding: Average CPM Increases 147%*, BUS. WIRE (Apr. 21, 2016), <https://perma.cc/NU6A-QC5X> (announcing that the adoption of header bidding caused PulsePoint publisher CPMs to increase 147% on average).

new transatlantic cables and cross-country microwave networks.¹⁸⁵ In advertising, when Google could no longer preferentially route ad space to its own exchange, the tug-of-war pivoted increasingly to speed. Just as publishers and advertisers were adopting header bidding at a rapid pace to work around Google's restrictions related to routing, speed, and transparency, Google introduced a software development framework called Accelerated Mobile Pages (AMP).¹⁸⁶ At a simple level, AMP is a framework that websites can use to create fast-loading mobile web pages. In part by limiting the types of programming codes that can be used on a page, AMP pages load faster than they otherwise would.¹⁸⁷ However,

185. For an overview, see AQUILINA ET AL., *supra* note 24.

186. Google announced the AMP Project on October 7, 2015 and first launched it early 2016. Though AMP is open source (meaning, it is developed as a public collaboration), it is widely viewed as a Google initiative because Google employees spearheaded its development. As a result, the news media frequently refers to AMP simply as "Google's AMP." See, e.g., Sarah Sluis, *Google's Accelerated Mobile Pages Aim to Speed Content and Ad Load Times*, ADExCHANGER (Oct. 7, 2015), <https://perma.cc/HD8K-ZA79>; Mark Scott, *Google's Mobile Web Dominance Raises Competition Eyebrows*, POLITICO (June 1, 2018), <https://perma.cc/TF7S-QFYG>; Danny Crichton, *Answering Its Critics, Google Loosens Reins on AMP Project*, TECHCRUNCH (Sept. 18, 2018), <https://perma.cc/VLF7-RRMT>; *A Letter About Google AMP*, AMPLETTER.ORG (Jan. 9, 2018), <https://perma.cc/5XN5-3B5R>; Frederic Lardinois, *Google's AMP Project Expands Beyond News*, TECHCRUNCH (Aug. 2, 2016), <https://perma.cc/VLF7-RRMT>; Julia Greenberg, *Google's AMP Will Make the Mobile Internet Faster Early Next Year*, WIRED (Dec. 9, 2015), <https://perma.cc/4GMV-TR7Z>; Scott Gilberston, *How Google's AMP Project Speeds Up the Web—By Sandblasting HTML*, ARS TECHNICA (Nov. 3, 2015), <https://perma.cc/E8EE-FRGH>.

187. The speed at which web pages load is important for consumers and publishers and there are different ways that consumers and publishers can get pages to load faster. For instance, consumers might pay their internet service provider more for quicker download speeds or publishers can follow best practices in web design to optimize page load speeds. AMP pages load fast because they limit the use of JavaScript, only permit asynchronous JavaScript execution, and are cached. For further discussion of AMP and its restrictions, see *How AMP Works*, AMP.DEV (2020), <https://perma.cc/XBN7-4UU3>; *How AMP Pages Are Cached*, AMP.DEV (2020), <https://perma.cc/SAE8-9JKQ>.

there are caveats to Google's approach to speed with AMP. The AMP framework restricts the use of JavaScript, which is precisely the code that websites needed to use to make the client-side header bidding invention work.¹⁸⁸

Google framed AMP as something that maximizes consumer welfare: faster loading pages are better for consumers. But the question of whether faster-and-faster page speeds maximize consumer welfare is more complicated. If John is reading a news site and a page loads too slow, he might quickly switch to another site in the hopes of finding a similar article that loads faster.¹⁸⁹ The sites that keep up with John's preference for speed

188. Later, RTC wrappers were developed to permit publishers to route their ad space through header bidding. However, because these RTC wrappers impose tight restrictions on the number of entities that publishers can route to (a max of five vendor calls overall), only permit one vendor cookie-sync, and impose strict trading timeouts (of 1000 ms), the industry has continued to speak of AMP as being simply incompatible with client-side header bidding, which was founded on publishers being able to control both these things. *See AMP Real Time Config*, GITHUB (2020), <https://perma.cc/39PA-LQYK>; *Monetizing Your AMP Page with Ads*, AMP.DEV (2020), <https://perma.cc/4J9K-CEGP> ("In non-AMP pages (traditional HTML), if you want to display ads on your page, you'd include a snippet of JavaScript to serve ads from your ad network. For performance and security reasons, you cannot include third-party JavaScript in AMP pages. So, to display ads in AMP, you need to add the custom amp-ad component to your AMP page."); Geradin & Katsifis, *supra* note 158 (discussing AMP's incompatibility with traditional client-side header bidding). More recently, AMP has loosened restrictions around the use of JavaScript but remains incompatible with client-side header bidding in its original form. *amp-script: AMP [heart] JS*, AMP.DEV (2020), <https://perma.cc/FT93-UFS6>; *Amp-Script*, AMP.DEV (Aug. 21, 2019), <https://perma.cc/7RLC-NQSP> (acknowledging that the availability of JavaScript was "one of the most important requests from developers using AMP").

189. According to Google, pages that take longer than three seconds to load lose 53% of mobile visits. However, it is unclear whether this statistic excludes bot traffic. David Kirkpatrick, *Google: 53% of Mobile Users Abandon Sites That Take Over 3 Seconds to Load*, MARKETING DIVE (2020), <https://perma.cc/BSL5-6LMA>. *But see* Jake D. Brutlag et al., *User Preference and Search Engine Latency*, Joint Statistical Meeting Proceedings (2008) (demonstrating that user preference for faster search engines kicks in at or after the three second latency mark).

will have more ad space to sell, which is how page speed also correlates with publisher welfare.¹⁹⁰

However, publishers also face trade-offs when it comes to speed that ultimately impact consumer welfare. When AMP first launched, AMP pages loaded so fast, they sometimes loaded for users before sites could return ads at all.¹⁹¹ AMP pages were also incompatible with JavaScript, the code that publishers relied on to route their ad space to multiple exchanges with header bidding. If publishers make less revenue selling ad space, they have less to re-invest into the content that consumers want to consume. Thus, at a certain point, fast-loading pages come back to hurt consumer welfare.

Nevertheless, Google started to condition premium treatment on Google Search—a market where Google has 88% market share in the U.S.—on publishers' migration to AMP. For example, to have news articles displayed at the top of Google Search results, in the "News Carousel" that features news articles in a visual and swipe-able format, websites generally have to use AMP.¹⁹² Google Search also includes a lightning

190. Consumers now use their phones more than their computers and publishers receive approximately 60% of their traffic from mobile use. Mason Walker, *Americans Favor Mobile Devices Over Desktops and Laptops for Getting News*, PEW RSCH. CTR. (Nov. 19, 2019), <https://perma.cc/67NV-4LB3> (Pew Research survey showing roughly 6 in 10 US adults access news from a mobile device); Sluis, *supra* note 186 ("The Washington Post, for one, said its audience is 60% mobile, roughly average for most publishers."); BRIGHTEDGE 2018 MID-YEAR MOBILE RESEARCH ROUNDUP, BRIGHTEDGE RSCH. (2020), <https://perma.cc/TPR8-SKV5> ("62% of traffic in a large sample coming from mobile and tablet search.")

191. Garrett Sloane, *Publishers Find Google's Amp Speeds Up Pages, But Ads Are Still Slow*, DIGIDAY (Apr. 21, 2016), <https://perma.cc/WEU4-PK25>; see also Sarah Sluis, *With Ads in Place, Google Takes Training Wheels Off of AMP*, ADEXCHANGER (Feb. 18, 2016), <https://perma.cc/DY36-MWJG> ("Faster-loading pages may lead to a rise in page views. But AMP doesn't support more complex, higher-paying ads, like interstitials, which could dampen yield.").

192. *Search Engine Market Share United States of America*, *supra* note 111; Barry Schwartz, *Google Reserves News Carousel for AMP Pages Only*, SEARCH

bolt icon next to AMP pages in the search results, signaling to users that those pages load fast.¹⁹³ To participate in the News Carousel, or have a lightning bolt, a publisher has to use AMP and forgo the implementation of header bidding using JavaScript.

With these developments, the advertising technology companies like PreBid and Rubicon Project that developed the original header bidding inventions started to build a modified version that complied with Google AMP JavaScript restrictions and improved on the original version's latency challenges.¹⁹⁴ To speed things up and work around AMP JavaScript constraints, these vendors moved auctions back to third-party *servers*, which is commonly called "server-side" header bidding.

It was around this time, in April of 2016, that Google's ad server re-lented and started letting some publishers route their ad space to multiple exchanges at the same time.¹⁹⁵ Google encouraged publishers to start

ENGINE ROUNDTABLE (Mar. 2, 2016), <https://perma.cc/CM5G-KBMB> (reporting that Google announced that News Carousel is only open to publishers using AMP); Google Developers, *Structured Data: Article*, GOOGLE, (Feb. 7, 2020), <https://perma.cc/62LS-SLBP> (stating Google has since opened up the News Carousel to non-AMP pages but only when other pages in the News Carousel are not AMP pages); Greg Sterling, *Google Adding More News Content to 'Top Stories' in Search Results*, SEARCH ENGINE LAND (Dec. 11, 2019), <https://perma.cc/QH8X-XUNS> (noting that all top pages in the News Carousel "appear to be AMP formatted"). But see *Evaluating Page Experience for a Better Web*, OFF. GOOGLE WEBMASTER CENT. BLOG (2020), <https://perma.cc/6WGT-9QV3> (announcing that Google will soon no longer require a site to use AMP to be included at the top of Google Search mobile stories).

193. Lucia Moses, *The Guardian Is Getting 60 Percent of Its Google Mobile Traffic from AMP*, DIGIDAY (Mar. 8, 2017), <https://perma.cc/2Vfy-5CY6> (stating that users increasingly recognized that the lightning bolt meant that pages would load instantly).

194. See generally *Server Side Header Bidding Explained*, AD OPS INSIDER (Jan. 25, 2017), <https://perma.cc/S99F-R4EQ>; Sarah Sluis, *Header Bidding Goes Server-Side: 6 Things You Should Know*, AD EXCHANGER (Jan. 11, 2017), <https://perma.cc/73BS-GFB7>.

195. Google piloted the capability on April 13, 2016, beta launched it on

routing their ad space to exchanges synchronously directly from their Google ad server. Implicitly acknowledging how its legacy routing restrictions had harmed market participants, Google now encouraged publishers to route their space to multiple exchanges to augment advertising revenues by as much as 40%.¹⁹⁶

However, the server-side versions of header bidding re-introduce information and speed asymmetries between bidders, which can dampen competition. Specifically, they impose tighter latency restrictions and re-

June 8, 2017, and officially launched it on April 4, 2018. Google initially called the feature Exchange Bidding but renamed it in August 2019 to Open Bidding. See Jonathan Bellack, *Improving Yield, Speed and Control with DoubleClick for Publishers First Look and Exchange Bidding*, GOOGLE (Apr. 13, 2016), <https://perma.cc/LMU4-ENCQ>; Sam Cox, *Announcing Exchange Bidding Open Beta*, GOOGLE AD MANAGER BLOG (June 8, 2017), <https://perma.cc/NE43-E723>; Ronan Shields, *Google Announces Full Rollout of Exchange Bidding to Counter Header Bidding Rise*, DRUM (Apr. 4, 2018), <https://perma.cc/G7NW-7FZZ>; Authorized Buyers Help, *Publisher Inventory Transitioning to a Unified First-price Auction*, GOOGLE (2020), <https://perma.cc/2LRT-R2B3> (announcing renaming to Open Bidding).

196. Shields, *supra* note 195 (“The rollout has taken place a little under a year since Google first launched Exchange Bidding in open beta (after an earlier 12 month private pilot scheme) with the online behemoth claiming that trials had seen earlier participants bolster programmatic revenues by as much as 40%.”); Minda Smiley, *OpenX Says Google’s Exchange Bidding Has Led to 48% Revenue Lift for Publishers*, DRUM (Feb. 15, 2018), <https://perma.cc/LRM9-NJAM>; see also Jessica Davies, *Why El Pais Owner Prisa Is Shifting from Header Bidding to Server-side Bidding in 9 Markets*, DIGIDAY (Sept. 22, 2017), <https://perma.cc/P52D-34HW> (Spanish publisher Prisa shares that “Google’s server-side option, exchange bidding in dynamic allocation . . . has seen decent yield lifts compared to what Google’s ad exchange is generating”). From an antitrust perspective, given Google’s own evidence of empirical price increases, it is difficult to estimate how Google might justify its historical conduct by pointing to the conduct’s beneficial effects. For the burden that antitrust defendants face under such scenarios, see C. Scott Hemphill, *Less Restrictive Alternatives in Antitrust Law*, 116 COLUM. L. REV. 927 (2016).

sult in higher cookie syncing loss rates, resulting in more bidders not being able to identify users loading pages.¹⁹⁷ Meaning, more bidders may bid less for ad space and be excluded altogether due to latency.

