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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

UNITED STATES OF AMERICA,
et al.,
Plaintiffs,

Civil Action
No. 1:20-cv-3010

vs.

Washington, DC
October 25, 2023
10:32 a.m.

GOOGLE, LLC,
Defendant.

Day 27
Morning Session

_____ /

TRANSCRIPT OF BENCH TRIAL
BEFORE THE HONORABLE AMIT P. MEHTA
UNITED STATES DISTRICT JUDGE

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WILFRED AMALDOSS

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P R O C E E D I N G S

1
2 **DEPUTY CLERK:** This is civil action 20-3010, United States
3 of America, et al., vs. Google LLC. Kenneth Dintzer for the
4 DOJ; Jonathan Sallet and William Cavanaugh for Plaintiff
5 States; John Schmidtlein on behalf of Google.

6 **THE COURT:** Good morning, everyone. Thanks for your
7 patience this morning. We're ready to move forward, so
8 Mr. Maurer.

9 Professor Amaldoss, welcome back.

10 **MR. MAURER:** Good morning, Your Honor. Good morning,
11 Professor. Just as a matter of housekeeping, Your Honor, I'd
12 like to move in DXD20, which is the demonstrative that we used
13 yesterday, and also DX2032, which was the deposition excerpt.

14 **MR. CAVANAUGH:** No objection.

15 **THE COURT:** So it will be admitted.

16 (Exhibits DXD20 and DX2032 admitted into evidence)

17 **CONTINUED CROSS-EXAMINATION OF WILFRED AMALDOSS**

18 **BY MR. MAURER:**

19 **Q.** Professor, good morning.

20 **A.** Good morning.

21 **Q.** I want to start with a question about the second topic
22 that you discussed, about how you allege Google has reduced the
23 visibility of the SVPs.

24 You haven't offered an opinion on how Google's practices,
25 with respect to the SVPs, affect the ability of those SVPs to

1 partner with general search engines, correct?

2 A. I have not answered that.

3 Q. Could we put up slide 57 of your presentation, maybe
4 you could look at it your binder as well -- your presentation
5 in the white notebook.

6 A. Thank you.

7 Q. You testified yesterday, with respect to this slide,
8 about certain SA360 features that you said were withheld or
9 delayed. Do you recall that?

10 A. Yes.

11 Q. You agree that SA360 now supports dynamic search ads?

12 A. Yes.

13 Q. And you agree that SA360 now supports local inventory
14 ads?

15 A. Yes.

16 Q. And you agree that it now supports responsive search
17 ads, correct?

18 A. Yes.

19 Q. And with respect to the dynamic search ads, this first
20 row that you have there, you opined in your expert report that
21 SA360 did not fully support dynamic search ads, right?

22 A. At the time.

23 Q. You know that was incorrect, correct? Let me ask the
24 question again. As of the date of your report, where you said
25 SA360 does not support dynamic search ads, that was wrong as of

1 that --

2 A. Partially support.

3 Q. You think it only partially supported it?

4 A. For dynamic search ads, that's my understanding.

5 Q. You know that understanding is incorrect, don't you?

6 A. Incorrect because?

7 Q. Let me ask it this way: Did you review the trial
8 testimony of Jason Krueger regarding when dynamic search ads
9 was fully supported in SA360?

10 A. I do not -- I went through the trial testimony, but I
11 do not recall that specific.

12 Q. Okay. You also discussed in your testimony
13 yesterday -- you can keep that up, the support for the
14 Microsoft auction-time bidding on SA360?

15 A. Yes.

16 Q. And you understand that there's currently testing
17 ongoing with customers of that feature, correct?

18 A. I've heard about it.

19 Q. Now, you testified that Google withheld or delayed
20 these four features. You said that the responsive search ads
21 and the local inventory ads were delayed for two years, and you
22 said the dynamic search ads were delayed for four years?

23 A. Approximately.

24 Q. When you were talking about those time periods, what
25 were you measuring from?

1 **A.** From the time that feature was available, and when it
2 was made available through SA360.

3 **Q.** The starting point of your measurement for that time
4 period was Microsoft Advertising's introduction of those
5 features on its own platform, right?

6 **A.** Correct.

7 **Q.** Are you suggesting that Google should have made these
8 features available on SA360 at the same time that Microsoft
9 Advertising made it available on their platform?

10 **A.** I didn't express any opinion about that.

11 **Q.** Okay. I know you were in the courtroom yesterday for
12 Mr. Jason Krueger's testimony?

13 **A.** Yeah.

14 **Q.** And you also reviewed the testimony of Ryan Krueger
15 and Amit Varia about SA360?

16 **A.** Amit Varia I don't think I looked at.

17 **Q.** Okay.

18 **A.** Fully, I don't recall going through the details of it.

19 **Q.** Well, with respect to the testimony of Ryan Krueger
20 and Jason Krueger, did you review their testimony about how the
21 SA360 team determines whether and when to implement features
22 for other engine support?

23 **A.** I don't have very precise recall.

24 **Q.** You haven't offered any opinion that Google's SA360
25 team in any way varied from the standard procedure of

1 considering customer demand or technical feasibility and
2 resources available in deciding when and how to implement the
3 four features you discussed, correct?

4 A. I viewed it only from the advertiser's perspective. I
5 have no knowledge about what their internal constraints and how
6 they go about running their business. That was -- I didn't
7 express an opinion on that.

8 Q. Now, during the entire time period that you
9 analyzed -- we can take that down now, thanks. During the
10 entire time period that you analyzed for purposes of your
11 opinions with respect to these features, each of these features
12 was available to advertisers on Microsoft's native tool,
13 correct?

14 A. Yes.

15 Q. You also know that the SEM tool Skai offered these
16 Microsoft Advertising features to advertisers during this time
17 period, including Microsoft auction-time bidding from 2020 on,
18 right?

19 A. I know they were available through Skai, but I do not
20 know exactly 2020 on. That time point I'm not a hundred
21 percent sure.

22 Q. Now, Skai and Marin and Adobe and the other SEM tools
23 that compete against SA360, they all allow advertisers to
24 manage campaigns across multiple search engines, just like
25 SA360 does, correct?

1 **A.** They allow for campaigns to manage across multiple
2 search engines. Whether it's exactly like SA360, I'm not too
3 sure.

4 **Q.** The SEM tools, including SA360, offer things to
5 advertisers other than giving them the ability to manage
6 campaigns across multiple platforms, right?

7 **A.** Could you elaborate on that?

8 **Q.** Sure. Like, the SEM tools, they all offer -- other
9 than the advantage that you discussed in your testimony of
10 managing multiple engines or a campaign across multiple
11 engines, they also offer optimization features and reporting
12 features and tracking features, things of that nature?

13 **A.** But I thought that's part of the package itself, to
14 compare and manage the campaigns across multiple search
15 engines.

16 **Q.** Okay. As to the Microsoft Advertising features that
17 you claim were delayed but that SA360 now supports -- so those
18 four features you're talking about -- well, let me back up and
19 rephrase that this.

20 As to the three features that you say were delayed but
21 that SA360 now supports, you agree that advertisers are not
22 currently experiencing any reduced efficiency or return on ad
23 spend as a result?

24 **A.** Going forward, those features are available for them.

25 **Q.** And you did not perform any analysis to quantify how

1 this alleged delay in SA360 support or its failure to support
2 the four features reduced the efficiency of advertiser spend,
3 correct?

4 A. I haven't done a quantitative analysis and quantified
5 it.

6 Q. You did not perform any analysis regarding how much
7 the lack of parity between SA360 and Microsoft Advertising's
8 native tool allegedly reduced return on spend or efficiency?

9 A. I have not done a direct study on that.

10 Q. You didn't perform any analysis of the extent to which
11 the lack of support for these features in SA360 allegedly
12 encouraged spend on Google over Bing?

13 A. I only looked at the depositions and trial testimony,
14 but I don't have any direct evidence on that.

15 Q. And you know that no SEM tool offers full parity for
16 any native tool, correct?

17 A. It depends on what one is calling full parity.

18 Q. There's no SEM tool that offers support for every
19 feature that an SEM tool -- I mean, that a native tool offers,
20 correct?

21 A. Could you clarify parity? How do you define parity?
22 If you define it, then it will be easy for me to respond to
23 that question.

24 Q. Let me put it this way: SEM tools support a certain
25 range of features, correct, yes?

1 A. Yes.

2 Q. And native tools have their own features, right?

3 A. Yes.

4 Q. And there's not a one-to-one correspondence for any
5 SEM tool that you're aware of; like, Skai doesn't support every
6 feature of Google Ads and every feature of Bing?

7 A. My point was not on every feature around that, my
8 focus was on the key features which were considered as very
9 critical by advertisers.

10 Q. Now, advertisers are aware of what features SA360
11 offers in terms of support for other engines, right?

12 A. I think they're going with their eyes open.

13 Q. And they know this because there's blog posts and
14 there's documentation about what features SA360 has that Google
15 publishes?

16 A. I do not know what the sources of information are.
17 Since they're businesspeople, they're going with their eyes
18 open given the constraints they face in the world.

19 Q. Do you agree that SA360 provides advertisers with a
20 path to purchase search advertising on Bing?

21 A. Could you elaborate a little more, the same question?
22 Sorry for asking the same question.

23 Q. That's fine. You agree that SA360 lets advertisers
24 purchase advertising on Bing?

25 A. Yes.

1 Q. And if SA360 didn't exist, that path for advertisers
2 to purchase advertising on Bing wouldn't exist either?

3 A. That is a strong claim. The path through SA360 will
4 not exist, but there may be other paths which people can avail.
5 Like, in the Home Depot, they went through Skai. So,
6 therefore, there are alternative paths also. That's how I
7 feel.

8 Q. We're going to talk to the Home Depot in a second
9 here, but do you agree that advertisers switch between SEM
10 tools?

11 A. Yes.

12 Q. And Home Depot is one example of those, right, they
13 were using tools from Marin and at the same time tools from
14 Adobe, and they switched from that to using SA360 and Skai?

15 A. Yes, SA360 and Skai, for different purposes.

16 Q. And there's a term of art when a company or an
17 advertiser is using two tools at the same time, it's called
18 multihoming, right?

19 A. Correct.

20 Q. And so Home Depot was multihoming, right?

21 A. Home Depot is multihoming because they were not able
22 to access -- run their campaigns on Microsoft using
23 auction-time bidding, at least that's my understanding.
24 Because of that, they felt they need to place a lot of ads on
25 Google Ads. They used SA360 for Microsoft, they went through

1 Skai. That's my understanding.

2 Q. And you reviewed the trial testimony of Mr. Vallez of
3 Skai, right?

4 A. Yeah.

5 Q. And he testified that Verizon switched from SA360 to
6 Skai, correct?

7 A. That's my recall.

8 Q. And SEM tools -- these SEM companies that offer these
9 tools, they have teams of salespeople that go out and try to
10 convince advertisers to sign up with them, even if that
11 includes switching?

12 A. I do not know how they're going about it, but I know
13 what happened in a few instances.

14 Q. You haven't done any survey or analysis of how
15 frequently advertisers switch SEM tools, correct?

16 A. I have not done any survey.

17 MR. MAURER: Thank you.

18 THE COURT: Mr. Maurer, thank you.

19 Mr. Cavanaugh, redirect.

20 **REDIRECT EXAMINATION OF WILFRED AMALDOSS**

21 BY MR. CAVANAUGH:

22 Q. Professor, very quickly, could you just turn to the
23 demonstrative that counsel for Google showed you. Do you have
24 it there?

25 A. I'm just locating it. This one?

1 Q. Yes. And he questioned you regarding DXD20.004, page
2 four of the document.

3 A. Yeah.

4 Q. And this is from the Google hotels unit, right?

5 A. Yeah, that's what I see.

6 Q. And if you would turn to page 002, you see there's --
7 and on 004, is that the Google immersive?

8 A. This is the Google's hotels unit within that --

9 Q. Is it also referred to as an immersive?

10 A. Yeah.

11 Q. And going back to 002, do you get to that by clicking
12 the hotels button?

13 A. Yeah.

14 Q. In the upper right-hand corner?

15 A. Yeah.

16 **MR. CAVANAUGH:** Your Honor, nothing further. I was
17 reminded yesterday that I referenced -- one of Professor
18 Amaldoss' demonstratives referenced PS Exhibit 1210 which I
19 said was in evidence. It was not, and we would move it in. I
20 provided a copy to counsel --

21 **MR. MAURER:** No objection.

22 **MR. CAVANAUGH:** -- this morning.

23 **THE COURT:** It will be admitted. Thank you.

24 (Exhibit PSX1210 admitted into evidence)

25 **THE COURT:** Professor Amaldoss, thank you very much for

1 your time and your testimony, sir.

2 **THE WITNESS:** Thank you.

3 Mr. Sallet.

4 **MR. SALLET:** We will obtain the presence of Professor
5 Baker.

6 **DEPUTY CLERK:** Before you have a seat, please raise your
7 right hand. Do you solemnly swear or affirm that the testimony
8 you will give to the Court will be the truth, the whole truth,
9 and nothing but the truth?

10 **THE WITNESS:** I do.

11 **DEPUTY CLERK:** Thank you. You may be seated.

12 **THE COURT:** Professor Baker, have a seat, and welcome.

13 **THE WITNESS:** Thank you very much. It's a privilege being
14 here.

15 **THE COURT:** It's nice to have you.

16 Whenever you're ready, Mr. Sallet.

17 **MR. SALLET:** Your Honor, if I might just briefly comment
18 on a couple of pieces. Our intention is to do the entirety of
19 Professor Baker's testimony in open court. We will follow the
20 now well-established practice of not using numbers that are
21 redacted, for example.

22 As with previous experts, at the conclusion of Professor
23 Baker's examination, we intend to move the demonstratives --
24 which I will hand out -- into evidence. That will, of course,
25 allow for that which was confidential to be in the record. In

1 addition, we have marked some of the demonstratives -- those
2 that reflect his independent analysis of data, for example, as
3 separate exhibits. And we intend to move those into evidence
4 separately at the end -- well, when we close our case, when
5 we're moving exhibits in.

6 Most of the exhibits -- we put exhibit numbers on slides.
7 As to other exhibits, almost every one is already moved into
8 evidence. There are a couple that are on the push list I can
9 note again at the end, but we expect them to be entered
10 tomorrow as well. So I'm going to hand out the demonstratives.

11 And in accord with past practice, I'd ask, at least
12 provisionally, the demonstratives be entered into evidence now.

13 **THE COURT:** Is there any issue, Mr. Schmidtlein? The same
14 issue, I understand, okay.

15 **MR. SCHMIDTLEIN:** As we have before, demonstratives -- as
16 a demonstrative exhibit, I don't have an objection. I think we
17 can take up later the extent to which they think they're going
18 to move something in as substantive evidence. We can address
19 that later.

20 **MR. SALLET:** Yes, that's right, and we'll do that after
21 the close of the testimony.

22 **THE COURT:** Okay.

23 **MR. SALLET:** One other point, Your Honor. I'm here
24 mirroring Mr. Cavanaugh's comment about Mr. Amaldoss. We're
25 aware that there are topics that Professor Baker has addressed

1 in his report that overlap considerably with Professor
2 Whinston's. I'm going to refer to Professor Whinston in some
3 places as a way to try to not overlap more extensively than
4 necessary. And what we will be trying to do is to focus on
5 that analysis that Professor Baker has done, even in
6 overlapping areas that's independent of, say, statistical
7 analysis that Professor Whinston has done, to try to move
8 forward as expeditiously as we can.

9 **THE COURT:** Okay.

10 **DIRECT EXAMINATION OF JONATHAN BAKER**

11 **BY MR. SALLET:**

12 **Q.** Professor Baker, can you please state and spell your
13 name for the record.

14 **A.** Yes. Jonathan Baker, J-O-N-A-T-H-A-N, B-A-K-E-R.

15 **Q.** And can you describe your educational background?

16 **A.** Yes. I have an undergraduate degree and a law degree
17 from Harvard University, and a PhD in economics from Stanford.

18 **Q.** And have you taught on faculties of any universities,
19 either full-time or part-time, on subjects that rely on your
20 expertise in economics?

21 **A.** Yes, I've -- I was a long-time faculty member at
22 American University, and I also taught full-time at the
23 business school at Dartmouth College. And I've visited at Yale
24 and NYU and Duke.

25 **Q.** And have you published articles or books that draw on

1 your expertise in economics?

2 **A.** Yes. I've published numerous articles, and I also
3 have a recent book on competition policy that draws on that
4 expertise called The Antitrust Paradigm.

5 **Q.** And have you served in the government?

6 **A.** Yes, I had several senior positions in different
7 government agencies.

8 **Q.** Could you just give some examples of senior positions
9 you've held that involve competition policy?

10 **A.** Yes. I was the Chief Economist at the Federal
11 Communications Commission. I've been the Director of the
12 Bureau of Economics at the Federal Trade Commission, which is
13 an antitrust agency. And that's essentially the Chief
14 Economist position. I also worked on the senior staff of the
15 Council of Economic Advisers -- you know, which is part of the
16 Executive Office of the President; and as a Special Assistant
17 to the Deputy Assistant Attorney General for Economics at the
18 Antitrust Division of the Justice Department; and as an
19 attorney-advisor and economic adviser to the acting chair of
20 the Federal Trade Commission.

21 **MR. SALLET:** Thank you. Your Honor, I now move for
22 admission of Professor Baker as an expert in economics and
23 industrial organization.

24 **MR. SCHMIDTLEIN:** No objection.

25 **THE COURT:** I will recognize Professor Baker as an expert

1 in economics and industrial organization.

2 And I'm sorry, Professor Baker, are you presently a
3 professor somewhere?

4 **THE WITNESS:** No, I technically retired from my American
5 University position at the beginning of the past year. I have
6 a senior academic advisor position in what's called the Thurman
7 Arnold Project at Yale which involves antitrust.

8 **THE COURT:** Okay, thank you.

9 **BY MR. SALLET:**

10 Q. Professor Baker, have you prepared demonstratives that
11 describe your opinions in this case?

12 A. Yes, I have. Is it possible for me to get a copy?

13 Q. I think we can do that. May I approach?

14 A. Thank you.

15 Q. It would have been bad if we brought one too few.

16 Just before we start -- and Your Honor, this really --
17 there are two sets of highlighting on these slides. There are
18 some that are yellow, which we used, like I learned to do in
19 law school, to just emphasize. But then we have followed a
20 convention of red boxes for that which is redacted to make it a
21 little easier to see. You'll see we've kind of put a red
22 coloring over it as well.

23 Professor Baker, your report and materials address all of
24 the allegations in the Plaintiff States' complaint, correct?

25 A. That's correct.

1 Q. And are you familiar with the summary judgment order
2 that the Court handed down in this case?

3 A. Yes, I am.

4 Q. Are you restricting your testimony today to those
5 allegations that you understand to be present in the case in
6 light of the summary judgment order?

7 A. Yes.

8 Q. What is the scope of your testimony today?

9 A. Well, I was asked to evaluate the States' claim that
10 Google harmed competition through the -- two kinds of
11 practices, the exclusive pre-installation default agreements,
12 and then the SA360-related conduct.

13 Q. And are you the only economic expert in this case to
14 evaluate all of the economic issues that have been raised?

15 A. Yes.

16 Q. Professor Baker, how did you go about understanding
17 the effects of the conduct on competition?

18 A. Well, I studied the industry in which Google is
19 operating to understand how the firms compete, and what the
20 effects of Google's conduct has been on the competition. And
21 then I looked at the extent to which it exercises market power
22 in three markets involving general search and general search
23 advertising. And then I evaluated whether, and if so how, the
24 conduct that I looked at affected the incentive and ability of
25 Google's rivals to compete, and its ability to exercise market

1 power, and its effect on competition in the three markets that
2 I defined.

3 Q. And can you summarize your opinions on the economic
4 issues raised by the States' complaint?

5 A. Yes. Here's a brief summary here, I'll have a
6 slightly more extensive one at the end. But I've concluded
7 that Google exercises substantial market power in each of three
8 markets: One is general search services in the United States;
9 one is general search text advertising in the United States;
10 and one is general search advertising in the United States.
11 And I've concluded that Google's exclusive defaults and the
12 conduct related to SA360 collectively reduced the ability of
13 all of Google's rivals, all of its current rivals and its
14 potential rivals, to compete with it in those markets, in each
15 of those markets.

16 And so that means that Google harmed competition by
17 protecting from erosion the substantial market power that I
18 found it had in each of those markets.

19 Q. And do you find that both types of conduct that you
20 just mentioned contributed to competitive harm?

21 A. Yes.

22 Q. In your view, Professor Baker, how do the exclusive
23 defaults and the SA360-related conduct work together to harm
24 competition?

25 A. Well, they each make it easier for Google to engage in

1 the other.

2 Q. And Professor Baker, are you familiar with the
3 testimony that Professor Whinston gave in this case?

4 A. Well, I heard -- or I viewed most of it and generally
5 agree with his conclusions. But I didn't work through his
6 analysis, and I'm not prepared to testify on the details of how
7 he reached his conclusions.

8 Q. So Professor Baker, I'd like to turn now to the area
9 of market definition and market power. And just related to the
10 last question, you just talked about Professor Whinston's
11 testimony.

12 Do you agree with him in his conclusions, to the extent
13 they overlap -- for example, in advertising markets, on issues
14 of market definition and market power?

15 **MR. SCHMIDTLEIN:** Objection, Your Honor.

16 **THE COURT:** Sorry, could you restate the question?

17 **BY MR. SALLET:**

18 Q. Sure. Professor Baker, do you have any generalized
19 view of Professor Whinston's testimony about market definition
20 and market power?

21 **MR. SCHMIDTLEIN:** Objection. He's offered no opinions in
22 this case about Professor Whinston, any of his expert reports.