Today, when publishers route their inventory to non-Google exchanges *from* their Google ad server, these problems persist. When it comes to speed, Google's ad server gives exchanges a 160 millisecond timeout, which some people in the industry have noted is too little time for non-Google exchanges to conclude their own auctions and return a bid to Google's server.¹⁹⁸ Increased information asymmetry between Google and non-Google bidders exacerbates this problem. The non-Google intermediaries can deduce the identity of users associated with ad space even less often than they could before, further depressing their ability to compete against DV360 and Google Ads on equal footing.¹⁹⁹

197. See Lynne Johnson, *Client-Side vs. Server-Side? It's a Draw*, ADMONSTERS (July 23, 2019), <https://perma.cc/89KA-STR7> (reporting on server-side header bidding's approach to speed and challenges with cookie matching). Server-side auctions are also not transparent, because auctions occur inside of a company's servers, rather than within users' browsers.

198. Kean Graham, *Google's Plans May Not Eliminate Header Bidding*, ADEXCHANGER (July 1, 2016), <https://perma.cc/9AB2-U3JM> (where an executive of an advertising consultancy notes that "DoubleClick Ad Exchange will also have a major advantage because of tiny timeouts for third-party ad networks, making it more difficult for them to submit winning bids in time"). *But see* Google Ad Manager, *supra* note 45 (stating that 160 millisecond timeouts in Google's server-to-server solution decreases bid exclusion).

199. With client-side header bidding, an exchange (such as Index's exchange) retrieves the ID of the user loading a page by reading the user's ID contained in the exchange's cookies on the user's browser. With Google's multiple-exchange bidding approach, competing exchanges cannot directly access the user IDs contained on users' browsers, and must conduct an additional cookie-sync with Google, which increases loss rates. As the firm intermediating this process, Google does not face the same disadvantage. *See generally* APPNEXUS, *HEADER BIDDING: THE NEXT EVOLUTION* 10 (2017), <https://perma.cc/9H9T-PEXU> ("The reason [server-side header bidding] lowers cookie match rates is that in client-side header bidding, the header makes ad calls from the browser, where cookies are stored, directly to programmatic demand partners. But in [server-

Google's approach to multiple-exchange bidding restricts competition between non-Google exchanges and buying tools in more brazen ways too. For example, when publishers choose to route their ad space from their Google ad server to multiple exchanges at the same time, Google's ad server requires them to route their space through Google's trading venue and charges an additional intermediary fee for transacting through a non-Google exchange, which is an additional 5-10% of the winning buyer's bid.²⁰⁰ The fee would be on top of the 10-20% fee that market

side], the auction takes place away from the browser inside a third-party server, and relies on user syncing between the third-party server and the various demand partners. As a result, it's tougher for advertisers and publishers to sync on user identity."'). In addition, if the page the user is loading is a Google AMP page, Google may be able to obtain additional information advantages about the user and the content. See Scott, *supra* note 186 ("Other publishers gripe that AMP gives Google access to coveted user data because almost all of AMP traffic currently runs through the company's own servers.").

200. To be clear, Google's ad server permits publishers to not do business with Google's exchange if they forgo routing their space to multiple exchanges at the same time through Open Bidding. See Google Ad Manager, *supra* note 45 ("With Open Bidding, you can invite trusted third-party exchanges to compete together in real-time alongside Ad Exchange in Dynamic Allocation."); Google Ad Manager Help, *Create and Manage Yield Groups*, GOOGLE (2020), <https://perma.cc/7Q7Z-K3LN> ("Yield groups always include Ad Exchange, and you can also add third-party exchanges and ad networks."); Sarah Sluis, 3 *Auctions Rule Digital Advertising. Here's a Guide to Navigating Them*, ADEXCHANGER (Nov. 20, 2019), <https://perma.cc/H3HW-AYWV> ("Google open bidding charges the highest fee, a 5% fee for display and outstream inventory and a 10% fee for video and app. That charge is on top of the exchange fee. So an exchange would take its cut from the buyer's bid, then Google would take its fee."); George Slefo, *Google's Answer to Header Bidding Runs into Headwinds*, ADAGE (July 13, 2017), <https://perma.cc/9MN8-KUPL> (confirming the same). In other words, if a buyer and seller go through Google's ad server to route and clear ad space in the Index exchange, they must pay a fee to Index (e.g., 7% of \$1,000) and an additional fee to Google for using Index and not Google's exchange (e.g., an additional 10%, which would further reduce the publisher's share to \$837). When websites use client-side header bidding to route their ad space to non-Google exchanges, publishers and advertisers have no such additional intermediary fee to absorb. See

participants already pay to exchanges.²⁰¹ By raising rivals' costs, Google dissuades buyers and sellers from routing trades through non-Google venues.²⁰² In addition, Google's ad server depresses competition through a price parity rule called "Unified Pricing" that it introduced in 2019.²⁰³ With Unified Pricing, Google's ad server started to prohibit publishers from routing their ad space to different intermediary buying tools and

Sluis, *3 Auctions Rule*, *supra* note 200 (confirming that the client-side header bidding vendor "Prebid doesn't charge fees because it's an open-source solution.").

201. Sarah Sluis, *Explainer: More on the Widespread Fee Practice Behind the Guardian's Lawsuit vs. Rubicon Project*, ADExCHANGER (Mar. 30, 2017), <https://perma.cc/5TFE-5L6A> (stating that exchanges usually charge publishers 10-20% of ads' clearing prices); Sluis, *supra* note 200 (noting that exchanges take their cut from the buyer's bid); Sarah Sluis, *Rubicon Got Rid of Its Buy-Side Fees – But Who Else Is Charging Them?*, ADExCHANGER (Nov. 8, 2017), <https://perma.cc/C7YF-37AB> (reporting that, according to a Google spokesperson, publishers pay Google's exchange a transparent revenue share that varies); Shailin Dhar, *Ad-Tech Tax – What Bracket Are You In?*, MEDIUM (Apr. 7, 2016), <https://perma.cc/LWF9-J8ED> (explaining generally how ad fees work).

202. From an antitrust perspective, this can be thought of as a mechanism to raise rivals' costs. For a discussion of this conduct and consideration under antitrust law, see Steven C. Salop & David T. Scheffman, *Raising Rivals' Costs*, 73 AM. ECON. REV. 267 (1983).

203. Sarah Sluis, *Google Switches to First-Price Auction*, ADExCHANGER (Mar. 6, 2019), <https://perma.cc/8PT9-VDY7> (discussing Google plans to launch a unified pricing tool); Sluis, *supra* note 104 (discussing the beta launch of unified pricing restrictions). There are additional ways that Google's ad server restricts competition. For example, Google's ad server shares superior information about publishers' auctions and pricing with competing exchanges that integrate through Google's ad server's Open Bidding feature. Google easily could pass the same information to header bidding auction vendors through an API, for example, but chooses not to. Google markets this information advantage as a reason to forgo header bidding and integrate through Open Bidding. Bigler, *supra* note 135 ("For Authorized Buyers and Open Bidders (formerly known as Exchange Bidding buyers), we'll provide additional information post-auction to help inform your bidding strategies. Buyers will receive the minimum bid price to win after the auction closes. This feedback will help you understand when to bid higher to win valuable inventory.").

through different exchanges at different price floors.²⁰⁴ The change bans publishers from routing their ad space to, for example, Google Ads, at a price floor of a \$10 CPM, while routing the same space to The Trade Desk at a price floor of a \$9 CPM.

Historically, many publishers set higher price floors for Google Ads because of the information advantages that Google reserves for Google Ads, which were discussed in Part III.A. “Many set Google AdWords at a higher floor price, since its demand often bids very low due to its superior data,” explained industry publication AdExchanger.²⁰⁵ Setting lower price floors for the non-Google intermediaries was how publishers could manufacture competition from bidders with information disadvantages.

Publishers’ practice of setting higher price floors for the party with information advantages—Google—was rational and output enhancing. For example, in discussing insider trading and information advantages, the late professor and legal scholar Victor Brudney explained: “A rational buyer (or seller) in a market, who knows that the person with whom he is dealing has material information about the value of the product being exchanged which he could not lawfully acquire, will either refrain from dealing with that transactor or demand a risk premium.”²⁰⁶ In other

204. Specifically, publishers can set price floors by advertiser and brand, but not by “buyer,” which means not by buying tool such as Google DV360 or Google Ads. This effectively operates as a price restraint on exchanges too. See Google Ad Manager Help, *supra* note 104 (“Advertiser- and brand-specific floor prices can be configured in unified pricing rules. However, per-buyer floor prices are not available.”). Interestingly, Google justifies Unified Pricing rules by arguing that unified price floors serve publisher interests. See Bitton & Lewis, *supra* note 15, at 21.

205. Sluis, *supra* note 104 (“First, publishers often set different floor prices for different platforms. Many set Google AdWords at a higher floor price, since its demand often bids very low due to its superior data. Under the new rules, publishers can’t set rules at a platform level, which Google calls the ‘buyer’ level.”).

206. See Brudney, *supra* note 60, at 356 (“If the market is thought to be systematically populated with such transactors some investors will refrain from

words, if parties cannot demand rational risk premiums when dealing with counterparties with information advantages, they can refrain from dealing altogether. Google's Unified Pricing rules prohibit sellers from asking for such risk premiums and, in the short term, let DV360 and Google Ads buy ad space at the lower floors publishers historically set for rivals, or alternatively, exclude rival bidders through the higher price floors publishers historically set for Google.

From an antitrust and competition policy perspective, Google's approach with Unified Pricing is against the grain of the trend. More and more, these types of price parity provisions have been challenged from a policy and antitrust perspective.²⁰⁷ E-commerce retailer Amazon dropped similar provisions after they came under scrutiny in the U.S. and

dealing altogether, and others will incur costs to avoid dealing with such transactors or corruptly to overcome their unerodable informational advantages. None of those responses is socially useful. All raise the cost of capital. And some are simply unlawful attempts to obtain information corruptly from those who are forbidden from disclosing it.”).

207. See Jonathan Baker & Fiona Scott Morton, *Antitrust Enforcement Against Platform MFNs*, 127 YALE L. J. 2176 (2018); Andre Boik & Kenneth S. Corts, *The Effects of Platform Most-Favored-Nation Clauses on Competition and Entry*, 59 J.L. & ECON. 105 (2016); Ariel Ezrachi, *The Competitive Effects of Parity Clauses on Online Commerce*, 11 EUR. COMPETITION J. 488 (2016); Letter from Sen. Richard Blumenthal to Assistant Att’y Gen. Makan Delrahim (Dec. 19, 2018), <https://perma.cc/NY2C-4PBR> (urging the Department of Justice to investigate the anticompetitive effects of the price parity provisions in Amazon’s contracts with third parties); Joe Palazzolo, *Apple Ruling Heaps Doubt on ‘MFN’ Clauses*, WALL ST. J. (July 14, 2013), <https://perma.cc/4U9Y-LZVA>.

globally.²⁰⁸ The Department of Justice (DOJ) and U.S. courts also disfavored similar price restrictions imposed by the electronic marketplaces for airfare tickets.²⁰⁹

208. Amazon, the largest e-commerce retailer in the U.S. and globally, nixed its price parity clauses after increased scrutiny by scholars and others. See Catherine Shu, *Amazon Reportedly Nixes Its Price Parity Requirement for Third-Party Sellers in the U.S.*, TECHCRUNCH (Mar. 11, 2019), <https://perma.cc/PWE9-SHFX> (reporting that Amazon is dropping its price parity provisions with third-party sellers); *Amazon to Alter Pricing Policy for Traders*, BBC NEWS (Aug. 29, 2013), <https://perma.cc/F3XK-74GZ> (reporting that Amazon dropped similar price parity provisions in Europe after investigations by the Office of Fair Trading in the UK and the Federal Cartel Office in Germany).