23 **MR. SALLET:** Your Honor --

24 **MR. SCHMIDTLEIN:** He just testified he hasn't studied any
25 of his --

1 **MR. SALLET:** Your Honor, the reason I'm asking the
2 questions is so that we can avoid going through areas that
3 would otherwise have to be explored; and just to explain to
4 Your Honor where we're going to go through this in a short, or
5 more truncated, fashion than an expert would were one to
6 feel -- were one to be the only expert in the case, for
7 example, dealing with an issue. That's the only purpose of the
8 question. It doesn't have to be admitted, even for the truth
9 of it, it's just an explanation to the Court.

10 **THE COURT:** I guess the question is what are you asking
11 him to opine upon, about the accuracy of Professor Whinston's
12 opinions or does he share the same views? I'm just trying to
13 understand. That's unusual, even for experts, to --

14 **MR. SALLET:** Sure, and we can forgo that, Your Honor.
15 I've given you -- the explanation for the question is really to
16 demonstrate why we're going to go through an area in the way we
17 are. Counsel can state that, and there's no reason for me to
18 have to ask Mr. Baker about it -- Professor Baker about it.

19 **THE COURT:** Look, if I could just, Mr. Sallet, there is a
20 right and perhaps more cumbersome way to do this --

21 **MR. SALLET:** Yes.

22 **THE COURT:** -- and I think that's probably the appropriate
23 way to do it, instead of having one expert opine upon --

24 **MR. SALLET:** Sure.

25 **THE COURT:** -- the opinions of another, unless of course

1 the expert is rebutting someone else. That's a different
2 circumstance.

3 **MR. SALLET:** It is a different circumstance that we're
4 going to come to, Your Honor, when we ask if he's heard
5 Professor Amaldoss' testimony, for example. But as to
6 Professor Whinston, you're right, we're not asking that for the
7 truth of the statement, and I'll forgo from asking that as we
8 go forward.

9 **THE COURT:** Okay. The bottom line is I'd like to hear
10 from Professor Baker as to how he reached the conclusions that
11 he has reached.

12 **MR. SALLET:** Of course. So we have a demonstrative that's
13 going to refer to Professor Whinston. I'm going to ask
14 Professor Baker to go to it and not discuss Professor Whinston,
15 although the words will be on the slide.

16 **THE COURT:** Okay.

17 **BY MR. SALLET:**

18 **Q.** So could we show slide five to Professor Baker.

19 **A.** That appears to be a tracker slide.

20 **Q.** So could you just tell us what markets you defined for
21 purposes of your market definition and market power analysis?

22 **A.** Yes. I defined three markets, as I mentioned before:
23 General search services in the United States; general search
24 text advertising in the United States; and general search
25 advertising in the United States.

1 Q. And when you use the term market in this case, are you
2 referring to markets that satisfy a conceptual experiment?

3 A. Yes, of the hypothetical monopolist test.

4 Q. So let me take it in two pieces. First, what do you
5 mean by an antitrust market?

6 A. An antitrust market is a collection of products and
7 locations that would be a valuable monopoly.

8 Q. And can you describe briefly how the hypothetical
9 monopolist test works?

10 A. Well, the idea is that suppose, hypothetically, we had
11 a single firm that was the sole seller of all the products at
12 those locations. And we asked that -- and the conceptual
13 experiment is suppose that single firm were to raise price by a
14 small amount, like 5 or 10 percent, above the competitive
15 level. And then the question is would that be profitable for
16 it to do that -- either raise price or do something similar,
17 reduce quality by a similar amount. Would that be profitable,
18 taking into account the economic force of buyer substitution
19 meaning recognizing that at the higher price, let's say, that
20 would give an incentive for some buyers to try and find
21 alternatives. And so there would be some potentially buyer
22 substitution away from what the hypothetical monopolist is
23 selling.

24 And if that's -- if it's still profitable to raise price
25 after thinking about the possibility of buyer substitution in

1 response, well, then it's an antitrust market.

2 Q. And Professor Baker, imagine there were some instances
3 of some buyers moving away in the -- when one applied the
4 hypothetical monopolist test.

5 Would that change your view on whether the collection of
6 products or services was in fact a valid antitrust market?

7 A. Not if some buyers substitute away. It would have to
8 be enough buyers as to make it unprofitable to raise the price
9 by a small amount or reduce the quality.

10 Q. And Professor Baker, you've talked about substitution.
11 What kind of evidence have you considered in forming your
12 opinions in thinking about substitution?

13 A. Well, in general, I look at five different kinds of
14 evidence or information about buyer substitution. In this
15 particular case, I found two sources to come up the most and be
16 the most relevant in what I reviewed and what the Google
17 experts were talking about. And those are the two that are on
18 the slide. One's information about how products differ in
19 characteristics that are likely to matter to buyers. So we're
20 trying to see if buyers would substitute to alternatives. And
21 if we understand the characteristics of products, that helps
22 figure that out.

23 And here, what I have in mind is different kinds of
24 potential search services have different characteristics, and I
25 looked at that. And I also -- and on the advertising side,

1 there are differences in types of ads and how -- and the
2 advertisers -- and looked at how the advertisers look at that.

3 The other category is --

4 Q. Could I just ask about your first category?

5 A. Yes, I'm sorry. I was getting excited, sorry.

6 Q. It's an exciting moment, yes. Is this first category
7 a kind of evidence you used in this case?

8 A. Oh, yes. Most of the evidence I found to be valuable
9 was in this category.

10 Q. And what is the second category?

11 A. So the second category is what you can infer about
12 buyer substitution from what sellers do, on the view that the
13 sellers are thinking about whether buyers would -- about buyer
14 behavior in making decisions about what products they want
15 to -- other products outside of their own they want to look at
16 and respond to. And there's -- a lot of the evidence that
17 Google's experts relied on I thought was in this category. You
18 know, and I looked at it and didn't find it in general
19 valuable, because firms can look at -- would be expected to
20 look at and pay attention to other products if they were
21 substitutes. But they would also expect to look at and pay
22 attention to other products that are complements for their own
23 products.

24 And also, a firm like Google is a multi-product firm, and
25 they will pay attention to -- you know, they're paying

1 attention to substitutes, it's substitutes for -- not just
2 substitutes for general search. They'll pay attention to
3 what -- to potential substitutes for their immersive site, for
4 example. And so the -- and a lot of the evidence about what
5 Google's experts were relying on fell in this category, and I
6 didn't find it as reliable.

7 Q. As you evaluate these categories, Professor Baker, do
8 you think it's appropriate to consider quantitative evidence or
9 qualitative evidence or both?

10 A. Either. In general, with these two categories and the
11 other ones that I didn't put on the slide that aren't as
12 important in this case, but might be in others, the evidence
13 could be quantitative or it could be qualitative. It's a
14 question of what's the most reliable and convincing. There's
15 no inherent preference for qualitative over quantitative or the
16 other way around. And as I mentioned, in some categories of
17 the evidence, there may not be much to say in a particular
18 case. The evidence might not be even available; or if it is,
19 it may not be very helpful.

20 Q. So --

21 **THE COURT:** Sorry to interrupt, just so I'm a hundred
22 percent clear. When you were referring to sellers in your
23 second category, you are referring to sellers of the product
24 market that you are seeking to define?

25 **THE WITNESS:** That's correct. So sellers of advertising,

1 for example.

2 **THE COURT:** Right.

3 **BY MR. SALLET:**

4 **Q.** Turning now to the specific market of general search
5 services, I'd like to bring up slide 10. Can you tell us what
6 you regard to be general search services?

7 **A.** Yes. These are online services that respond to user
8 queries on a wide range of topics, and they give users choices
9 that come from a broad range of online information. And the
10 right-hand side of the slide just provides one way of
11 indicating the breadth of the online information on general
12 search. This is -- these are -- in a sample week, these were
13 the segments that Google classified queries into that accounted
14 for the top 15 percent -- I'm sorry, the top 15 segments.
15 There are others as well besides these. And you can see in the
16 redacted part the percentage of queries that were in each --
17 that fell in each segment. So it's a diverse group of
18 information -- a diverse range of information, and the queries
19 fall in lots of those categories.

20 And then general search services also let users navigate
21 from the responses that the general search services provide to
22 a wide range of online sites.

23 **Q.** So Professor Baker, we've heard testimony about
24 specialized vertical providers, SVPs, throughout the case. Do
25 you have a view as to whether searching on SVP sites is a close

1 substitute for general search services?

2 **A.** Yes. In general, I don't believe it is for users --
3 for most users or in most cases, and there are three reasons.
4 The first is that general search provides responses from the
5 internet as a whole. And the -- and I'll explain in a moment,
6 that's not the case in the -- well, here it is. The SVP's
7 responses are typically from the limited information available
8 on the vertical segment that they are working on.

9 The second reason --

10 **Q.** Please, please.

11 **A.** -- is that general search provides a greater breadth
12 and a one-stop searching convenience, which isn't the case with
13 SVP sites. They're the -- oh, and the third reason is general
14 search facilitates navigation to a wide range of sites. And on
15 the breadth --

16 **Q.** Yes.

17 **A.** -- what I mean by that --

18 **Q.** Okay, please, go ahead.

19 **A.** I can see the slide, I can anticipate your question,
20 sorry. That's the ability to respond to -- with a broad range
21 of information and information sources to a wide range of user
22 queries. And then by the one-stop searching convenience, I
23 mean -- a general search user can get satisfactory responses to
24 multiple queries from multiple sources, all without switching
25 sites. So that gives it one-stop searching convenience.

1 Q. And Professor Baker, have you performed an independent
2 analysis of this aspect of general search services?

3 A. Yes. I analyzed -- the responses were provided on the
4 first page of Google's SERP to all the queries made in a
5 sample. For each query, I knew the -- I could use Google's
6 classification scheme and identify the segment of the query
7 that it fell in, and then the segments that each of the
8 information sources on the SERP that were provided in response
9 fell in.

10 So just to make clear what that is, there's a query for
11 Halloween that I put in. The segment that -- the query was
12 classified as -- by Google, I believe, like in the hobbies and
13 leisure segment. And then the responses came from information
14 sources that would -- might include -- that did include
15 reference or shopping or arts and entertainment, among other
16 things.

17 Q. So can you display the analysis or a form of the
18 analysis to us and discuss --

19 A. Yes --

20 Q. This is a --

21 A. -- we have to look at --

22 Q. This is a very redacted slide, just to remind you,
23 Professor Baker. But for the -- you can obviously refer to the
24 right half, and you can provide a generalized explanation of
25 the redacted portion to the Court without using specific

1 numbers.

2 **A.** Yes. So in this survey week, you can see across the
3 bottom, those are the classifications that Google put its
4 queries into. And for each classification, each segment, the
5 vertical bars show the percent of the results that are outside
6 the segment that the query was in. And you can see that on
7 average, really more than half the results -- really in all
8 these segments, more than half of the results contain
9 information from segments outside the query which the query
10 itself was classified, except a little -- you know, maybe it's
11 slightly under 50 percent there at the end. So this is showing
12 the breadth of general services and how it facilitates one-stop
13 searching convenience.

14 **Q.** Professor Baker, the classification scheme you're
15 using in this slide is Google's classification, correct?

16 **A.** It's Google's classification scheme, yes.

17 **Q.** So a moment ago you talked about Halloween, which is
18 coming up, and hobbies and leisure. There's a hobbies and
19 leisure column. Could you tell us just a little more
20 information, without using any of the numbers, about how one
21 would apply your analysis to that segment?

22 **A.** Yes. You can see from the highlighted bar on the
23 slide that the great majority of results that are provided on
24 SERPs that respond to a query classified as hobbies and
25 leisure, a great majority of those results were from outside

1 the hobbies and leisure segment.

2 Q. And just turning to a different aspect of this. Did
3 you study whether search users benefit from one-stop searching
4 convenience when they enter multiple queries over the course of
5 a day?

6 A. Well, you can see on this slide an analysis based on
7 Google data in a sample week. And this is -- there's a
8 redacted number, but, I don't know, a greater than majority
9 of --

10 Q. The Judge can see --

11 A. -- sessions involved users searching in more than one
12 segment.

13 Q. Right. You've talked about breadth of information.
14 Have you made a comparison between the breadth of information
15 that general search provides compared to the breadth of
16 information supplied on an SVP?

17 **THE COURT:** Before you answer that question -- I'm sorry,
18 Mr. Sallet, to interrupt.

19 **MR. SALLET:** Yes, sir.

20 **THE COURT:** Can you just give me a sense of how -- the
21 source and how this data was constructed?

22 **THE WITNESS:** Yes. This is based on a large dataset that
23 was produced in discovery by Google. And it has all of
24 Google's queries -- I mean, all the queries received and what
25 the SERPs show in the sample week. And so you could take that

1 information and use -- and I think -- I'm a little rusty on
2 this, but I believe that the classification of the query is in
3 the dataset, the segment in which the query is classified. And
4 then the different results on the SERP are shown. And I
5 believe what we did was we took those results and applied
6 Google's classification scheme using an algorithm that was
7 based on looking at how Google classified navigation queries
8 that were -- what segment Google classified closely related
9 things to those results, and applied that analysis to the
10 classification of the results. So that's how I think the
11 analysis was conducted.

12 **THE COURT:** Thank you.

13 **BY MR. SALLET:**

14 **Q.** So did you compare breadth of information between
15 general search and SVPs?

16 **A.** Yes. And as I said before, SVPs generally provide a
17 narrower range of information, and it's typically a limited
18 vertical segment.

19 **Q.** And do you have an example to illustrate the
20 difference that you opined upon?

21 **A.** Yes. Here's a simple example of -- these are the
22 survey results that were provided in response to a query for
23 UFOs. So when that query is entered on Google, there was
24 nearly 2 billion search results that came from all sorts of
25 places. On the first page of the SERP even, there were

1 different kinds of things. Amazon had a much smaller number of
2 results, and they were all things you could purchase. And this
3 query didn't give you a -- didn't give a response in the two
4 other SVPs, Expedia and HomeAdvisor. And I guess Amazon is a
5 shopping SVP, Expedia a travel SVP, and HomeAdvisor a local
6 services SVP.

7 Q. And you gave, I think, three reasons for the notion of
8 how SVPs compared to general search. What is the third reason?

9 A. Well, the third is that general search facilitates
10 navigation to a wide range of sites. So if you click on the
11 blue links on the SERP, the user can click out to all sorts of
12 sites. And one way to see that is just the searches that
13 Google classifies as navigational, while popular searches
14 include searches for YouTube, Facebook, Amazon. They're going
15 out of the -- to a wide range of sites from the SERP.

16 Q. And have you made a comparison of that to navigation
17 on an SVP site?

18 A. Well, yes. The SVPs that let users complete
19 transactions don't let you -- don't facilitate navigation of
20 sites outside of their site. They want you to buy the product
21 or whatever on their site, make the reservation. Other SVPs
22 will facilitate navigation, but only to sites in their segment
23 where you can make a transaction. So that's like a user on
24 TripAdvisor might be able to navigate to Expedia in booking,
25 but not to Facebook.

1 Q. So you've said SVPs and general search are not
2 substitutes. Do you find a form of economic relationship
3 between them?

4 A. Yes, for many users they are complementary, meaning
5 loosely that they work together. There's a more technical
6 economic definition, but the -- and so what I mean by that is
7 general search often sends its search users to the SVPs, and
8 also that the SVP users are generally lower in the marketing
9 funnel closer to purchase than general search users. So the
10 two sites work together that way.

11 Q. Have you conducted any analysis about the amount of
12 traffic general search engines send to SVPs?

13 A. Yes. General search is an important source of traffic
14 to SVPs. So this analysis shows the -- looks at the roughly 10
15 I guess -- 10 major frequently trafficked to -- you know,
16 frequently viewed SVPs in -- actually, they frequently appear
17 on the SERP, SVPs in four different segments. And you can see
18 these are all major SVPs -- or a lot of them are ones you know.
19 And for all these SVPs, the visits from general search firms
20 accounted for between 33 percent and 88 percent of their online
21 traffic.

22 Q. And a moment ago, Professor Baker, you referred to the
23 marketing funnel. Do you have a view as to where users on SVP
24 sites appear in the marketing funnel analysis?

25 **THE COURT:** Sorry. The data for traffic percentages, did

1 that come from the SVPs or where did you get this information?

2 **THE WITNESS:** No. Let's see. What's referenced in the
3 note is Similarweb. It's a firm that collects data that's a
4 third party to this operation.

5 **THE COURT:** I see, okay. I'm sorry, and they had the data
6 that would show what percentage of traffic to an SVP was
7 originated in a general search engine?

8 **THE WITNESS:** Yes, I think that's my recollection. I'm
9 also referencing Google query data, but that wouldn't show
10 where the traffic went -- I mean, that wouldn't show the share
11 of the SVP --

12 **THE COURT:** Right, that's why I'm wondering --

13 **THE WITNESS:** -- where it came from, the sources. That's
14 my recollection. But I must say, I'm a little fuzzy on this
15 right now, and would have to go back to my report to be
16 confident in that answer.

17 **THE COURT:** All right, thank you.

18 **BY MR. SALLET:**

19 **Q.** On the marketing funnel, as applied to the question on
20 which you're now opining, Professor Baker, how do you view
21 users on SVP sites?

22 **A.** Yes, well, I look -- advertiser behavior is what's
23 telling me that SVP users are generally lower in the marketing
24 funnel than general search users. So advertisers, according to
25 the information I've seen, typically use general search ads to

1 target consumers in that middle stage -- research and
2 consideration, that middle stage of their product journey,
3 while advertisers are typically using ads on SVP sites to
4 target consumers at that lower stage of the funnel closer to
5 purchase.

6 Q. And Professor Baker, given your analysis, would it be
7 a surprise to you if users entered the exact same search query
8 on a general search engine and on an SVP site?

9 A. No, it's because the two work together. So it
10 wouldn't be surprising if, for example, a search user entered a
11 query for red shoes on a general search firm, saw a link to a
12 shopping SVP, and then clicked on it and entered a search for
13 red shoes there. That would be a natural thing to expect.

14 Q. So, can I ask you: Do you think one can appropriately
15 measure the extent to which general search engines and SVPs are
16 substitutes by looking to the extent of such an overlap?

17 A. No, because the overlap may reflect, as I said before,
18 the two types of sites are complementary for general search
19 users -- for many of them.

20 Q. So I'd now like to turn to the two advertising markets
21 you've defined, but ask -- and if we could bring up the next
22 slide, slide 27.

23 **THE COURT:** Mr. Sallet, why don't we take a pause, take a
24 quick morning break.

25 **MR. SALLET:** Yes, sir.

1 **THE COURT:** It will be shorter than our usual break. So
2 why don't we just give it about 10 minutes, and we'll return at
3 11:35.

4 Professor Baker, I'll just ask you not to discuss your
5 testimony with anyone during the break.

6 **THE WITNESS:** Thank you.

7 **THE COURT:** Thank you, sir.

8 (Off the record at 11:25 a.m.)

9 (Back on the record at 11:37 a.m.)

10 **BY MR. SALLET:**

11 **Q.** Professor Baker, we were starting on general search
12 text advertising. If memory serves, I was going to ask you
13 about the relationship between two advertising markets shown on
14 this slide, and ask you can a product or service be in more
15 than one properly defined antitrust market?

16 **A.** Yes, it's -- markets could be nested within each other
17 and they can still be appropriate antitrust markets.

18 **Q.** And how does that notion of nested markets apply in
19 this case?

20 **A.** The two markets I defined have that relationship. The
21 general search text advertising market in the United States is
22 the green circle in the center. And then the larger brown
23 circle, which contains it, is the market for -- on the
24 right-hand side of the slide, the market for general search
25 advertising in the United States. The left-hand side is the

1 general search market.

2 Q. Now, Professor Baker, there are two brown circles
3 here: one general search services, the user side market; and
4 one general search advertising, obviously an advertising
5 market.

6 Is there any relationship between the firms that provide
7 the user side services, the brown circle on the left, and the
8 firms that provide general search advertising, the brown circle
9 on the right?

10 A. Yes, today it's the same firms. There has been in the
11 past one small firm that provided general search without
12 general search advertising, but it's now the same firms.

13 Q. And can you make any observations about the nature of
14 the people who the general search services -- the circle on the
15 left, reach in terms of advertiser interests?

16 A. Yes, the advertisers that are selling -- that are
17 participating in the general search advertising market are
18 placing their ads in order to reach the users that are using
19 the services -- the general search services on the left.

20 Q. And I'd like to now actually turn to the general
21 search text advertising market. Can you tell us -- and, of
22 course, the numbers here are redacted. But before we do, let
23 me just anticipate a potential question.

24 Could you tell us what data you used in making the
25 calculations that appear on slide 28?

1 **A.** Yeah, this comes from data from Google.

2 **Q.** Now, without using numbers, could you just explain to
3 the Court what the figures -- what the rows and columns here
4 signify?

5 **A.** Yes. So the Google advertisers were classified into
6 three categories: whether they purchased just text ads, whether
7 they purchased just non-text ads -- this is all on the general
8 search -- this is all general search advertising. So did they
9 purchase just general text ads, did they purchase just
10 non-general text ads or did they purchase both. And then you
11 can see in the redacted part of the chart that very few
12 advertisers only purchase non-text ads, and they account for a
13 very, very small fraction of revenue. And so it's up in the
14 title of the slide, the great majority of Google's advertisers
15 buy general search text ads.

16 **Q.** So Professor Baker, on the next slide, slide 29, I'd
17 like to take you through different examples of ads. Now, you
18 previously talked about general search ads, so I'm going to ask
19 you, looking at the left-hand box, just to explain to the Court
20 what's in general search text ads, what's in general search
21 ads, and then we'll go through additional questions.