209. The DOJ and DOT thought such clauses restricted competition between marketplaces, acted as a barrier for new entrants, resulted in effects similar to tying, and ultimately harmed the airlines and consumers. See Computer Reservations Systems (CRS) Regulations, Statements of General Policy, 67 Fed. Reg. 69365 (Nov. 15, 2002) (codified at 14 C.F.R. 255) (“We based our prohibition of the enforcement of the systems’ parity clauses on findings that those contract provisions had the harmful effects of tying provisions—they limited competition between the systems, and they increased the prices paid by the systems’ customers.”); Computer Reservations Systems (CRS) Regulations 69 Fed. Reg. 999 (January 7, 2004) (codified at 14 C.F.R. 255) [hereinafter, “CRS Regulations”] (Section E discussing the history and reasoning behind the most-favored-nation clauses prohibition); *Am. Airlines, Inc. v. Travelport Ltd.*, No. 4:11-CV-244-Y, 2011 U.S. Dist. LEXIS 166373 (N.D. Tex. Nov. 21, 2011) (summarizing how regulation historically and until 2004 prohibited the airfare marketplaces from imposing MFN provisions in their contracts and how the DOT and DOJ were concerned the provisions foreclosed competition between distribution channels). When the DOT issued its final deregulation order, it warned that “clauses requiring participating airlines to provide all fares as a condition to participation may similarly constitute unfair methods of competition because they unreasonably limit each airline’s ability to choose how to market its services.” CRS Regulations. The Second Circuit recently considered a similar restraint by a leading airfare marketplace in *U.S. Airways v. Sabre*. *U.S. Airways v. Sabre Holdings*, 938 F.3d 43 (2d Cir. 2019). In that case, U.S. Airways challenged the fact that Sabre, the leading GDS in the U.S. with 50% market share, had a provision in its contract (called “No Discounts”) that prohibited the airline from routing lower priced tickets into com-

Google's approach is also in direct conflict with the policy approach that lawmakers take with electronic trading in the equities market. There, intermediaries (e.g., brokers) must act in their customers' best interest.²¹⁰ Brokers cannot preferentially route order flow to their owned and operated exchange unless doing so best serves the client's interest (e.g. best price).²¹¹ Because Google's trading intermediaries could negotiate out of the duties they owe to publishers and advertisers and no equivalent trading rule exists, Google can adopt a price parity rule that ultimately harms buyers and sellers.

4. *Google Search "Speed Update" Further Restricts Trading Through Non-Google Venues*

Google soon gave publishers a second reason to adopt AMP and forgo header bidding. In 2018, Google Search released a "Speed Update" and started to rank mobile pages according to how fast they load.²¹² Specifically, Search started to push pages that were "slow" down in users'

peting marketplaces. Another provision called "No Better Benefits" required airlines to provide all available inventory to Sabre's GDS. The district court ruled that Sabre's restrictions were illegal vertical restraints that violated Section 1 of the Sherman Act. However, the Second Circuit reversed and remanded the case in light of the Supreme Court's recent holding in *Ohio v. Amex*, 138 S. Ct. 2274, (2018), which rendered the district court's jury instructions around market definition erroneous.

210. See discussion in *supra* note 54.

211. *Id.*

212. Zhiheng Wang & Doantam Phan, *Using Page Speed in Mobile Search Ranking*, GOOGLE WEBMASTER CENTRAL BLOG (Jan. 17, 2018), <https://perma.cc/F972-ZDJV> (announcing full roll-out of "Speed Update"); Addy Osmani & Ilya Grigorik, *Speed Is Now a Landing Page Factor for Google Search and Ads*, GOOGLE (Sept. 23, 2019), <https://perma.cc/7AQT-QJ6H>. Note, Google started using speed as a ranking factor for desktop pages in 2010, but "relevance" for those pages remained the "primary" ranking signal. Additionally, on May 28, 2020, Google announced upcoming changes to how it ranks Search pages. With these changes, Google will start to consider a page's "Core Web Vitals," which

search results. Rather than providing websites with an objective speed requirement or tools to determine speed compliance,²¹³ Google steered websites to a speed compliant solution: “if you’re looking for a fast-by-default framework for your pages, take a look at AMP.”²¹⁴ Publishers that did not want to lose their Google Search traffic—which for news publishers can account for 40-50% of incoming traffic—had to comply with this Speed Update.²¹⁵

For its part, Google maintains that it does not have an AMP requirement, only a speed requirement.²¹⁶ But many publishers have complained

includes speed and other factors, and, will no longer require a site to use AMP to be included at the top of Google Search mobile stories. Sowmya Subramanian, *Evaluating Page Experience for a Better Web*, WEBMASTER CENTRAL BLOG (May 28, 2020), <https://perma.cc/XMF5-ATFH>.

213. See Osmani & Grigorik, *supra* note 212; Wang & Phan, *supra* note 212 (where Google acknowledges “there is no tool that directly indicates whether a page is affected by this new ranking factor”). Although Google does not provide a direct tool for publishers to determine speed compliance, Google does offer tools such as the Lighthouse Report, the Speed Scorecard and Impact Calculator, the Chrome User Experience Report, and PageSpeed Insights tool to generally advise about speed performance. See Mark McGonigle, *Slow Down and Think About Google’s Speed Update*, DRUM (July 30, 2018), <https://perma.cc/YU89-6KJM>. See also *A Letter about Google AMP*, *supra* note 186 (where more than 600 signees pen an open letter to Google urging the company to adopt a neutral, objective speed criterion).

214. Osmani & Grigorik, *supra* note 212.

215. Lucia Moses, *How Google Is Using Its Search Clout to Steer Publishers to Use AMP*, DIGIDAY (Feb. 15, 2018), <https://perma.cc/67MB-EJWL> (stating that Google makes up about 40% of Chartbeat publishers’ referral traffic); Kelsey Arndt, *Publishers, This Is Where Your Traffic Is Going to Come from in 2019*, WHAT’S NEW IN PUBLISHING (Feb. 12, 2019), <https://perma.cc/3PFS-4MXE> (stating that Parse.ly powered sites received over 50% of their external traffic from Google Search in 2018). For a discussion on the correlation between publisher AMP use and traffic loss, see Scott, *supra* note 186.

216. *Understand How Amp Looks in Search Results*, GOOGLE SEARCH (July 14, 2020), <https://perma.cc/4GAL-6FTR> (“While AMP itself isn’t a ranking factor, speed is a ranking factor for Google Search. Google Search applies the same standard to all pages, regardless of the technology used to build the page.”).

that the only way to comply with the Speed Update is by using AMP, leading many to effectively equate the Speed Update with an AMP requirement, despite Google's claims to the contrary.²¹⁷ Overall, AMP guarantees publishers higher positions in Google Search, so they feel compelled to use it given the correlation between the number of visitors that Search directs to their website and the quantity of ad space they have to sell.²¹⁸ Reflecting on this catch-22, industry publication *Digiday* noted: "[i]n theory, adoption of AMP is voluntary. In reality, publishers that do not want to see their search traffic evaporate have little choice."²¹⁹

Google's particular approach with AMP and speed may explain why AMP pages would indeed load fastest for Google. In addition to limiting the deployment of JavaScript code on webpages, Google stores AMP pages on Google's servers.²²⁰ In other words, AMP pages are *colocated*

217. Over a half dozen prominent U.S. and European publishers shared this sentiment with *Politico*. Scott, *supra* note 186 (where Barry Adams from media market consultancy Polemic Digital shared that their publisher clients see a 200-300% lift when using AMP and that "[p]ublishers are held hostage by Google," and where some publishers also shared that their pages are penalized in Google Search results if they do not use AMP); *A Letter About Google AMP*, *supra* note 186 (open letter to Google by 600+ signees complaining about Google Search's preferential treatment of AMP pages).

218. Scott, *supra* note 186.

219. Moses, *supra* note 215. See also Ross Benes, *Publishers Find Google AMP Loads Too Fast for Ad Views*, DIGIDAY (Oct. 9, 2017), <https://perma.cc/U6Y6-7DK8> (industry executive stating that "[t]he whole reason that publishers are considering AMP is that Google gives AMP pages prioritization in search," and "[o]ne person's page speed is another person's monetization problem"). But see also Gabe Bender, *Ads and AMP: Year in Review and Looking Ahead*, AMP (Feb. 14, 2018), <https://perma.cc/LZG2-GU56> (stating that publishers have tripled the amount of money they're making from AMP pages in the past year and sped up the load time of ads).

220. Scott, *supra* note 186 ("The technology allows publishers' mobile sites to be stored in Google's own servers and preloaded on individuals' smartphones, significantly reducing lag time when people are surfing the mobile web on patchy cellphone networks."); *A Letter about Google AMP*, *supra* note 186 ("Search

with Google. Colocation makes it physically impossible for another speed framework to match Google's AMP speeds.

With the Google Search Speed Update pigeonholing websites into further adopting AMP, attention increasingly turned to AMP repercussions on page monetization. Some publishers that adopted AMP reported they either did not make more money per page or made significantly less.²²¹ Google responded by releasing data rebutting these concerns. It pointed to internal data showing that AMP pages were generating three times more revenue per day.²²² However, what some people might not have noticed was that this was not three times more revenue overall. Rather, it was three times more revenue only from Google's proprietary exchange and buying tools, which are also *colocated* with Google.

engines are in a powerful position to wield influence to solve this problem. However, Google has chosen to create a premium position at the top of their search results (for articles) and a "lightning" icon (for all types of content), which are only accessible to publishers that use a Google-controlled technology, served by Google from their infrastructure, on a Google URL, and placed within a Google controlled user experience."); Martin Schierle, *Measuring AMP Performance*, AMP (Jan. 17, 2018), <https://perma.cc/NQB2-VHCK> (study concluding that sites delivered from AMP's cache deliver fastest).

221. Greg Sterling, *Report: AMP Causing Monetization Frustration Among Some News Publishers*, SEARCH ENGINE LAND (Oct. 28, 2016), <https://perma.cc/4ZRL-JSUH> (reporting some publishers experience a 50% decrease in revenue per page with mobile AMP pages); Johnson, *supra* note 197 (stating that server side auctions result in less revenue per thousand impressions); Jack Marshall, *Google AMP Gets Mixed Reviews from Publishers*, WALL ST. J. (Oct. 28, 2016), <https://perma.cc/5QW9-GEF7> (*The Washington Post* reporting it generates the same revenue from AMP mobile pages as from non-AMP mobile pages; CNN reporting it also monetizes AMP and non-AMP pages at the same rate; multiple publishers reporting that AMP pages monetize at half the rate of non-AMP pages). *But see* Sluis, *supra* note 194 (stating that server-side auctions result in higher bid density and higher yield).

222. *Ads and Amp*, *supra* note 219 (citing Internal Data, GOOGLE, Feb. 2018) ("In the past year alone, we've seen publishers on AMP reach several milestones: they're generating up to \$6 million per week from ads using Google AdSense and Doubleclick Ad Exchange, earning 3X more revenue per day, and leveraging over 100 ad tech platforms supporting the open source AMP Project.").

More and more, the competition narratives in the ad market echo those happening in parallel in the electronically traded market for equities. Take, for example, the NYSE's recent installation of new microwave antennas on the rooftop of its data center, which increase transmission speeds between traders and the NYSE by two-millionths of a second.²²³ The NYSE had announced plans in 2019 to give its affiliated network provider SFTI exclusive access to this faster speed lane, thereby requiring financial traders that do not want to be excluded due to latency to go through SFTI.²²⁴ The NYSE plans prompted complaints from financial traders, alleging that requiring traders to go through SFTI, and SFTI only, to access a particular speed would be anticompetitive and a violation of U.S. antitrust laws.²²⁵

Another thing to note about the evolution of the securities market is how some stock exchanges have started installing "speed bumps" to intentionally slow down trading, to neutralize speed races. It was Wall

223. Alexander Osipovich, *NYSE Antennas Spark High-Speed Trader Backlash*, WALL ST. J. (Aug. 8, 2019), <https://perma.cc/FAK8-XCT5>.

224. *Id.*

225. See e.g., Letter from Thomas M. Merritt, Deputy Gen. Couns., Virtu Financial, to Brett Redfearn, Dir., Div. Trading and Mkts., SEC (June 25, 2019), <https://perma.cc/BN6G-EEBY> ("In the same manner that the NYSE would never have been permitted to sell positions on the floor of the exchange on Wall Street within earshot of the specialists to the detriment of the rest of the members for a premium price so too should it be impermissible for the NYSE to do the same with rooftop access to the new exchange 'floor.'"); Sabri Ben-Achour, *Why Are the NYSE and Private Companies Fighting over Two-Millionths of a Second?*, MARKETPLACE (Oct. 7, 2019), <https://perma.cc/6DDZ-2VKD>; Self-Regulatory Organizations; New York Stock Exch. LLC, Nyse Am. LLC, Nyse Arca, Inc., Nyse Chicago, Inc., & Nyse Nat'l, Inc.; Notice of Filings of Partial Amendment No. 3 & Order Granting Accelerated Approval to Proposed Rule Changes, Each As Modified by Partial Amendment No. 3, to Establish A Wireless Fee Schedule Setting Forth Available Wireless Bandwidth Connections & Wireless Mkt. Data Connections, <https://perma.cc/3XHN-3ZVM> announcing SEC approval of NYSE plans on the condition that the NYSE would not have a speed advantage over wireless data providers). Note, NASDAQ provides clients with access to faster data (the FGPA offering) for a cost of \$25,000 per month.