22 **A.** So general search ads are all the ads that appear on
23 the SERP. The main categories are the general search text ads,
24 and then the vertically-focused general search ads. And the
25 vertically-focused ads, the ones that I've seen, are shopping

1 ads, which are also called product listing ads, or PLAs. And
2 then the hotel ads and local services ads. Those are not --
3 those are general search ads, but they're not in the general
4 search text ad market. They are designed for certain types of
5 businesses and cannot be used by most advertisers, only the
6 advertisers that are interested in those categories.

7 Q. And I'd like you then to go to the next -- the middle
8 box.

9 A. Yes, so this is common types of ads that aren't online
10 ads that aren't general search ads. Those include ads on SVP
11 sites, and they might also -- or the search firm's immersive
12 site, which is a lot like an SVP site. And they also include
13 display ads on something like the New York Times or Facebook,
14 something like that. And those are not close substitutes for
15 general search text ads, because they typically target
16 customers at a different stage of their purchase journey in the
17 funnel, the marketing funnel. And then the display ads, in
18 particular, also differ in appearance and in content from
19 general search text ads, and they're not shown in response to a
20 user query.

21 Q. So then in the third box, there's some ads that have
22 been the subject of testimony: Social search ads and
23 retargeted display ads.

24 How do you analyze those in reference to the general
25 search text advertising market?

1 **A.** Well, the social search ads are -- I believe the word
2 I've heard in the testimony was nascent, and they aren't
3 readily scalable meaning if an advertiser puts more money into
4 that kind of an ad, it experiences rapidly diminishing returns.
5 And then the retargeted ads aren't displayed in response to
6 immediate user intent. They have a little -- a bit of a lag,
7 and their value to advertisers dissipates the farther away it
8 is from when the initial impulse for showing it was obtained.

9 **Q.** And do you have any analysis of how frequently general
10 search text advertisers use -- that is to say, buy text ads?

11 **A.** Yes, this is in the next figure that shows that
12 general search text ads account for the vast majority of
13 Google's general search ad revenue. So the bars show that --
14 if you look at the first bar on the left, that's for all --
15 overall. And the height of the bar is the text ads share of
16 the general search ad revenues. And then the other bars break
17 out into various categories that are shown on the bottom of the
18 slide.

19 And you can see in most of the categories, it's a very
20 high fraction of general search ad revenue -- general search
21 text ads account for a very high fraction of search ads. The
22 main exception is the shopping category where there's -- where
23 substantial revenues are attributable to vertically-focused
24 shopping ads as well as substantial revenues to the text ads.

25 **Q.** And can you just tell us the source of the data that

1 you're using here?

2 **A.** This is all data from Google.

3 **Q.** And then you've also addressed, have you not, some
4 sense of the extent to which shopping ads represent revenue in
5 general search ads?

6 **A.** Yeah, shopping ads as a whole -- this is ads in the
7 shopping category --

8 **Q.** Yeah, sorry, I --

9 **A.** -- account for the redacted fraction -- percentage of
10 all of Google's general search ad revenue. It's not close to
11 the majority or anything.

12 **Q.** So I want to now turn to the general search
13 advertising market. I just would like you to describe the
14 relationship between this market and other advertising markets
15 used in this case by the Department of Justice, just for
16 clarity.

17 **A.** So the Justice Department did not define a general
18 search ads market. The general search ads market that's in the
19 States' complaint and that I defined includes general search
20 text ads and these vertically-focused general search ads. The
21 Department of Justice has a broader market which they call --
22 it was on the --

23 **Q.** I believe it's search advertising.

24 **A.** Search advertising in the United States, yes, that's
25 it. Search advertising in the United States, it was on that

1 slide with the concentric circles. That includes other types
2 of ads that are off on the right on this slide, to the extent
3 they involve search. But I didn't analyze that market.

4 Q. So now looking at your market -- this is familiar, but
5 in this circumstance, the slide on the left-hand shows, am I
6 correct, what you regard to be within the general search
7 advertising market, correct?

8 A. Yes, those are the products within the market.

9 Q. And could you then explain your reasoning as applied
10 to the middle box compared to general search advertising?

11 A. Yes, the -- you mean why ads on SVP sites are not
12 close substitutes --

13 Q. Well, let me ask another question actually. You
14 defined this market, so you've created an analysis of why this
15 is an appropriate market, I think it's fair to say.

16 Can you give us your basic, brief reasoning about why you
17 regard this collection of advertisements to form an appropriate
18 antitrust market?

19 A. Yes. It's because advertisers do not consider the
20 other types of ads to be close substitutes. So at least not
21 enough advertisers view them as close enough substitutes to
22 make it plausible -- I'm saying -- I'm getting double negative.
23 So remember the market is properly defined if there isn't so
24 much substitution away as to make it unprofitable to raise
25 price or reduce quality. And there might be -- and the other

1 types of ads wouldn't induce -- aren't close enough substitutes
2 to make that plausible.

3 Q. Okay. So now let's talk about what those other ads
4 are. You have one set, we talked about these a moment ago in
5 relation to the other market, in the middle box. And in
6 particular -- and you talked about this a minute ago, ads on
7 SVP sites.

8 So let me ask you to go to slide 35, and just ask you:
9 Have you in this case, in forming your opinions, relied on the
10 opinions voiced by Professor Amaldoss?

11 A. Yes, and he said -- he explained -- but he's not the
12 only -- it's not the only basis for my opinion.

13 Q. Of course.

14 A. But, as I understand it, advertisers typically use SVP
15 ads and general search ads to target customers in different
16 stages of the marketing funnel. Professor Amaldoss had a slide
17 that I repeated on my slide to that effect that he used in his
18 testimony yesterday.

19 Q. Yes, I'm sorry, your voice drifted off. That he used
20 yesterday, correct?

21 A. In his testimony, correct.

22 Q. So that's talking about why, in your view, SVP ads are
23 not close substitutes. Is there any additional reason for your
24 opinion that they're not close substitutes?

25 A. Yes, they also have features that can make them less

1 attractive to advertisers relative to general search ads. And
2 that includes general search shopping ads, the
3 vertically-focused ones. Professor Amaldoss talked about that
4 as well. And, again, he's not the only source of my --

5 Q. Yeah, the sources are on the bottom -- and I perhaps
6 should have done this at the beginning. The abbreviations JB1,
7 JB3, for example, refer to your reports filed in this -- made
8 in this case, correct?

9 A. Yeah, JB1 would be my initial report; JB2 the rebuttal
10 report; JB3 the reply report; JB4, I think, is a supplemental
11 set of information; and JB5 is the summary. And I think
12 there's an early slide that says in the footnotes --

13 Q. It does, yes.

14 A. -- what the concordance is.

15 Q. Have you looked at the extent to which SVPs are
16 significant purchasers of ads on Google's SERP?

17 A. Yes, they are large purchasers of ads. I just copied
18 here a slide from Professor Elzinga's report. Professor
19 Elzinga is one of Google's experts. Professor Elzinga found
20 that -- he claims that -- or he found that five of the top
21 advertisers -- largest advertisers on Google were SVPs. I did
22 a similar analysis with different data in a different way.
23 There's a table in my report that shows that four of the top
24 five Google general search advertisers were SVPs, and those
25 were mentioned at the bottom.

1 Q. And the source for what you've just said is?

2 A. Of my analysis, it's, again, Google's ad data.

3 Q. So let me ask you: In your view, if SVP ads were
4 close substitutes for vertically-focused general search ads,
5 would you expect that the SVPs themselves are large purchasers
6 of Google's SERP ads?

7 A. That would be unlikely, because firms don't like to
8 advertise on their competitors.

9 Q. So Professor Baker, we've also heard talk in the
10 course of the trial about return on investment, advertisers
11 calculating return on investments. In looking at multiple ad
12 channels to calculate ROI, as it's been abbreviated, in your
13 view, if a general search advertiser considers return on
14 investment, looking at multiple ad channels when deciding how
15 to allocate its budget, does that mean that different channels
16 are substitutes?

17 A. Not necessarily. It could mean that the channels work
18 together for an advertiser trying to reach consumers at
19 different stages of the purchase journey. And so, for example,
20 the advertiser might want to raise awareness of its brand, in
21 which case it might want to buy more display ads on high return
22 on investment display ad channels. That would make -- and
23 doing that might make its general search ads -- which are at a
24 different stage of the funnel, research and consideration, more
25 effective. Because the consumers would already be aware of the

1 product, so they might want to buy a high ROI display ad and a
2 high ROI research and consideration ad, essentially a general
3 search ad.

4 And then even when an ad channel has a high return on
5 investment, it might not be a close substitute for general
6 search, even if it reaches consumers in the same stage of the
7 funnel. Because advertisers might find that that channel isn't
8 readily scalable, and so they might not be interested in
9 substituting much to it.

10 Q. And does this have particular relevance, if at all,
11 for companies that have well-known brands or wish to have their
12 brands well-known?

13 A. Well, those are advertisers who might be interested in
14 buying display ads, and then also buying research and
15 consideration ads, and potentially ads at an even lower stage
16 to all work together. I think Professor Amaldoss talked about
17 something like this yesterday.

18 Q. So I'd like to now turn to the questions of market
19 power and entry and competition. First, I'd like to show you
20 slide 39, and ask you just to explain to the Court what this is
21 and how you went about this analysis.

22 A. Yes. These are -- this slide shows the market shares
23 in the general search services market in the United States
24 for -- by firm for a decade, 2012 to 2021. And it's based on
25 data from -- that was supplied in discovery from various

1 general search firms, and also some data from an outside
2 source. That's the StatCounter in the note. And putting those
3 numbers together, I came up with the shares that are reported
4 on the slide.

5 Q. And this -- just to be clear, this is the general
6 search services market that DOJ has also alleged, correct?

7 A. That's correct. And they have -- well, I don't know.

8 Q. You don't have to, it's okay. And is there any trend
9 you see in Google's share over this time period?

10 A. Yes, it's rising, you can see that.

11 Q. So then I'd like to talk about general search text
12 advertising, the narrower of the two advertising markets.
13 Could you explain your analysis, as shown on slide 40.

14 A. Yes. This shows for two years -- which is all the
15 data I had to do this analysis with, the revenue -- ad revenue
16 shares for text ads, general search text ads, by firm. And
17 then under it, the click shares. And you can see those are
18 also -- you know, the one for -- I guess I should have said on
19 the general search queries, the user share was close to
20 90 percent, and you can see these revenue shares are close as
21 well.

22 Q. And then I'd like you to turn to the general search
23 advertising market that only the States allege in this case.
24 Can you go through this on slide 41 and describe the analysis
25 you did.

1 **A.** Yeah, this is a similar analysis, and this is for the
2 general search market in the United States -- general search
3 advertising market, I'm sorry. General search advertising
4 market in the United States. And you can see that Google's
5 share in 2021 was over 90 percent, and it had risen by at least
6 eight percentage points since 2012. And so -- and that shows
7 the increasing shares over time, that new competition did not
8 erode the substantial market power that Google had in general
9 search advertising. And the substantial market power is
10 because of the high market share.