Street veteran Brad Kutsayama who spearheaded such bumps on the public stock exchange IEX, which the SEC approved in 2016.²²⁶ Some academic studies have suggested that slowing things down improves market efficiency. For example, one study by an SEC economist studied how slowing things down can decrease trading costs for individual investors.²²⁷ Another paper released in January of 2020 by the U.K. financial regulator, the Financial Conduct Authority, concluded that eliminating the ultra-fast trading strategies used by high-frequency traders could save investors \$4.8 billion per year.²²⁸ In advertising, however, speed narratives are beholden to Google's power in the search market.

C. Inside Information Abuses

1. *Google's Ad Server Shares Information About Competitors' Trading Activity with Google's Exchange and Buying Tools, Permitting Them to Trade Ahead of Orders*

With AMP and the Search Speed Update, Google's stated priority is how fast webpages load for consumers. But when websites route their ad space to exchanges through header bidding rather than through Google's sell-side, the only way that a website can route its inventory to Google's

226. Dave Michaels, *IEX Gains SEC Approval for New Stock Exchange*, WALL ST. J. (June 17, 2016), <https://perma.cc/TNT9-XQ4A> (announcing SEC approval of the IEX national stock exchange that slows down trading by 350 millionths of a second).

227. Edwin Hu, *Intentional Access Delays, Market Quality, and Price Discovery: Evidence from IEX Becoming an Exchange*, (Div. Econ. & Risk Analysis Working Paper Series, 2018) (finding that trading delays on securities exchanges reduced trading costs for consumers for some stocks).

228. AQUILINA ET AL., *supra* note 24; *see also* Jonathan Macey & Maureen O'Hara, *Regulating Exchanges and Alternative Trading Systems: A Law and Economics Perspective*, 28 J. LEGAL STUD. 17 (1999) (discussing fair competition and how unequal access to data can weaken information efficiencies and lead to larger intermediary spreads and noting that vertical economies of scale may provide a counterbalance to these arguments).

exchange is by *sequentially* routing it to Google's exchange *after* the space has cleared in another in header bidding.²²⁹ The sequence is necessary because Google's trading venue refuses to return bids through header bidding.²³⁰ The two-step setup ultimately adds latency to consumer page loads, reserving the benefits of speed to those that stay within Google's Walled Garden.

For many years, the two-step setup and latency provided Google with a competitive advantage: it permitted Google to use information about the trading activity of rival exchanges to inform its own trading activity in the market.²³¹ If a publisher like *The Register* routed its ad space through header bidding, the winning bid belonging to the non-Google exchange was passed into the publisher's ad server—usually, Google's. From 2015 through 2019, Google's ad server then passed information

229. See, e.g., *What is Prebid.js?*, PREBID (2020), <https://perma.cc/4DEY-VZJ6> (explaining how PreBid auctions occur before publishers' ad server is called and stating that the ad server starts after header bidding concludes). When publishers do sequentially route to Google's ad server (Google Ad Manager, or GAM), they can then route the impression either to Google's exchange (or a non-Google exchange "line item" that the publisher has set up in their ad server) or to Google's multiple-exchange solution Open Bidding. See *How Open Bidding Works*, GOOGLE AD MANAGER HELP (2020), <https://perma.cc/FEU7-AZTW>. Note, this sequence also occurs when a publisher uses a server-side header bidding vendor such as PreBid or Amazon's Transparent Ad Marketplace (TAM).

230. Sluis, *supra* note 200 ("The Google exchange formerly known as AdX doesn't participate in Prebid or TAM, leaving a gap which prevents publishers from shifting their entire auction to the header.").

231. Specifically, this occurred as part of Google's "Dynamic Allocation" setup and may have ended with Google's unified pricing changes introduced in the fall of 2019. People in the industry routinely discussed this Google information advantage. See Garrett Sloane, *WTF is Dynamic Allocation?*, DIGIDAY (Apr. 14, 2016), <https://perma.cc/LWM2-F2ZZ> (where chief revenue officer of media publisher states "Google had an informational advantage to buying the best impressions, and the informational advantage came from the fact that they own the ad server").

about that winning bid (e.g., \$10.48) to Google's exchange.²³² Google's exchange then passed that the bid to its own bidders, including the largest bidder by trading volume, Google Ads.²³³ At the end of that circuitous information sharing, Google's ad server permitted Google Ads, DV360, or another bidder in Google's exchange to trade ahead of rivals' orders by paying one penny more.²³⁴

In the equities market, the intermediary broker dealers that trade on behalf of third parties, as well as on behalf of themselves, and even run a trading venue, must manage conflicts of interest and use ethical walls to prevent sensitive trading data from flowing from one business division to another. When a broker uses information about a customer's trading activity to race in front of orders and trade for its own benefit, it is called front running or trading ahead and is prohibited (and even criminal).²³⁵ In the unregulated online advertising market in Silicon Valley, a world

232. *Id.*

233. Specifically, the bid from header bidding became the reserve price (i.e., the floor price) that a bidder in Google's exchange could displace. *See generally* Sarah Sluis, *Google's First-Price Auction Switch Is Making Header Bidding Partners Win More*, ADExCHANGER (Sept. 5, 2019), <https://perma.cc/57UF-WVMW> ("In the previous second-price auction model, Google reserved a 'last look' advantage that allowed it to bid last after everyone had already submitted their bids. It could win impressions for a penny more than the highest bidder, allowing it to cherry-pick valuable users and clear more impressions than its competitors.").

234. *Id.*

235. *See* RENA MILLER & GARY SHORTER, CONG. RSCH. SERV., R44443, HIGH FREQUENCY TRADING: OVERVIEW OF RECENT DEVELOPMENTS (2016); Edward B. Rock, *Foxes and Hen Houses? Personal Trading by Mutual Fund Managers*, 73 WASH. U. L.Q. 1601, at 1607 (1995) (noting that front running is usually handled through stock exchange and self-regulatory organization rules but that it could also be construed as a violation of Section 10(b) and Rule 10b-5). Note, front running prohibits dealers from trading ahead of client orders handled by the broker division. In advertising, by refusing to deal directly with third-party exchanges and intermediaries and forcing publishers instead to go through a two-step routing process, Google technically avoided trading ahead of a third party it had a direct relationship with.

apart from Wall Street, industry insiders nicknamed this somewhat similar setup Google's "last look."²³⁶

Last look helped Google's exchange and buying tools to further consolidate their respective market shares. Publishers may have discovered header bidding to get around Google's routing restrictions and to route their ad space to multiple exchanges at the same time, but the DoubleClick ad server, with its overwhelming market share, still set the end-rules of the game. With header bidding, non-Google exchanges could compete against each other all day long for publisher's inventory only to have Google's ad server let Google's exchange jump ahead of orders and displace trades by a penny.

It wasn't just competition that last look distorted. There were also concerns around implications to market efficiency, ultimately measured by trading costs. Remember, advertising auctions are normally "blind" — buying tools return bids on behalf of advertisers without knowing what others are simultaneously returning as their bids. With last look, one trading division at Google (i.e., the ad server) let the other trading divisions (i.e., the exchange and buying tools) see information about rivals' bids (i.e., their winning bid). That permitted a buyer like Google Ads to know what the bidders with the user ID information disadvantage would pay for an ad (e.g., \$10.48, not \$14, CPM) and use that information to bid lower than what it otherwise would have bid for the same space.²³⁷ As discussed above, it is difficult to say whether lower prices paid by Google Ads benefitted advertisers on the other ends of these trades or whether they instead permitted Google as the intermediary to keep a wider spread.

236. See Sluis, *supra* note 233.

237. Most publishers use Google's ad server and Google's ad server shares superior information about users' identity with Google Ads and DV360 than it shares with others. See *supra* Part III.A. Google's ad server also shares with advertisers bidding through Google superior information about publisher price floors. Sluis, *supra* note 200 (discussing how Google's ad server does not share floors with exchanges outside of Google's Open Bidding integration).

According to some discussion of the topic, Google's ad server stopped passing the "price to beat" to Google's exchange in late 2019.²³⁸ However, monitoring whether this conduct has in fact stopped is more difficult. Around the same time that Google stopped permitting itself to view the "price to beat," Google started rounding down the timestamps of bids in the consolidated auction reports it shares back with publishers. The reports previously disclosed the time in *microseconds* (i.e., 23:59:59.998877) that each exchange submitted a bid for a publisher's space. Now, Google would start to round down those timestamps from microseconds to the nearest *hour* (i.e., 23:00:00.000000).²³⁹ Without precise timestamps, it becomes difficult to monitor if the ad server continues to let Google's exchange trade ahead of rival exchange bids. For instance, the ad server might receive Exchange B's bid of \$10.48 first, pass information about that bid to Google's exchange, and let Google's exchange return a slightly higher bid of \$10.49 a few milliseconds later. Without precise timestamps, publishers would not know.

238. See Sluis, *supra* note 200 ("[W]hen Google made its changes to unified pricing and switched to a first-price auction this fall, it removed one distinct advantage in open bidding, known as 'last look.' Until a couple of months ago, open bidding used the results of the Prebid and TAM auctions as the "price to beat" for all the open-bidding buyers. That extra information meant that open-bidding buyers could outbid Prebid and TAM winning bids.").

239. Google Ad Manager Help, *Data Transfer Fields*, GOOGLE (2020), *supra* note 90; *Ad Manager Data Transfer Reports*, GOOGLE AD MANAGER HELP (2020) <https://perma.cc/8QSV-YBQF> (describing the various types of reports Google's ad server shares with market participants); Google Ad Manager Help, *Bids Data*, *supra* note 135 (discussing the Bid Data file NetworkBackfillBids that contains information about bids coming in from Google's exchange and Google Open Bidding auctions; stating that Google truncates timestamps of bids to the nearest hour); Damien Geradin & Dimitrios Katsifis, *Trust Me, I'm Fair: Analysing Google's Latest Practices in Ad Tech from the Perspective of EU Competition Law*, 16 EUR. COMPETITION J. 11 (2020), (discussing how sellers used timestamps of bids field called "TimeUse2" and field called "KeyPart" to tie information about bids from Google auctions to information about bids from header bidding auctions in the NetworkCodeServes/NetworkBackfillCodeServes file but can no longer do so because Google rounded timestamps).

In the securities market, we require intermediaries to disclose trading timestamps in milliseconds or a finer increment to help to protect against these types of market abuses. In fact, the SEC has prosecuted some traders for redacting timestamps in order to conceal the fact that they were trading ahead of orders. For example, in 2004, the SEC and the National Association of Securities Dealers (predecessor to the Financial Industry Regulatory Authority) charged the Knight Trading Group for trading ahead of client orders and recording inaccurate trade execution times to evade client oversight.²⁴⁰ In advertising, weak competition permits a powerful market intermediary like Google to negotiate out of timestamp disclosures.

2. Google Amends Terms and Conditions to Breach "Ethical Walls"

Google misuses the material nonpublic information belonging to third-party market participants in another way: by breaching ethical walls and trading on their sensitive non-public data. Publishers protect their financial interest in the online content they produce by limiting third parties' access to their readership data. For instance, say user 1Q2W3E reads *The Journal's* "Heard on The Street" column about investing, which permits that publisher to solicit high bids for its ad space from advertisers like Goldman Sachs and Barclays. If another site, say user 1Q2W3E's email provider, knows that user 1Q2W3E reads *The Journal's* "Heard on the Street" column, the email provider can use that information to solicit bids from Goldman Sachs and Barclays too, even though the

240. *In re Knight Securities L.P. Respondent*, SEC Admin. Release No. 50867, 2004 WL 2913488 (Dec. 16, 2004) <https://perma.cc/4JTN-ET2Q> (discussing how misreporting timing of trades permitted Knight to trade ahead of orders and defraud thousands of customers); Ann Davis, *How Knight Clients Failed to Recognize Questionable Trades*, WALL ST. J. (Dec. 17, 2004), <https://perma.cc/2PHK-S75U>; Harvey L. Pitt, *Conflict of Interest Lessons from Financial Services*, COMPLIANCE WEEK (Feb. 21, 2005), <https://perma.cc/2HKL-GJJJ> (reflecting on how the Knight problem was a conflicts of interest problem).

email provider produces no content and only knows that user 1Q2W3E buys lots of widgets from Amazon. Simply put, by appropriating a competing ad seller's readership data, the email provider can increase the supply of space available to users known to be interested in investing, depressing clearing prices for that type of advertising and hurting the content creator's ability to monetize its original work.