11 And that's the same analysis that I maybe should have said
12 I went through with general search services with those shares
13 as well. The high share was the -- indicates market power, and
14 the -- again, the new competition did not erode its market
15 power in general search services.

16 **Q.** So you've talked about market shares. Do you also
17 rely on direct evidence of Google's market power in the
18 advertising markets?

19 **THE COURT:** I'm sorry, when you say new competition did
20 not erode, what competition are you referring to?

21 **THE WITNESS:** Any potential entry or new -- that came in.
22 I mean, there were -- I don't recall the years that firms
23 entered, I'm trying to remember. But I've seen references to
24 small firms that have entered at different times, and the sum
25 total of that didn't make any difference to Google's market

1 power.

2 **BY MR. SALLET:**

3 Q. So we've talked about market shares as evidence of
4 market power, you've said substantial market power. Do you
5 also rely on direct evidence of market power in the advertising
6 markets?

7 A. Yes. That's evidence that advertiser demand is not
8 very responsive to a small increase in Google's ad prices. So
9 that would be direct evidence that Google has market power,
10 that it could raise its price in ads, and then the advertisers
11 wouldn't change their behavior much. And there are three types
12 of evidence of that. One is the testimony from advertisers
13 that are describing advertising on Google as essential or else
14 nearly essential. And there's the testimony I reviewed from a
15 Google executive that its advertising revenue typically
16 increased when it raised ad prices by 5 percent, which shows
17 that -- again, that advertiser demand is not very responsive to
18 higher prices. And then there's Google's high price cost
19 margin on ads. That indicates that, in Google's view, its
20 demand for advertising is not very responsive to price. If
21 Google had thought that it would lose a lot of advertisers by
22 charging a high price relative to cost, it would not have found
23 it profitable to do that.

24 Q. So I would like to take a few minutes, Professor
25 Baker, just to drill down on that first of the three bullets,

1 many advertisers describe advertising on Google as essential or
2 nearly so.

3 So are SVPs, in your view, among advertisers who hold a
4 view yes or no as to whether Google's advertising is essential
5 or nearly so?

6 **A.** Yeah, I've seen testimony from multiple SVPs
7 indicating that they are -- they viewed advertising on Google
8 as essential or nearly so, and also from non-SVP advertisers as
9 well.

10 **Q.** And as to an advertiser that finds Google's
11 advertisements essential or nearly so, what, if any,
12 implication does that have about what an advertiser would do if
13 the cost of acquiring customer traffic from Google were to
14 rise?

15 **A.** Well, if the cost of acquiring customer traffic from
16 Google increases, and the advertiser thought advertising on
17 Google was essential, it's unlikely to -- it's likely to
18 continue advertising on Google.

19 **Q.** And did you review any information dealing with SVP
20 customer acquisition costs?

21 **A.** Yes, I reviewed --

22 **Q.** And could we have slide 43 perhaps. Yes, thank you.

23 **A.** Three examples involving three SVPs: Booking, Expedia
24 and Vrbo in the years that are indicated on the slide. Each of
25 them had a substantial rise in the -- experienced a substantial

1 rise in their cost of acquiring customer traffic from Google,
2 and they continued to advertise on Google. And they each
3 attributed that cost increase to Google's practices.

4 Q. So I'd like to take these examples one by one, if we
5 might, and first ask you about Booking. This is a very
6 redacted slide, but if we could provide some description
7 without using any of the numbers.

8 A. Yes, so there's a bar chart on the slide, and then
9 there's a table that has the data from which the bar chart was
10 created. And what the data show -- these data came from
11 Booking, and they show where the clicks from Google came from,
12 what was the source of clicks from Google. And some of those
13 clicks came from SEO, which means the blue links, and some of
14 them came from SEM, which means all the ads that appear on the
15 SERP. And then some came from GHA, and that means that are ads
16 on the hotel and immersive, so it's not on the SERP. And the
17 bars show -- and what we have in the table is for 2015, the
18 share of traffic that -- of the clicks to Booking that came
19 from Google that came from each of the three sources. And then
20 in 2019, the shares were different.

21 And the main feature of the chart is that a much
22 greater -- you know, in percentage terms, a much greater share
23 of clicks came from the hotel ads, the GHA, in 2019 than from
24 2015. And then correspondingly, the share that came from the
25 other sources was less. And then what Booking did was it

1 analyzed the implications of that. It said suppose our share
2 had not changed. We had in 2019 the same click shares from the
3 three sources that we had in 2015. Well, if that were the
4 case, the company would have spent a redacted percentage -- and
5 that's in the box on the right, less to get the same number of
6 visits, of clicks.

7 Q. And can I just take you back to the chart for a
8 second. You've explained it, but just if one looks at the 2019
9 click share, there are three categories, correct?

10 A. That's correct.

11 Q. And as a percentage of source of clicks, which is the
12 largest of those three categories -- and please don't give the
13 number?

14 A. Okay. The SEM, which is the ads on the SERP, is by
15 far the largest click share.

16 Q. A significant difference?

17 A. Yes.

18 Q. The other question I have is, the right-hand side of
19 that chart has some percentage changes, right? There's a
20 number -- a percentage change for SEO, SEM and GHA. Do you see
21 that?

22 A. Yes.

23 Q. Can you add up these percentages to create some kind
24 of net effect?

25 A. No, that's not how you can do it. That doesn't work

1 that way. You have to do the kind of calculation that I
2 described that's -- that Booking did in the quote that's on the
3 right-hand side.

4 Q. And can you just remind us what the source of data for
5 this slide is?

6 A. It's data that came from Booking.

7 Q. You had a second example. Could you turn to slide 45.

8 A. Yes, this is data from Expedia showing what -- its
9 customer acquisition costs increasing. The left-hand panel
10 shows information for years between 2012 and 2018. The blue
11 bars are its marketing spending, and you can see that going up.
12 The orange bars are the number of visitors. And both of
13 those -- the actual numbers are redacted, and the scale for
14 that is on the left-hand side of the figure. The red line does
15 the division, so it works out marketing spending per visitor.
16 And the scale for that is on the right-hand side of the panel.
17 And you can see the -- it doubled essentially, a hundred
18 percent increase is on the slide over those years.

19 Q. And then the right-hand panel, how does that relate to
20 what you've just said?

21 A. The right-hand panel is Expedia's return on marketing
22 spending. So it's the profit per dollar that Expedia earns --
23 profit for marketing dollar, essentially, over -- it's actually
24 one more year, it goes from 2012 to 2019. You can see that
25 the -- its profit per dollar fell in half, which is another way

1 of making the same point, that Expedia's customer acquisition
2 costs increased over this period.

3 Q. Actually, let me go back to the left-hand side, if I
4 might, Professor Baker. So do you have an opinion as to
5 whether traffic to Expedia would have increased by more if the
6 marketing costs per visitor had not risen over the time period
7 shown on the left chart?

8 A. Yes, if the market costs per visitor had not
9 increased, Expedia would have been expected to spend more on
10 marketing and attract more customers. Was that what you asked?
11 Or get more visitors.

12 Q. That was the question -- at least that isn't the
13 answer to the question I asked, yes. You said you had a third
14 example. Could you go to that.

15 A. Yes, it's from Vrbo, and it's on the next figure.
16 Now, this is about Vrbo's general search spending on marketing,
17 and the visits it gets from -- I'm sorry, Google general search
18 spending, and visits from Google general search. Those are
19 visits coming from both the blue links and from general search
20 ads. And this is from 2016 to 2019, and it's data from --
21 well, it's from Vrbo which is a sister company from -- of
22 Expedia, I think. And what the -- this tells the same story --
23 a similar story to what we've seen before. The blue bars show
24 marketing spending going up. The orange bars show the number
25 of visits that come from Google, Google's SERP, holding

1 constant, then falling a bit between 2016 and most of 2019.
2 The red line does the division. And marketing costs per
3 visitor in 2019 was seven times the cost per visitor in 2016.

4 Q. So you've now given us three analyses. Based on your
5 review, did you reach a conclusion as to whether customer
6 acquisition costs increased for these SVPs?

7 A. Yes, and they did.

8 Q. And --

9 A. Over these sample periods, yes.

10 Q. Yes. And have you seen testimony consistent with your
11 analysis in this case?

12 A. Yes, Mr. Dijk from Booking and Mr. Hurst talked about
13 Expedia and Vrbo, and then Professor Amaldoss all said that
14 Google's practices have the effect of increasing SVP customer
15 acquisition costs.

16 Q. And did Mr. Dijk or Mr. Hurst or Professor Amaldoss
17 suggest why that was, why customer acquisition costs increased?

18 A. Yes, they all talked about the effect of demoting the
19 blue links on the SERP as the reason the customer acquisition
20 costs rose.

21 Q. So I'd like to take just a little time on this
22 concept. First of all, what do you mean when you say demotion
23 of blue links?

24 A. So it means that the blue links appear lower on the
25 SERP. So here's a figure that just provides an example. The

1 query is for plumber, and the left-hand side shows a SERP
2 from -- a Google SERP in 2013, and the right-hand side shows a
3 Google SERP from 2022. On the left-hand side, you can see in
4 the green box the first blue link. And on that, it's a quarter
5 of the way down above the red line which is the -- which is
6 where the bottom of the desktop screen is, so that's the fold.

7 And then in 2022, the first -- you can see that Google has
8 included more things on the SERP. It looks like there's an ad
9 carousel at the top, and there's text ads below it. And then
10 there's -- it's hard to read, I know. And then there's a
11 universal that lists some plumbers and has a map. And the
12 upshot of all that is that the first blue link is much lower,
13 it's down towards the bottom right of the page. In general,
14 what you see is what happened on the Google SERP over time,
15 Google introduced more features to the SERP that had the effect
16 of pushing down the blue links in general on the page.

17 **Q.** And because this is so hard to see -- and excuse me, I
18 just realized I'm about to refer to a comic strip character,
19 but I don't mean that, the green arrow, what does that signify
20 in the middle of the page?

21 **A.** Oh, yes. The bottom of the green arrow is at the
22 level of the first blue link on the left. The bottom -- well,
23 it's the bottom of the arrow, but it's at the top of the green
24 symbol. And then the point of the arrow is at the -- where the
25 first blue link is on the SERP on the right.

1 **Q.** So then let me just ask: Have you studied the effect
2 of demotion of blue links on SVPs?

3 **A.** Yes, and I found that demotions of blue links lead to
4 fewer user clicks to SVP sites. And -- well, I'm sorry, I'll
5 wait for your next question.

6 **Q.** Could you tell us why?

7 **A.** Okay, well, yes. The reason is that the SVPs
8 frequently appear in the blue links, frequently relative to
9 suppliers. So like, for example, in the travel segment, you'd
10 see SVPs like Expedia more frequently than suppliers like hotel
11 chains. And when the SVPs -- when the blue links with the SVPs
12 are pushed down on the SERP, that means they're clicked on less
13 often. And that means that less traffic from the blue links
14 goes to the SVPs.