Historically, when competition in the online advertising market worked, Google safeguarded such sensitive business data behind effective ethical walls. Google became aware of such data in the course of licensing its buy-side and sell-side ad server to market participants. Recall, in 2008, Google explained that Google could not "do anything" with that data because ownership vested in publishers and advertisers.²⁴¹ As a result, Google had a duty to safeguard that data and could not use it for its own financial gain.

However, as Google's market power grew, Google tore down these data separations. Shortly after acquiring DoubleClick, Google started to restrict publishers' and advertisers' access to DoubleClick user IDs.²⁴² Then, in 2012, Google amended its terms and conditions to obtain permission to merge data from DoubleClick with data from other Google business divisions, including Google's exchange division and Search and YouTube.²⁴³ In 2016, Google amended its policies again, this time to combine DoubleClick data with data Google separately has about consumers'

241. *The Google-DoubleClick Merger*, *supra* note 82.

242. *See AdExchanger Q&A*, *supra* note 89.

243. For a summary of Google's 2012 privacy change, see *Google Merges Privacy Policies and Data Across Services*, PRIVACY INT'L (Jan. 25, 2012), <https://perma.cc/8B6J-8VFT>, which states, "In 2012, Google announced it would condense 70 different privacy policies into a single one that would allow the company to merge the data collected across all its services, including Maps, Search, Android, Books, Chrome, Wallet, Gmail, and the advertising service provided by its DoubleClick subsidiary into a single database." Impressively, the FTC Commissioner and public interest groups the Electronic Privacy Information Center (EPIC), Center for Digital Democracy, and U.S. Public Interest Research Group

identity.²⁴⁴ In 2018, Google started obtaining access to users' readership information on third-party sites and apps directly from the Chrome browser, circumventing the need to negotiate for these rights with third parties (e.g., publishers and advertisers).²⁴⁵

Google also turns those information advantages into financial gain. In addition to obtaining access to such data through data set mergers and through Chrome, Google obtains permission to *use* that information to buy and sell in the advertising market for its own interests. With the 2012

raised concerns in 2007 around approving a Google-DoubleClick merger without imposing restrictions on Google's ability to merge data sets. *See* Complaint and Request for Injunction, Request for Investigation and for Other Relief, Second Filing of Supplemental Materials in Support of Pending Complaint and Request for Injunction, Request for Investigation and for Other Relief, and Dissenting Statement in Google and DoubleClick, *supra* note 80. EPIC also challenged Google's 2012 plan to merge datasets by filing a temporary restraining order and preliminary injunction compelling the FTC to force Google to abide by an October 13, 2011 FTC Consent Order. The 2011 Consent Order required Google to establish new privacy safeguards for users and to subject itself to ongoing privacy audits. The federal court ultimately dismissed EPIC's complaint on the ground that the FTC has discretion over whether to enforce its Consent Orders and that the exercise of such discretion is not subject to judicial review. *See EPIC v. FTC (Enforcement of the Google Consent Order)*, ELEC. PRIVACY INFO CTR., <https://perma.cc/N2BE-T3S6>.

244. Angwin, *supra* note 105; *Google Privacy Policy*, GOOGLE (Mar. 31, 2020), <https://perma.cc/MS8P-WWBG> (explaining to consumers that information about their "visits to sites and apps that partner with Google," including from sites that use Google advertising services, may be combined with other data Google has about the consumer "in order to improve Google's services and the ads delivered by Google"). Google's merger of datasets also poses negative implications to consumer privacy, which was a concern also raised by public interest groups and FTC Commissioner Pamela Jones Harbour at the time of the Google-DoubleClick merger. *See* Complaint and Request for Injunction, Request for Investigation and for Other Relief, Second Filing of Supplemental Materials in Support of Pending Complaint and Request for Injunction, Request for Investigation and for Other Relief, and Dissenting Statement in Google and DoubleClick, *supra* note 80 (explaining that when it comes to Google and DoubleClick potentially merging datasets, privacy concerns are "the other side of the coin").

245. Green, *supra* note 114 and accompanying comments.

change, privacy commissioners in Europe lamented that the change permits Google to “combine almost any data from any services for any purposes.”²⁴⁶ With the 2016 change, Google obtained specific permission to use the data “to improve ... ads delivered by Google.”²⁴⁷ Today, via Chrome, Google obtains permission to use third party readership data to sell advertising, including advertising on its own properties Search, Gmail, and YouTube.²⁴⁸

Since 2012, Google’s decisions to merge data across internal business divisions have primarily gained attention as harming consumer privacy—by combining the consumer records of one division with the consumer records of another, Google develops deeper and deeper profiles of consumers’ online behavior.²⁴⁹ However, these data mergers also distort competition outcomes in advertising markets. Google merges data sets in ways that conflict with the interests of market participants.²⁵⁰ Google can use third party readership data to disproportionately sell more ads on Google properties.²⁵¹ In financial markets, this progression cannot happen, in part because intermediaries cannot negotiate out their duty to act in their customers’ best interest.

246. Letter from Article 29 Data Prot. Working Party to Larry Page, CEO, Google (Oct. 16, 2012), <https://perma.cc/4LQJ-3D45>.

247. *Google Privacy Policy*, *supra* note 244.

248. Green, *supra* note 114 and accompanying comments. Note, with the 2012 and 2016 changes, it is unclear whether Google terms with publishers and advertisers separately restrict Google’s use of this data. However, with the Chrome changes, it does not appear that any counterparty relationship with publishers and advertisers could restrict Google’s use of this parallel data set.

249. *See, e.g., Johnny Ryan, Failure to Enforce the GDPR Enables Google’s Monopoly*, BRAVE (Feb. 18, 2020), <https://perma.cc/3VRB-P7BZ> (describing Google’s merger of privacy policies as an “internal data free-for-all”).

250. Specifically, the terms appear to permit Google to use information belonging to third-party buyers and sellers obtained by the ad server division and Chrome to buy and sell in the marketplace and on exchanges.

251. *See discussion supra* note 154.

The reasons that we prohibit such conduct in financial markets also exist in advertising markets: Google gained access to confidential business data by rendering unrelated business services, the use of such data provides Google with an unmatched information advantage when buying and selling, and letting Google trade on those information advantages may dissuade firms from participating in online advertising markets at all.²⁵² In other words, the practice is not merely unfair, it reflects a socially undesirable allocation of property rights in information that can result in long-term output declines. The publisher was the party that risked capital, hired journalists, and produced content to know that user 1Q2W3E is interested in investing. The property right in that piece of information should be allocated to the party that bore the costs of producing it (i.e., the website), rather than the trading intermediaries that websites use (i.e., Google's sell-side ad server, Google's exchange, Google's buy-side DSP, or even Chrome).

IV. POLICY CONSIDERATIONS

A. Advertising Exchanges Should Provide Fair Access to Information and Speed

Outside of antitrust enforcement, lawmakers might lean on the principles of financial regulation to develop a framework to protect competition in advertising markets. In 1934, Congress developed a competition framework for the securities markets, viewing them as an "important national asset" that should be "preserved and strengthened."²⁵³ **As this Part explores, the electronic markets for sports tickets, theatre tickets, airfares,**

252. My argument is that because Google does not actually produce content in advertising markets, such information appropriation conduct may lead to overall output declines, which is a traditional welfare concern. For a closely related conversation around how information misappropriation by large digital firms may deter entry and chill innovation, see Khan, *supra* note 20, at 1008-15.

253. Securities Exchange Act, 15 U.S.C. § 78k-1(a)(1)(A) (2012) ("The securities markets are an important national asset which must be preserved and strengthened.").

and cryptocurrencies have been sufficiently important to warrant some kind of intervention.²⁵⁴ What about advertising? It is a primary driver of the business of journalism and news, a cornerstone of democracy, and surely worthy of equal scrutiny.

One basic rule that lawmakers ought to borrow from the equities market and apply in advertising is a requirement that exchanges provide all bidders with fair access to both data and speed. Google's exchange should share user identity information and speed with intermediaries in a non-discriminatory manner. It could even colocate with bidders in neutral colocation facilities, as other exchanges and intermediaries already do.

Lawmakers have applied the same principle to address parallel competition problems in other electronically traded markets. Exchange access problems related to data and speed came up in the much smaller electronic trading market for event tickets. There, differential access to speed and information was distorting competition between those buying and selling on the new, centralized electronic ticket marketplaces.²⁵⁵ For example, buying at "lightning speed" allowed some computerized ticket brokers to buy 1000-plus tickets per minute and over 90% of desirable tickets to major concerts from trading venues like Ticketmaster and Stubhub, before consumers had enough time to check-out online.²⁵⁶ The ability to exclude competition from consumers allowed intermediary brokers to buy up tickets on initial release then resell them back to consumers at high mark-ups—49% higher on average, but sometimes over 1000%, according to one investigation.²⁵⁷

254. See discussion *infra* notes 259-61 (event tickets), 262-66 (cryptocurrencies), and 288-90 (airfares).

255. Schneiderman, *supra* note 26.

256. *Id.* at 8, 18-19 (detailing that one high-speed buyer purchased 1,012 tickets to a 2015 U2 concert in Madison Square Garden in under one minute); see also Tod Marks, *Why Ticket Prices Are Going Through the Roof*, CONSUMER REPS. (June 30, 2016), <https://perma.cc/C25Y-QBS7>.

257. Schneiderman, *supra* note 26, at 4.

To address these speed and data competition problems in the electronically traded ticket market, lawmakers in the U.S. and globally passed legislation. Thirteen states, including New York, California, Pennsylvania, and Florida, passed legislation that restricts ticket brokers and other buyers from using high-speed bot software on the centralized ticket marketplaces to distort competition between those buying on the same venue.²⁵⁸ Congress in 2016 then extended these state restrictions to ticket brokers nationally with the Better Online Ticket Sales Act.²⁵⁹ The UK, Australia, and Canada also passed legislation restricting speed practices to safeguard access to ticket marketplaces.²⁶⁰ Across jurisdictions, protecting fair access to the trading venues was the driving concern.²⁶¹

Similarly, lawmakers are now monitoring emerging cryptocurrency markets for fair access problems that stem from the role that data and speed play with electronic trading.²⁶² In 2018, the NYAG conducted an

258. Robert McFadden, *The BOTS Act: A Small Step for Fankind When a Giant Leap Is Needed*, 55 WASHBURN L.J. 427 (2016).

259. Better Online Ticket Sales Act, 15 U.S.C. § 45c (2016) [hereinafter “BOTS Act”]. The New York State legislature later made its law stronger by increasing civil fines and imposing criminal penalties for violations of the New York state anti-bot law. Press Release, Andrew Cuomo, Governor, N.Y., Governor Cuomo Signs Legislation Combating Unfair Ticket Purchasing and Reselling Practices (Nov. 28, 2016), <https://perma.cc/ATL9-MDST>.

260. Digital Economy Bill 2017, Dep’t. for Culture, Media, and Sport Supp. Memo (UK) (prohibiting the use of bots to circumvent ticket marketplace rules); Ticket Sales Act, S.O. 2017, c. 33, Sched. 3 (Can.) (prohibiting the use of bot software to circumvent ticket marketplace access rules); Fair Trading Amendment (Ticket Scalping and Gift Cards) Act 2017, No. 52/2017 (NSW) (amending the Fair Trade Act of 1987 to include regulation of ticket scalping and gift card expiry dates).

261. See, e.g., BOTS Act, *supra* note 259 (stating aim of legislation is to “ensure equitable consumer access to tickets”).

262. In the U.S., the SEC, the Commodity Futures Trading Commission (CFTC), and the New York State Department of Financial Services share some oversight over the cryptocurrency market. For example, under a new law passed

investigation to determine if cryptocurrency exchanges and broker intermediaries were engaging in the sort of conduct that regulators watch for in financial markets, including whether exchanges were providing some traders with superior access to data and speed.²⁶³ The cryptocurrency exchanges that responded to the NYAG's investigation self-reported they were not.²⁶⁴ Since the NYAG's market investigation, securities regulators globally have echoed the NYAG's concerns.²⁶⁵ In 2018, the International Organization of Securities Commissions (IOSCO) released its own report on the market, advising regulators to monitor whether cryptocurrency

by New York in 2015, exchanges operating in the state of New York have to submit their exchange rules to the state and obtain a license to operate. 23 CRR-NY, ch. I, pt. 200. Under the Exchange Act, the SEC has jurisdiction over securities and it has used the Howey Test to determine that virtual currencies are securities and exercise jurisdiction over the market. *Framework for "Investment Contract" Analysis of Digital Assets*, <https://perma.cc/7WXS-95NG> (last updated Apr. 3, 2019). The CFTC has ruled that Bitcoin and other virtual currencies are a "commodity" under Section 1a(9) of the Commodity Exchange Act of 1936 (CEA), which grants the CFTC jurisdiction over market participants for fraud and manipulation. *In re Coinflip Inc. et al.*, Respondent, CFTC, No. 15-29 (Sept. 17, 2015), <https://perma.cc/7F3G-ZY3L>.

263. UNDERWOOD, *supra* note 26.

264. *Id.* at 25 ("Trading platforms that engage in proprietary trading on their own venues uniformly claimed to the OAG that their trading desks had no informational or other trading advantage over customers."). Note, the NYAG was nonetheless concerned that cryptocurrency exchanges provide varying levels of access that may let sophisticated traders "leverage access and speed to power sophisticated automated trading strategies – strategies that can negatively affect the trading performance of everyday, non-automated customers" buying and selling on the same venue. *Id.*

265. BOARD OF THE INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, ISSUES, RISKS AND REGULATORY CONSIDERATIONS RELATING TO CRYPTO-ASSET TRADING PLATFORMS: CONSULTATION REPORT (Int'l Org. of Sec. Comm'n 2019) [hereinafter IOSCO CRYPTO CONSULTATION REPORT] (drawing on feedback from securities regulators globally, including those in the U.S., the U.K., France, Germany, Japan and China, and raising concern over market integrity, non-discriminatory access, management of conflicts of interest, and transparency); ASIA SECURITIES INDUSTRY AND FINANCIAL MARKETS ASSOCIATION, ASIFMA BEST PRACTICES FOR DIGITAL ASSET EXCHANGES (2018) (raising similar concerns).

actors are upholding principles long-held in the securities market, including fair access to exchanges.²⁶⁶ Given the similarities between the structure of the electronically traded equities and ads markets, ad exchanges are deserving of the same attention from regulators and legislators.

B. Steps Toward Identifying and Managing Intermediary Conflicts of Interest

1. Structural Separations

We might address other competition problems in advertising markets by leaning on a second core principle from the securities market toolbox: identify and manage intermediary conflicts of interest. In financial markets, the approach to managing conflicts has ebbed and flowed from requiring structural separations to imposing conflicts of interest and disclosure rules. After the Great Depression, Congress passed the Glass-Steagall Act, which took the structural separation approach and prohibited banks, for example, from running a broker dealer or underwriting securities offerings.²⁶⁷ Financial conglomerates like J.P. Morgan had a year to divest their conflicting operations (J.P. Morgan's brokerage and investment division became Morgan Stanley).²⁶⁸ That structural separation approach later gave way to allowing some firms to engage in conflicting lines of business but requiring that they manage their conflicts.²⁶⁹

266. IOSCO CRYPTO CONSULTATION REPORT, *supra* note 265, at 10 (discussing need to "[e]nsure that access to the system or exchange and to associated products is fair, transparent and objective" and that exchange procedures apply fairly and on a non-discriminatory basis).

267. Commercial banks were prohibited from engaging in investment banking activity generally. *See generally* Banking Act, Pub. L. No. 73-66, 48 Stat. 162 (1933) (current version at 12 U.S.C. § 227).

268. Julia Maues, *Banking Act of 1933 (Glass-Steagall)*, FED. RES. HIST. (Nov. 22, 2013), <https://perma.cc/2LUP-PATS> (providing a summary of the structural separation approach taken by Glass-Steagall).

269. The Gramm-Leach-Bliley Act in 1999 repealed parts of the Glass-

Despite these relaxations, policymakers continue to prohibit a company that runs a public stock exchange from simultaneously running a division that trades on the exchange. That division between the operator of an electronic marketplace and the middlemen trading in the market is upheld in other markets too. For example, the companies that operate the major electronic event ticket marketplaces —Ticketmaster, Stubhub, AXS, and Telecharge —do not simultaneously operate a ticket broker. To be discussed further in the following Part, the centralized computerized marketplaces for airfares also eventually parted ways with their airline-owners. Google might similarly be required to divest its business divisions that have a conflict with Google participating in the market as a seller of ad space: its exchange, its buy-side and sell-side intermediaries, and the Chrome browser.

2. Conduct and Disclosure Rules

Outside of such structural separations, we might manage conflicts of interest through conduct and disclosure rules. In the equities trading market, multi-service financial firms cannot misuse information belonging to third-party traders, must maintain ethical walls, and cannot route orders in a discriminatory manner.²⁷⁰ Google's ad trading intermediaries (i.e., ad server & buying tools) might similarly be prohibited from abusing their access to third parties' sensitive information, be required to put up ethical walls, and be prohibited from routing trading activity to Google's exchange and properties in a discriminatory manner.

Steagall Act to enable financial holding companies to underwrite securities, act as a broker-dealer, and engage in other conflicting lines of business. Gramm-Leach-Bliley Financial Modernization Act, Pub. L. No. 106-102, 113 Stat. 1338 (1999) (codified in scattered sections of 12 U.S.C. and 15 U.S.C.). See generally Jeffrey Bingham, *Scaling Chinese Walls: Insights from *Afra v. JPMorgan Chase**, 4 WM. & MARY BUS. L. REV. 767 (2013).

270. For the best execution (routing) rule, see *supra* note 53. For conflicts of interest data rules, restrictions on client data use, and ethical wall requirements, see *supra* notes 54-56.

Lawmakers could also require Google's ad trading intermediaries on the buy-side and sell-side to act in the best interest of their customers. If Google was required to do so, it would not have been able to negotiate out of duties historically owed to its publisher and advertiser customers. Such a fiduciary framework would revert ownership in ad server user IDs back to publishers and advertisers, empowering them to share these IDs as they see fit. Conversely, such a rule would prohibit Google from merging data it obtains through the operation of trading intermediaries, with other Google data, for the purpose of trading on inside information advantages.

Importantly, countervailing user privacy concerns can be managed by prohibiting companies from collecting sensitive consumer data (e.g., health), limiting what data can be used for targeted advertising, and giving consumers the ability to opt-out of behaviorally targeted ads altogether through a simple, national, opt-out regime. This approach would strike a healthier balance between privacy and competition.

Policymakers have ported this way of thinking about market structure to other electronic trading markets too. Take, for example, the growing concern over conflicts of interest and insider abuses in cryptocurrency markets. When the NYAG investigated the market in 2018, they raised concerns that some cryptocurrency firms have conflicts: they are operating an exchange while simultaneously trading in their own market, sometimes accounting for up to 20% of trading activity.²⁷¹ That finding led the NYAG to flag the risk of "insider abuses" and advise that "[m]anaging conflicts of interest is a serious and growing issue in the virtual marketplace."²⁷²

271. UNDERWOOD, *supra* note 26, at 25 (highlighting the risk of insider abuses and noting that "[t]rading platforms [that responded to the Initiative] that engage in proprietary trading on their own venues uniformly claimed to the OAG that their trading desks had no informational or other trading advantage over customers").

272. *Id.* at 21.

The international body of securities commissions echoed the same concerns and advised that lawmakers take the regulatory “toolkit” for managing conflicts and market abuses in financial markets and repurpose them for cryptocurrency trading.²⁷³ In a recent report, it highlighted that “[t]he existence of unmitigated conflicts can negatively impact investor protection and confidence, as well as fair, efficient and transparent markets.”²⁷⁴ The conflicts it highlighted included when a company runs an exchange while simultaneously trading on it or possessing an interest in a traded crypto asset.²⁷⁵

Outside of the cryptocurrency marketplaces, lawmakers have exhibited concern about conflicts of interest and associated “inside” information abuses in gaming and betting markets. When it came to light in 2015 that an employee of major gaming platform DraftKings misappropriated information submitted by the platform’s users to inform their own play to make a \$350,000 profit, DraftKings was accused of allowing “insider trading.”²⁷⁶ The news spurred the NYAG to launch a probe into

273. See generally IOSCO CRYPTO CONSULTATION REPORT, *supra* note 265 (highlighting concern over market integrity, transparency, and the management of conflicts of interest).

274. IOSCO MARKET STRUCTURE CONSULTATION REPORT, *supra* note 48, at 16 (“CTPs that position themselves to provide end-to-end services . . . may have additional conflicts. Traditionally, these roles have been performed by independent parties. When CTPs provide such end-to-end services, any conflicts of interest that arise need to be mitigated to prevent potential market misconduct and/or investor protection concerns.”).

275. *Id.* at 20 (stating a key issue of IOSCO Principle 31 5(d) is “[a]ddressing any conflicts of interest that arise between [a market intermediary’s] interests and those of its clients. Where the potential for conflicts arise, a market intermediary should ensure fair treatment of all its clients by taking reasonable steps to manage the conflicts through organizational measures to prevent damage to its clients’ interest, such as: internal rules, including rules of confidentiality; proper disclosure; or declining to act where conflict cannot be resolved”).

276. Specifically, the employee used information about which players DraftKings users picked for their roster. Joe Drape & Jacqueline Williams, *Scandal Erupts in Unregulated World of Fantasy Sports*, N.Y. TIMES (Oct. 5, 2015),

whether employees could “gain[] an unfair financial advantage in a contest ... by exploiting their access to nonpublic data.”²⁷⁷ DraftKings rival FanDuel then started prohibiting its own employees from playing fantasy sports games at all, as well as prohibiting employees of other platforms from playing on its site.²⁷⁸ Similarly, after a Supreme Court ruling in 2018 permitted individual U.S. states to legalize sports betting, lawmakers introduced federal and state legislation prohibiting bets made on material nonpublic information (colloquially called “insider betting”).²⁷⁹ The State of New Jersey passed legislation prohibiting operators of sports betting operations from taking wagers from persons that work for or are affiliated with the operator.²⁸⁰

<https://perma.cc/LCG7-GCL6> (where sports and gambling attorney Daniel Wallach remarks, “It is absolutely akin to insider trading. . . It gives that person a distinct edge in a contest.”); REUTERS, *DraftKings and FanDuel on Defensive over Insider Betting Revelations*, GUARDIAN (Oct. 5, 2015), <https://perma.cc/G3XH-RMU8>; Bourree Lam, *The New York Attorney General’s Investigation of DraftKings and FanDuel*, ATLANTIC (Oct. 7, 2015), <https://perma.cc/V8T9-LVNA/>.

277. Lam, *supra* note 276; Darren Rovell, *New York Attorney General Launches Inquiry into DraftKings, FanDuel*, ESPN (Oct. 6, 2015), <https://perma.cc/GG4P-99YQ>. The New York Attorney General’s office later brought and settled suit with DraftKings and FanDuel for false and deceptive advertising. Press Release, Eric Schneiderman, Att’y Gen., N.Y., A.G. Schneiderman Announces \$12 Million Settlement with DraftKings and Fanduel (Oct. 25, 2016), <https://perma.cc/C6QM-LY4Z>.

278. Drape and Williams, *supra* note 276.

279. *Murphy v. National Collegiate Athletic Association*, 138 S. Ct. 1461 (2018). For an example of legislation introduced at the state level, see, e.g., S17D § 1367(w)(vii) (N.Y. 2019) (defining a “prohibited sports bettor [as] . . . any individual with access to non-public confidential information about sports wagering” among other circumstances”). For legislation introduced at the federal level, see Sports Wagering Market Integrity Act of 2018, S. 3793, 115th Cong. (2018).

280. Assemb. B. 4111 § 2(f)(4) (N.J. 2018) (“[A]n operator shall adopt procedures to prevent persons from wagering on sports events who are prohibited from placing sports wagers. An operator shall not accept wagers from any person whose identity is known to the operator and . . . who has access to nonpublic

Policymakers similarly managed intermediary conflicts of interest in the computerized marketplaces for airline tickets.²⁸¹ In the late 1970s, airlines began routing their airfares into centralized marketplaces, now called global distribution systems (GDSs), where travel agents could find and book airfares electronically.²⁸² In the early stages of this market's evolution, major airlines like American and United owned and ran the main GDSs, Sabre and Apollo, respectively—similar to how Google, as the largest seller of digital advertising today, concurrently runs the largest advertising exchange.²⁸³ Early on, rival airlines lodged complaints over how the airline-owned marketplaces were preferentially routing travel agents to the airline-owner's tickets.²⁸⁴ As a result, the Civil Aeronautics Board (CAB) and the DOJ opened investigations in 1982 and 1983.²⁸⁵

confidential information held by the operator.”). Outside of introduced legislation, the media has continued to explore this parallel between information advantages in sports betting and insider trading. See Jacob Gershman, *The Brave New World of Betting on Athletes' Data*, WALL ST. J. (March 10, 2020), <https://perma.cc/WG7U-D84H> (discussing how athletes' biometric health data could soon provide unfair information advantages when sports betting).

281. For a history of the early evolution of the airline intermediary market, see Duncan Copeland & James McKenney, *Airline Reservations Systems: Lessons from History*, 12 MGMT. INFO. SYS. Q. 353 (1988).