15 **Q.** So I'd like to go through this piece by piece. The
16 first bullet, demotion of blue links lead to fewer clicks, what
17 is your basis for believing that?

18 **A.** Well, there are three that I mentioned on the slide.
19 One is testimony from various industry witnesses. One is an
20 analysis I conducted of user clicking on blue links with -- on
21 the SERP with and without various features that demote the
22 links. And then there's an analysis of text ads that I went
23 through of clicking on text ads in different positions that
24 shows that their position on the SERP when it's lower, they get
25 fewer clicks.

1 **THE COURT:** Can I interrupt just for a moment?

2 **MR. SALLET:** Yes, sir.

3 **THE COURT:** And I think you touched on this, but what did
4 you find the impact of this was in terms of the ad spend on
5 these SVPs? What you described to be the demotion of the blue
6 links, what impact did that have on the ad spend?

7 **THE WITNESS:** So these SVPs -- most SVPs who experience
8 this that I saw responded by spending more on advertising to
9 try and bring visitors back to their site. And that included
10 spending on Google in general, in ads on Google.

11 **THE COURT:** And in your opinion, is that evidence of
12 market power, and in which markets?

13 **THE WITNESS:** It's evidence that the continued spending of
14 advertising on Google, and on its SERP in particular, is
15 evidence that these advertisers consider advertising on Google
16 essential or nearly so. So it's consistent with the other
17 direct evidence that I talked about to show market power in the
18 two advertising markets I defined.

19 **BY MR. SALLET:**

20 **Q.** You have three analyses in the dark blue box, but I'd
21 just like to focus on the second one. Can you tell us about
22 your analysis of user clicking on blue links?

23 **A.** Yes. So this is from Google sessions data, and it
24 looks at the frequency that user clicked on a blue link in a
25 visit when the SERP had certain features on it versus their

1 clicking on the blue links when the SERP did not have those
2 features in a sample week. And it's commercial queries, as
3 explained in the title.

4 Q. And the features are not redacted --

5 A. Oh, yes.

6 Q. -- the analysis is.

7 A. I'm sorry.

8 Q. So could you just tell us by row what the basis for
9 your analysis is?

10 A. Yeah, so the top row is -- shows what happens when the
11 SERP includes either a product listing ad or a shopping ad
12 essentially or a top text ad. In the orange box on the
13 redacted part of the slide, you can see that there's a number
14 for how frequently users first click is on a blue link when
15 there's no such feature. And then the -- and that's the
16 without column. And then the next column shows how frequently
17 the first click is on a blue link with that feature. And then
18 the final column is the difference, and it's a lower number.
19 So it's less frequently clicking on the blue link with the
20 feature. And then the bottom --

21 Q. The second row --

22 A. Which is on the next slide, I guess, highlighted, it
23 shows the same analysis for what happens when the feature
24 that's shown is a search universal.

25 Q. So without using any numbers here, what this chart --

1 tell me if I've got it right, shows is that with the presence
2 of a PLA or top text ad, or with the presence of a universal,
3 the frequency of clicking on a blue link is lower when those
4 features appear?

5 A. That's correct.

6 Q. So I want to ask you, you talk about PLAs, text ads
7 and universals. Does your analysis show that there's some
8 problem with Google introducing PLAs or text ads or universals
9 on a SERP?

10 A. No, I'm just using this to show the consequences of
11 demotions of the blue links for the traffic to the SVPs which
12 is --

13 Q. Part of your --

14 A. -- the clicking and therefore the traffic, and which
15 is part of the analysis I just went through about --

16 Q. -- market --

17 A. -- acquisition costs and --

18 Q. I'm sorry, I'm talking over you.

19 A. Yes.

20 Q. I apologize.

21 A. Yes.

22 **COURT REPORTER:** I'm sorry, I'm not getting all --

23 **BY MR. SALLET:**

24 Q. My fault, my fault. Please continue.

25 A. I'm just using it show the consequences of demotions

1 on the SERP for user clicking behavior, and therefore traffic
2 to the SVPs, which is the source of the higher customer
3 acquisition costs that I talked about before. And then -- and
4 related to market power in the way we just discussed.

5 Q. So you had a second bullet on this slide we looked at
6 a few minutes ago talking about SVPs appearing frequently in
7 the blue link. Can you tell us the relevance of this, and what
8 it is that you have learned in your analysis?

9 A. Yes, I did an analysis showing -- comparing how
10 frequently SVPs appear in blue links in queries in certain
11 segments, and how frequently suppliers did.

12 Q. And why is this helpful to your analysis?

13 A. It shows that the -- because I find that the SVPs are
14 much more frequently in the -- frequently appear in those blue
15 links much more frequently than the other the suppliers. And
16 so the demotions of the blue links is reducing traffic,
17 particularly to the SVPs.

18 Q. So just as a matter of methodology, on slide 55, tell
19 us what you looked at -- what firms you looked at for purposes
20 of the analysis you conducted?

21 A. So I looked at 10 frequently appearing SVPs in each of
22 the segments, and 10 frequently appearing suppliers. And these
23 are SVPs and suppliers that frequently appeared in the blue
24 links, the top five blue links on the SERP. So that means they
25 are ones that show up a lot, and Google has found them relevant

1 as something to show to a search user. And this slide shows
2 which SVPs and suppliers I looked at in the hotel segment, just
3 to give you a sense of the kind of firms that count for this
4 analysis. And you can see there are various well-known SVPs
5 and well-known hotel chains on the right.

6 Q. And what did you find -- what was the analysis you
7 performed and what were your findings?

8 A. Well, that's the next slide, I believe. The bottom
9 line is that the SVPs frequently appear in the blue links
10 relative to suppliers. The way the table works -- this is all
11 from Google's query data.

12 Q. Could you perhaps just -- there's a lot of data on
13 here, just take one --

14 A. Oh, sure.

15 Q. -- example and just walk through it for the Court's
16 benefit?

17 A. Sure. The travel hotels row is highlighted. So
18 column A and column B are looking at the fraction of queries
19 where either an SVP or a supplier appears at least once in the
20 blue links, in the top 10 blue links on the SERP. And you can
21 see it's a much higher percentage for SVPs than for suppliers.
22 Columns C and D do the analysis in a similar way but -- I mean,
23 in a different way, but get to the same kind of conclusion.
24 That counts the number of total appearances on the SERPs, and
25 what fraction of those appearances are SVPs and what

1 fraction -- or what percentage are SVPs and what percentage are
2 suppliers. And again, the SVPs show up, you can see, much more
3 frequently than suppliers. And the other rows show a similar
4 pattern for the other segments that I looked at.

5 Q. And the source of this data, I think I didn't ask you,
6 Professor Baker?

7 A. It's Google query data.

8 Q. Professor Baker, on the question of customer
9 acquisition costs, you said to the Court a few minutes ago that
10 the relevance of your testimony goes to what you describe as
11 continued purchasing of advertisements by the firms on Google.

12 Have you seen any evidence as to whether the firms knew
13 anything about whether customer acquisition costs were rising
14 as they were making those purchases?

15 A. Yes, and there's one example in Mr. Dijk's testimony
16 that's on the slide. And I don't know that I need to read the
17 quote, but he's worrying about needing to pay more and more for
18 his Google clicks.

19 Q. And did you hear anything on this point from
20 Mr. Hurst?

21 A. Oh, he said something similar, yes.

22 Q. So now as to the point this brings us to: Have you
23 seen testimony as to whether the SVPs continued buying ads from
24 Google search knowing that their customer acquisition costs
25 were going up?

1 **A.** Well, yes, there's testimony from Mr. Dijk and
2 Mr. Hurst -- and then also Professor Amaldoss similarly, but
3 he's not an SVP witness. And they all testified that SVPs
4 don't have good alternatives for obtaining search traffic.

5 **Q.** So just to bring this portion of questioning to a
6 close, can you now take us to that testimony and to the
7 analysis you've done on customer acquisition costs, and explain
8 to us the extent to which, if at all, it supports your opinion
9 about market power?

10 **A.** Yes, that's what the Court asked me a moment ago, that
11 these SVPs experienced higher customer acquisition costs
12 because of the way the blue links were demoted on the SERPs.
13 And they still found that they -- it necessary to buy Google's
14 general search ads and general search text ads. And that shows
15 that they don't have -- that they view -- that's consistent
16 with my view that it's necessary or nearly so for many
17 advertisers to use Google Ads. And therefore, that's -- and
18 that's direct evidence of Google's market power in the two
19 advertising markets.

20 **Q.** So the Court also asked you a little bit before about,
21 if memory serves, what it meant that there had not been erosion
22 of market share.

23 Have you -- just to turn to another topic, looked at the
24 question of whether market power in any of the three markets
25 was eroded by entry?

1 **A.** I explained before that it hadn't, and this slide's
2 explaining why. Entrants have substantial disadvantages to
3 Google in both the search market -- the general search market
4 and the advertising markets. And those disadvantages come from
5 their lack of scale and lack of experience. And they also have
6 disadvantages because of the defaults to Google on its
7 widely-used Chrome browser. Those are all background
8 disadvantages to entrants.

9 And then in addition, the conduct that we were talking
10 about today, the exclusive default agreements and the
11 SA360-related conduct, makes new competition even harder. And
12 collectively, that's why it's not surprising that Google's
13 market power in the three markets has not been eroded by entry.

14 **Q.** So the second bullet refers to conduct that's been
15 alleged by the States as anti-competitive in this case,
16 correct?

17 **A.** The second major bullet.

18 **Q.** The second major bullet. And the first major --

19 **A.** At the bottom, yes.

20 **Q.** Sorry.

21 **A.** The large bullet at the bottom, yes.

22 **Q.** Yes. And the first major bullet, which you described
23 as background, talks about other factors, correct?

24 **A.** That's correct.

25 **Q.** So just to help us understand how to measure market

1 power, does conduct have to be harmful to competition, do
2 circumstances have to be harmful to competition to provide a
3 basis to find that there's market power?

4 A. A firm's market power doesn't -- I mean, a firm can
5 obtain market power through ways that don't harm competition,
6 and it can obtain market power through ways that do. This case
7 is about whether Google's conduct eroded -- I'm sorry,
8 prevented rivals from eroding its market power.

9 Q. Correct.

10 A. And my point here is that it has not been eroded by
11 entry, and that -- and then in my -- and that Google's conduct,
12 exclusive default agreements and SA360-related conduct, helped
13 protect Google's market power from erosion.

14 Q. And just before we finish this section, do you have a
15 view as to whether Google's conduct -- that is to say, the
16 second big bullet, has any impact on the scale available to
17 entrants and new rivals?

18 A. Yes, it makes it harder for entrants and new rivals to
19 obtain scale. And that makes it harder for them to obtain --
20 to achieve high quality search results, and then attract search
21 users and then attract advertisers.