282. The GDSs (initially called CRSs) were intermediary markets between airlines and travel agents. See Cindy Alexander & Yoon-Ho Lee, *The Economics of Regulatory Reform: Termination of Airline Computer Reservation System Rules*, 21 YALE J. ON REG. 369 (2004).

283. See Douglas Feaver, *CAB Chairman Promises Best Computer Ticket Information*, WASH. POST (July 21, 1983), <https://perma.cc/RAR3-LVTN> (“American and United airlines both sell computer reservation systems and between them have locked up about 80 percent of the market.”); Aimee Minick, Comment, *Computer Reservations Systems, Airlines, and the Internet*, 65 J. AIR L. & COM. 891 (2000); Computer Reservation Systems: Alleged Competitive Abuses and Consumer Injury, 48 Fed. Reg. 41,171, 41,173 (Sept. 14, 1983) (codified throughout 14 C.F.R. ch. II).

284. See generally Copeland & McKenney, *supra* note 281.

285. *Id.* at 363 (summarizing early investigations by CAB and the DOJ).

After lengthy investigations, the CAB and the DOJ concluded these practices distorted competition.²⁸⁶ This kickstarted two decades of regulation of these computerized marketplaces starting in 1984, even though the wider airline industry was deregulated in 1978.²⁸⁷ To manage conflicts of interest, the regulatory regime sought to correct problems of “fair access.”²⁸⁸ The first rules promulgated by CAB in 1984 prohibited airline-owned-marketplaces from steering travel agents to the GDS-owner’s own tickets and engaging in other forms of discrimination.²⁸⁹

286. U.S. DEP’T. OF JUST., REPLY COMMENTS TO NOTICE OF PROPOSED RULEMAKING COMPUTER RESERVATION SYSTEM REGULATIONS (2003) (explaining how this practice was exclusionary); Larry Locke, *Flying the Unfriendly Skies: The Legal Fallout Over the Use of Computerized Reservation Systems as a Competitive Weapon in the Airline Industry*, 2 HARV. J. L. & TECH. 219, 224 (1989) (summarizing that the DOJ ultimately did not bring charges but did find that airlines used their control of CRSs to weaken competition in the airline market); Alexander & Lee, *supra* note 282, at 380 (discussing how CAB thought preferential routing foreclosed competition and how these concerns underpinned CAB rules promulgated in 1984).

287. The Airline Deregulation Act of 1978 ended forty years of the Civil Aeronautics Board (CAB) regulating the airlines as a public utility (e.g., CAB set routes and fares). The Airline Deregulation Act also vested ongoing regulatory authority in CAB until 1984 and Section 411 of the Federal Aviation Act permitted the DOT to subsequently assume regulatory oversight of the GDS market. Note, however, Congress gave the DOT a mandate to prohibit unfair methods of competition, which captures a wider range of conduct than that prohibited under antitrust laws. *See generally* Timothy Ravich, *Deregulation of the Airline Computer Reservation Systems (CRS) Industry*, 69 J. AIR L. & COM. 387 (2004); Alexander & Lee, *supra* note 282.

288. *See, e.g.*, Feaver, *supra* note 283 (where Dan McKinnon, Chairman of the Civil Aeronautics Bureau, states that the forthcoming rule “would take a close look at ensuring fair access” for airlines and consumers).

289. As a part of these rules, the GDSs could not price discriminate between airlines, had to charge airlines the same fees for the same levels of service, had to make certain GDS data available to all participating airlines for purchase, and could not engage in display and functionality bias. Carrier-Owned Computer Reservations Systems, 49 Fed. Reg. 11,644 (Mar. 27, 1984) (codified at 14 C.F.R. pt. 255); Alexander & Lee, *supra* note 282, at 395-96 (providing a summary of the non-discrimination rules).

The Department of Transportation (DOT) later took over the regulation of these marketplaces and dealt with a second discriminatory routing problem similar to one that Google presents today. American and United airlines refused to make their tickets available for sale in rival marketplaces, just as Google today refuses to sell its Search and YouTube ad space through rival exchanges and buying tools.²⁹⁰ Because an airline like American had power in particular geographic airfare markets, it could pressure travel agents in those locations to use its own marketplace, Sabre, instead of a competitor's.²⁹¹ But once agents chose Sabre, Sabre would steer travel agents to buy American airfares over others.²⁹² The initial "withholding" permitted a major airline like American to distort competition in the intermediary airfare marketplaces, as well as in the airfare market, because travel agents tended to use just one reservation system.²⁹³ The architecture of the advertising market presents the same concerns.

To address competition concerns, the DOT adopted a "mandatory participation rule" in 1992 that forced airlines like American and United to route their inventory into rival ticket marketplaces in addition to their own.²⁹⁴ Wanting to stop the dominant European airlines from similarly

290. See generally Alexander & Lee, *supra* note 282, at 380 (explaining the different ways airlines distorted competition between reservations systems, including by refusing to "participate in" rival computer reservation systems).

291. The withholding of tickets from rival GDSs was also thought to constitute a barrier to entry in the GDS market. See generally *id.* at 393.

292. *Id.* at 379-80.

293. Computer Reservations System (CRS) Regulations: Statements of General Policy, 67 Fed. Reg. 69,366 (Nov. 15, 2002) (codified at 14 C.F.R. pts. 255, 399), (stating that travel agents primarily used one reservation system, which resulted in the chosen system having market power over agents).

294. The 1992 mandatory participation rule required airlines that operated a marketplace to route their tickets into rival marketplaces as long as terms were commercially reasonable. Computer Reservation System (CRS) Regulations, 57 Fed. Reg. 43,780, 43,800 (Sept. 22, 1992) ("We conclude that this [mandatory participation] requirement is justified on competitive grounds, since it will keep a

distorting competition, Europe adopted mandatory routing out rules too.²⁹⁵ However, attempts to manage conflicts of interest eventually gave way to structural separations. Facing continued regulatory scrutiny, the airlines eventually divested their ownership interests in the GDSs altogether.²⁹⁶

Google might similarly be required to route YouTube ad space out to rival exchanges and buying tools. However, overall, the complexity and dynamism of high-tech ad markets, combined with the difficulty law-makers had enforcing non-discrimination rules in the airfare market-places and the challenges financial regulators continue to have policing ethical wall separations, likely buttress efficacy arguments for the structural separation approach.²⁹⁷

CRS owner from using its dominance of a regional airline market as a tool for obtaining dominance in the area's CRS market."); *see generally* Alexander & Lee, *supra* note 282. A parallel issue comes up in other markets. For example, the New York Attorney General's office recently stated that if NFL sports teams require ticketholders to resell their NFL tickets using a specific ticketing market or exchange, this conduct might be a "restraint of trade" that "impede[s] consumer access to alternative ticketing resale platforms." Schneiderman, *supra* note 26, at 32.

295. Council Regulation 2299/89 of July 24, 1989, On a Code of Conduct for Computerized Reservation Systems, O.J. (L 220) 1 (EEC) (prohibiting CRSs from engaging in discriminatory display or routing and requiring CRSs to permit all airlines to participate in a non-discriminatory manner).

296. Ravich, *supra* note 287 (discussing airline divestiture of GDS ownership interests and concomitant deregulation); Dawit Habtemariam, *A Brief History of Air Travel Distribution*, BUS. TRAVEL NEWS (Oct. 28, 2018), <https://perma.cc/C7WL-53V2> ("At the same time, airlines were divesting their ownership in CRSs. Sabre launched an IPO in 1996 and became fully independent of American Airlines in 2000. Galileo, which had merged with Apollo, went public in 1997. Amadeus, which had absorbed System One, went public in 1999. . . . Given the growing competition and the fact that airlines were divesting their ownership in CRSs, the DOT eliminated some of its CRS regulations and let the rest expire.").

297. *See, e.g.*, Khan, *supra* note 20 (arguing that structural separations are preferable to non-discrimination rules because they may be more effective in policing conduct and they reduce regulatory burden).

3. *Transparency and Disclosure*

More transparency and disclosure would also advance healthier competition in advertising markets. In the securities market, mandatory disclosure requirements allow market participants to more fully understand how the complex trading markets work and to better monitor intermediary conflicts of interest.²⁹⁸ Financial exchanges must disclose to regulators how their trading operations work and obtain regulatory approval for their exchange operations. Broker dealers and other financial intermediaries must disclose information about their trading activity (in milliseconds or a finer increment) and even synchronize business clocks with a universal clock to let others monitor whether they are properly managing their conflicts of interest (and not front-running).²⁹⁹ Transparency along the same lines in advertising markets would effectuate the same ends.

The principles of transparency and disclosure have been utilized in the emerging cryptocurrency markets too. For example, the State of New York recently passed legislation requiring cryptocurrency exchanges to disclose information about their trading operations before obtaining a license to operate as an “exchange.”³⁰⁰ When the NYAG investigated this

298. See, e.g., INT’L ORG. OF SEC. COMM’N, OBJECTIVES AND PRINCIPLES OF SECURITIES REGULATION (2003) (discussing how transparency is a core objective in securities regulation and how transparency helps police market manipulation and unfair trading practices); see also Julie Manasfi, *Systemic Risk and Dodd-Frank’s Volcker Rule*, 4 WM. & MARY BUS. L. REV. 181 (2013) (discussing how disclosure rules can help to manage conflicts of interest).

299. Reporting requirements in Exchange Act Section 13(d) and SEC Rule 13d-1 require brokers to disclose information about proprietary trades in Schedule 13D. 17 C.F.R. § 240.13d-1; 17 C.F.R. § 242.613 (requiring all national securities exchanges and associations to file a “national market system plan to govern the creation, implementation, and maintenance of a consolidated audit trail and central repository” to collect and keep relevant data on trading practices); BD. OF THE INT’L ORG. OF SEC. COMM’N, CLOCK SYNCHRONISATION: CONSULTATION REPORT (2019).

300. See discussion *supra* note 262.

market in 2018, it specifically investigated the issue of transparency around fees, noting “[f]ee transparency is especially important in a complex electronic trading environment like virtual currency.”³⁰¹ However, one thing that distinguishes cryptocurrency markets from advertising markets is how cryptocurrency exchanges have already created self-regulatory organizations (SROs) to help to facilitate the surveillance of manipulative and fraudulent trading activity.³⁰²

Advertising markets would benefit from the same transparency and disclosure approach. Google has pushed back on disclosure requirements for “privacy” reasons, but it is important to note that financial regulators successfully balance similar privacy concerns.³⁰³ At the end of the day, lawmakers strike the right balance with disclosure requirements that allow market participants to understand the market and police intermediaries, alongside industry specific rules that simultaneously address privacy.³⁰⁴

V. CONCLUSION

Approximately 86% of online display ad space is now bought and sold on electronic trading venues, where buyers and sellers must go through a computerized intermediary to trade. Google dominates these

301. UNDERWOOD, *supra* note 26, at 11.

302. VIRTUAL COMMODITY ASSOCIATION, <https://perma.cc/7MVF-KGBC> (last visited Nov. 18, 2020).

303. Press Release, Jay Clayton, Chairman, SEC, Statement on Status of the Consolidated Audit Trail (Sept. 9, 2019), <https://perma.cc/45ZA-CHVF>; Patrick Temple-West & Robert Armstrong, ‘Hubble Telescope for Markets’ Attracts Criticism, FIN. TIMES (Oct. 29, 2019), <https://perma.cc/DF64-ZQ9J> (Dennis Kelleger, of consumer advocacy group Better Markets, stating “The finance industry does not want to [sic] the regulators to have the ability to monitor and police their behaviour, and they are using privacy as a pretext.”).

304. This delicate balance came up recently with the SEC’s consolidated audit trail, which is a comprehensive market surveillance initiative. See Clayton, *supra* note 303 (discussing the balancing of personally identifiable consumer information and market surveillance).

markets and distorts competition by engaging in conduct that lawmakers have experience with in other electronic trading markets. Google reserves for itself speed and information advantages, routes order flow to its exchange and websites in a discriminatory manner, and breaches ethical walls to use the sensitive, nonpublic information belonging to third-party buyers and sellers to inform its own trading activity. To protect competition in advertising, lawmakers might borrow the core principles financial regulators have already crafted to address these types of competition problems in other electronic trading markets. That is, require exchanges to provide all traders with non-discriminatory access to information and speed, identify and manage intermediary conflicts of interest, and require trading disclosures to advance these principles in order to protect the overall integrity of the market.

VI. APPENDIX

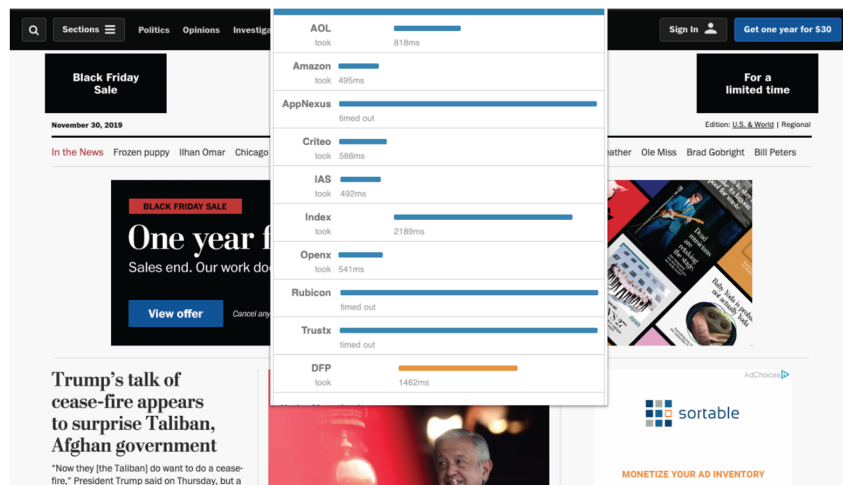
A. *Timeline*

Timeline

2009	Google starts to share better information about the identity of users associated with ads for sale with Google's buying tools (Google Ads and DV360), providing them an information advantage when competing against others in Google's exchange.
	Google's buying tools (Google Ads and DV360) develop a speed advantage when competing for the ads trading in Google's exchange, due to a practice called colocation. According to Google's discussion of this practice, latency can exclude 1 out of every 4 bids, but colocation ensures bids from Google's buying tools are never excluded.
2010 - 2018	Google's publisher ad server (DoubleClick), responsible for routing ads into exchanges, and which enjoys 90%+ market share, restricted publishers from routing ads to non-Google trading venues. Specifically, it prohibited routing into more than one exchange at a time and incentivized publishers to route to Google's exchange by permitting certain benefits in return. This (mostly) came to an end officially on April 4, 2018 when Google announced the official launch of what it called "Exchange Bidding."
2014 - 2015	Industry invents workaround commonly called (client-side) Header Bidding to circumvent Google's ad server's restrictions around routing ad trades through non-Google exchanges. The ability to route advertising inventory to more than one exchange at once and reduce auction speeds results in double-digit ad revenue increases for websites.
2015 - 2019	Google's ad server passes information about advertisers' winning bids (from non-Google ad auctions) to Google's exchange, permitting buyers in Google's exchange (such as Google's buying tool Google Ads) to trade ahead of the former advertiser and buy the ad for itself instead. The industry called this conduct, which was similar to front running, "last look."
2016	Google launches AMP, a fast mobile page framework, which is incompatible with (client-side) Header Bidding workaround. Google starts to condition page treatment on Google Search (88% market share) on website adoption of AMP.
2018	A "Speed Update" from Google Search further pressures websites to adopt AMP and forgo auctions that permit sites to reduce latency restrictions to include more bids from slower traders. Google Search starts to rank pages by how fast they load and AMP is fastest because it is colocated with Google.

B. Screenshot of Auction Timestamp Transparency

Image of header bidding timeouts on *The Washington Post* on November 30, 2019.



Competition in the Digital Advertising Ecosystem

Before the Senate Judiciary Committee Subcommittee on Competition Policy, Antitrust,
and Consumer Rights

Dina Srinivasan
Fellow, Thurman Arnold Project, Yale University

June 1, 2023

In reply to Senator Richard Durbin's (D-IL) letter dated May 17, 2023, and building on my testimony from the May 3, 2023 Senate hearing 'Competition in the Digital Advertising Ecosystem,' I present below both the questions posed by members of the Senate Judiciary Committee and my corresponding answers.

Question from Senator Blackburn

1. **Consumer data is ultimately what these adtech companies seek to collect and monetize. As Congress considers ways to address issues with competition in this market, what are ways that Congress can simultaneously work to protect consumer data?**
 - a. **Can the financial industry offer a model for such data protection?**

Already embedded within the AMERICA Act is a clear directive that emphasizes a commitment to consumer privacy.¹ I commend Senator Lee for championing such a proactive stance. While digital advertising is at the forefront of these conversation, it is by no means the only sector that must address concerns over protecting consumer data. Many industries have charted this territory. The financial sector, in particular, has navigated these waters, enforcing interoperability while balancing consumer privacy, thus positioning itself as a potential model for data protection practices in the online advertising market.

Questions from Senator Lee

1. **How do you respond to Prof. Henderson's contention that the differences between digital ads and stocks mean that digital advertising exchanges should not be governed the way stock exchanges are?**

Congress is considering regulating advertising exchanges as it regulates exchanges that trade shares of stock because of the similarities between the structure of the two exchange markets. To protect competition between stock exchanges and the broker intermediaries trading on those exchanges, lawmakers identify and manage conflicts of interest, require brokers to make trading disclosures, and require exchanges to provide brokers with fair access to their trading venue.² The same toolbox can be used to solve competition problems in ad markets, consisting of ad exchanges and broker intermediaries.³ Professor Henderson's narrow focus on differences between the items

¹ Advertising Middlemen Endangering Rigorous Internet Competition Accountability (AMERICA) Act, S. 1073, 118th Cong. § 2 (2023).

² See generally Dina Srinivasan, *Why Google Dominates Advertising Markets: Competition Should Lean on the Principles of Financial Market Regulation*, 24 STAN. TECH. L. REV. 55 (2020).

³ *Id.*

traded on the exchanges—online ads and equities—is therefore misguided.⁴

Neither should Congress refrain from regulating ad exchanges and ad brokers on the ground that the stock market is important, but the ad market is not, as Professor Henderson suggests.⁵ Advertising markets play a critical role in American entrepreneurship, innovation, and democracy. As I stated in my testimony, “entire sectors of the U.S. economy depend on being able to buy and sell online ads, and this includes entrepreneurs who buy ads to reach new customers and grow their businesses. It also includes content creators and media businesses selling ads to fund their operations and keep subscription prices for consumers low.”⁶ When competition in online ad markets is broken, it harms the bottom line of news publishers like *The Washington Post* too, which has broader implications to our democracy.

2. I have heard the argument that the AMERICA Act would eliminate benefits from vertical integration that exist in digital advertising. Has vertical integration in digital advertising actually helped advertisers, publishers, and consumers?

Vertical integration in digital advertising has only harmed advertisers, publishers, and consumers. While some digital advertising companies that simultaneously represent the sell- and buy-sides propose that double representation “promotes efficiency traditionally associated with vertical integration, including the reduction of double marginalization,”⁷ the antitrust cases brought by the Department of Justice and many state attorneys general reveal the falsity of such statements. Conflicts of interests and the lack of transparency has fueled rampant trading abuses and the misuse of inside information, leading to out-of-control costs for publishers and advertisers.⁸ Secret auction manipulations with names like Project Bernanke manipulated advertisers’ bids and siphoned money from publishers causing harm to publishers, advertisers, and competition.⁹

3. Were the AMERICA Act signed into law, would structural separation of the largest ad tech firms meaningfully impede the ability for different ad tech companies and parts of the ad tech stack to interoperate?

The digital advertising industry has already addressed interoperability challenges by establishing standardized protocols, such as protocols established by the Interactive Advertising Bureau for real-time bidding, to allow for seamless interaction among intermediaries. These standards are widely adopted and serve as a testament to the industry’s capability to ensure consistent communication and operation. Smaller players in the online advertising industry regularly utilize and interoperate through this protocol, demonstrating that structural separation of the largest ad tech firms would not significantly hinder interoperability across different segments of the ad tech stack.

⁴ Professor M. Todd Henderson, Competition in the Digital Advertising Ecosystem, Testimony before the Senate Judiciary Subcommittee on Competition Policy, Antitrust, & Consumer Rights (May 3, 2023) (written statement of M. Todd Henderson, Michael J. Marks Professor of Law, University of Chicago Law School).

⁵ *Id.*

⁶ *Id.*

⁷ Daniel S. Bitton & Stephen Lewis, *Clearing Up Misconceptions About Google’s Ad Tech Business*, GOOGLE WHITE PAPER (May 5, 2020), <https://perma.cc/WT2W-DD74>.

⁸ Complaint, *United States v. Google LLC*, No. 1:23-cv-00108 (E.D. Va. Jan. 24, 2023) [hereinafter DOJ Complaint]; Third Amended Complaint, *State of Texas et al. v. Google LLC*, No. 1:21-md-03010-PKC, (S.D.N.Y. Nov. 12, 2021) [hereinafter Texas Complaint].

⁹ Texas Complaint, *supra* note 8, at 109-28.

4. How would smaller ad tech companies benefit from the AMERICA Act?

The AMERICA Act promises to level the playing field for smaller ad tech companies. The Act would ensure that dominant exchanges and brokers are required to transact through their smaller counterparts when these counterparts provide a superior price point. This not only encourages competition but also open avenues for growth and prominence for smaller players in the industry.

Questions from Senator Tillis¹⁰

5. Under the AMERICA Act:

- a. How would small businesses that use online advertising be impacted?**
- b. Would small businesses still have the same access to affordable advertising services?**

Small businesses that use online advertising would benefit from passage of the AMERICA Act. The AMERICA Act would increase competition in online advertising and decrease the cost of intermediary fees, thereby decreasing the cost of advertising. Small businesses would have more choice around which buy-side brokerage services to use and the amount of money they spend to purchase ads would go down.

6. How would the AMERICA Act help or hurt smaller ad organizations who operate within the online advertising economy? If so, how?

The AMERICA Act promises to level the playing field for smaller ad tech companies. The Act would ensure that dominant exchanges and brokers are required to transact through their smaller counterparts when these counterparts provide a superior price point. This not only encourages competition but also open avenues for growth and prominence for smaller players in the industry.

7. Other than Google, who are the major players – including emerging players – in the online advertising economy?

Other than Google there are few major or emerging players in the online advertising economy. On the sell-side of the market, and with respect to publisher ad serving software, Google has over 90 percent of the market and its market power is entrenched.¹¹ Over the course of the last several years, all other major players have either severely diminished their market share or exited the market. According to the DOJ Complaint, “there are no reasonable substitutes for publisher ad servers.”¹² On the buy-side of the market, and with respect to ad buying software for small advertisers, Google’s share of the market is also absolute. Small advertisers in particular have little option but to use Google’s buying tool Google Ads to purchase display ads belonging to many major websites trading on exchanges. The middle side of the market that consists of ad exchanges is theoretically more competitive. Other players including exchanges such as PubMatic exist, but they have smaller market shares. Many former rivals in the exchange market, such as OpenX, WPP, ADSDAQ, Microsoft’s AdECN, and Yahoo’s AdBrite, have either severely diminished their

¹⁰ These exact questions from Senator Tillis were asked of me and my consulting colleague, Roger B. Alford. We have collaborated in our answers to those questions.

¹¹ DOJ Complaint, *supra* note 8, at 7, 45, 68; Texas Complaint, *supra* note 8, at 42-43, 54.

¹² DOJ Complaint, *supra* note 8, at 125.

market share or exited the market.¹³

8. What can and should be done to increase transparency within the online advertising economy?

The lack of transparency within the online advertising economy is a significant anticompetitive harm. Those harms resulting from the lack of transparency are outlined in the Complaint filed against Google by the United States Department of Justice and seventeen states,¹⁴ and the Complaint filed against Google by the state of Texas and sixteen other states.¹⁵

Passage of the AMERICA Act will dramatically improve that transparency and is the best way to ensure increased transparency. The AMERICA Act imposes two kinds of transparency obligations. First, upon request from brokerage customers, it obligates buy-side and sell-side brokerages to supply information sufficient to permit brokerage customers to verify compliance of the brokerage with its best interest and best execution duties. The specific type of information required under the AMERICA Act differs depending on whether the broker is on the sell-side or the buy-side, but in essence for the former it requires information with respect to each unique digital advertising space for sale, details on the bids submitted, the data collected from the brokerage customer, the brokerage's bid order practices, and the brokerage's compensation. For the latter it requires information with respect to bids won by the buy-side brokerage customer, the brokerage's bid order practices, and the brokerage's compensation. Second, it requires sell-side and buy-side brokerages to publish quarterly reports on their routing practices to trading venues for execution.

Without the AMERICA Act, major actors with market power will likely continue to promote less transparency to obfuscate trading abuses and high costs for consumers.

¹³ DOJ Complaint, *supra* note 8, at 100; Texas Complaint, *supra* note 8, at 135, 175-78.

¹⁴ DOJ Complaint, *supra* note 8, at 116-123.

¹⁵ Texas Complaint, *supra* note 8, at 174-182.