22 Q. And what, if any, is the impact of scale on the
23 ability of a firm to compete in these markets?

24 A. Well, a firm with greater scale can compete more
25 effectively because it has -- well, I guess I ought to explain

1 that greater scale for search users -- greater scale search
2 users helps the search firm by -- in answering infrequent
3 queries and new queries. And also, it lets the search firm
4 conduct more experiments that help it improve the SERP, the
5 quality of its search results. And so the -- that's how the --
6 and so a firm with lower scale can't do that as successfully as
7 one with a higher scale, and so can't compete as well for
8 general search users. And then when you can't compete as well
9 for general search users, that makes it harder to attract
10 general search advertisers. And therefore, a firm that has
11 lower scale, it has a harder time competing with a firm with as
12 high a share and scale as Google.

13 **MR. SALLET:** Your Honor, I'm about to get to another
14 section. Would this be a convenient time for a lunch break?

15 **THE COURT:** Yeah, it would. Okay, terrific.

16 Professor Baker, we're going to take about an hour for
17 lunch. We will return at 1:30. Again, I'd just ask you not to
18 discuss your testimony during the break, sir.

19 Thank you, everyone. We'll see you at 1:30.

20 (Lunch recess taken at 12:30 p.m.)
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C E R T I F I C A T E

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I, **Jeff M. Hook, Official Court Reporter,**
certify that the foregoing is a true and correct transcript of
the record of proceedings in the above-entitled matter.

October 25, 2023

DATE



Jeff M. Hook

<p>BY MR. CAVANAUGH: [1] 7010/20 BY MR. MAURER: [1] 7001/17 BY MR. SALLET: [11] 7014/10 7016/8 7019/16 7021/16 7026/2 7031/12 7034/17 7036/9 7049/1 7058/18 7060/22 COURT REPORTER: [1] 7060/21 DEPUTY CLERK: [3] 7001/1 7012/5 7012/10 MR. CAVANAUGH: [3] 7001/13 7011/15 7011/21 MR. MAURER: [3] 7001/9 7010/16 7011/20 MR. SALLET: [16] 7012/3 7012/16 7013/19 7013/22 7015/20 7019/22 7019/25 7020/13 7020/20 7020/23 7021/2 7021/11 7030/18 7035/24 7058/1 7067/12 MR. SCHMIDTLEIN: [5] 7013/14 7015/23 7019/14 7019/20 7019/23 THE COURT: [36] 7001/5 7001/14 7010/17 7011/22 7011/24 7012/11 7012/14 7013/12 7013/21 7014/8 7015/24 7016/7 7019/15 7020/9 7020/18 7020/21 7020/24 7021/8 7021/15 7025/20 7026/1 7030/16 7030/19 7031/11 7033/24 7034/4 7034/11 7034/16 7035/22 7035/25 7036/6 7048/18 7057/25 7058/2 7058/10 7067/14 THE WITNESS: [13] 7012/1 7012/9 7012/12 7016/3 7025/24 7030/21 7034/1 7034/7 7034/12 7036/5 7048/20 7058/6 7058/12 *Admitted [3] 7000/15 7000/16 7000/17</p>	<p>0 002 [2] 7011/6 7011/11 004 [1] 7011/7 1 10 [7] 7026/5 7033/14 7033/15 7036/2 7061/21 7061/22 7062/20 10 percent [1] 7022/14 10019 [1] 6999/11 10036 [1] 6998/24 10:32 [1] 6998/6 1100 [1] 6998/14 1133 [1] 6998/23 11:25 a.m [1] 7036/8 11:35 [1] 7036/3 11:37 a.m [1] 7036/9 1210 [1] 7011/18 12:30 p.m [1] 7067/20 1300 [1] 6999/4 1301 [1] 6999/11 15 [1] 7026/14 15 percent [1] 7026/14 1:20-cv-3010 [1] 6998/4 1:30 [2] 7067/17 7067/19 2 2 billion [1] 7031/24 20-3010 [1] 7001/2 20001 [2] 6998/17 6999/25 20005 [1] 6998/15 20024 [1] 6999/9 2012 [4] 7046/24 7048/6 7053/10 7053/24 2013 [1] 7056/2 2015 [3] 7051/17 7051/24 7052/3 2016 [3] 7054/20 7055/1 7055/3 2018 [1] 7053/10 2019 [8] 7051/20 7051/23 7052/2 7052/8 7053/24 7054/20 7055/1 7055/3 2020 [2] 7005/17 7005/20 2021 [2] 7046/24 7048/5 2022 [2] 7056/3 7056/7 2023 [1] 6998/5 209 [1] 6998/19 2200 [2] 6998/23 6998/23</p>	<p>25 [1] 6998/5 27 [2] 6998/7 7035/22 28 [1] 7037/25 29 [1] 7038/16 3 3010 [2] 6998/4 7001/2 33 percent [1] 7033/20 333 [1] 6999/24 35 [1] 7043/8 39 [1] 7046/20 4 40 [1] 7047/13 40th [1] 6999/11 41 [1] 7047/24 43 [1] 7050/22 45 [1] 7053/7 450 [1] 6998/17 5 5 percent [1] 7049/16 50 percent [1] 7029/11 55 [1] 7061/18 57 [1] 7002/3 6 600 [1] 6998/19 60604 [1] 6998/20 680 [1] 6999/8 7 7001 [3] 7000/4 7000/15 7000/16 7010 [1] 7000/5 7011 [1] 7000/17 7014 [1] 7000/8 7th [1] 6999/4 8 80203 [1] 6999/4 88 percent [1] 7033/20 9 90 percent [2] 7047/20 7048/5 A a.m [3] 6998/6 7036/8 7036/9 AARON [1] 6999/7 abbreviated [1] 7045/12 abbreviations [1] 7044/6 ability [7] 7001/25 7006/5 7017/24 7017/25 7018/12 7027/20 7066/23 able [2] 7009/21 7032/24</p>	<p>above [3] 7022/14 7056/5 7068/5 above-entitled [1] 7068/5 academic [1] 7016/6 access [1] 7009/22 accord [1] 7013/11 according [1] 7034/24 account [5] 7022/18 7038/12 7040/12 7040/21 7041/9 accounted [2] 7026/13 7033/20 accuracy [1] 7020/11 achieve [1] 7066/20 acquiring [3] 7050/13 7050/15 7051/1 acquisition [14] 7050/20 7053/9 7054/1 7055/6 7055/15 7055/17 7055/19 7060/17 7061/3 7063/9 7063/13 7063/24 7064/7 7064/11 across [6] 7005/24 7006/1 7006/6 7006/10 7006/14 7029/2 acting [1] 7015/19 action [2] 6998/3 7001/2 actual [1] 7053/13 actually [5] 7033/16 7037/20 7042/13 7053/23 7054/3 ad [25] 7006/22 7039/4 7040/4 7040/13 7040/16 7040/20 7041/10 7045/2 7045/11 7045/14 7045/22 7046/1 7046/2 7046/3 7046/4 7047/15 7049/8 7049/16 7056/8 7058/4 7058/6 7059/11 7059/11 7059/12 7060/2 add [1] 7052/23 addition [2] 7013/1 7065/9 additional [2] 7038/21 7043/23 address [2] 7013/18 7016/23 addressed [2]</p>	<p>7013/25 7041/3 admission [1] 7015/22 admitted [5] 7001/15 7001/16 7011/23 7011/24 7020/8 Adobe [2] 7005/22 7009/14 ads [106] ads account [1] 7040/21 advantage [1] 7006/9 advise [2] 7045/8 7051/2 advertisements [3] 7042/17 7050/11 7063/11 advertiser [13] 7007/2 7009/17 7034/22 7037/15 7040/3 7045/13 7045/18 7045/20 7049/7 7049/17 7050/10 7050/12 7050/16 advertiser's [1] 7005/4 advertisers [45] 7005/12 7005/16 7005/23 7006/5 7006/21 7008/9 7008/10 7008/19 7008/23 7009/1 7009/9 7010/10 7010/15 7024/2 7024/2 7034/24 7035/3 7037/16 7038/5 7038/12 7038/14 7039/5 7039/6 7040/7 7040/10 7042/19 7042/21 7043/14 7044/1 7044/21 7044/21 7044/24 7045/10 7046/7 7046/13 7049/10 7049/12 7049/21 7050/1 7050/3 7050/8 7058/15 7064/17 7066/21 7067/10 advertising [56] 7004/9 7005/16 7006/16 7008/20 7008/24 7009/2 7017/23 7018/9 7018/10 7019/13 7021/24 7021/25 7023/25 7025/25 7035/20 7036/12 7036/13 7036/21 7036/25 7037/4 7037/4 7037/8 7037/12 7037/17 7037/21 7038/8 7039/25 7041/13</p>
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<p>A advertising... [28] 7041/14 7041/23 7041/24 7041/25 7042/7 7042/10 7047/12 7047/12 7047/23 7048/3 7048/3 7048/9 7048/18 7049/5 7049/13 7049/15 7049/20 7050/1 7050/4 7050/7 7050/16 7050/18 7058/8 7058/14 7058/15 7058/18 7064/19 7065/4 Advertising's [2] 7004/4 7007/7 adviser [1] 7015/19 Advisers [1] 7015/15 advisor [2] 7015/19 7016/6 affect [1] 7001/25 affected [1] 7017/24 affirm [1] 7012/7 again [8] 7002/24 7013/9 7044/4 7045/2 7048/14 7049/17 7063/2 7067/17 against [1] 7005/23 agencies [1] 7015/7 agency [1] 7015/13 ago [7] 7029/17 7033/22 7043/4 7043/6 7061/6 7063/9 7064/10 agree [9] 7002/11 7002/13 7002/16 7006/21 7008/19 7008/23 7009/9 7019/5 7019/12 agreements [3] 7017/11 7065/10 7066/12 ahead [1] 7027/18 al [2] 6998/3 7001/3 algorithm [1] 7031/6 all major [1] 7033/18 allegations [2] 7016/24 7017/5 allege [2] 7001/22 7047/23 alleged [3] 7007/1 7047/6 7065/15</p>	<p>allegedly [2] 7007/8 7007/11 allocate [1] 7045/15 allow [3] 7005/23 7006/1 7012/25 almost [1] 7013/7 alternative [1] 7009/6 alternatives [3] 7022/21 7023/20 7064/4 although [1] 7021/15 AMALDOSS [13] 7000/3 7001/9 7001/17 7010/20 7011/25 7013/24 7043/10 7043/16 7044/3 7046/16 7055/13 7055/16 7064/2 Amaldoss' [2] 7011/18 7021/5 Amazon [3] 7032/1 7032/4 7032/14 AMERICA [2] 6998/3 7001/3 American [2] 7014/22 7016/4 Americas [2] 6998/23 6999/11 AMIT [3] 6998/10 7004/15 7004/16 among [2] 7028/15 7050/3 amount [4] 7022/14 7022/17 7023/9 7033/11 analyses [2] 7055/4 7058/20 analysis [48] 7006/25 7007/4 7007/6 7007/10 7010/14 7013/2 7014/5 7014/7 7019/6 7021/21 7028/2 7028/17 7028/18 7029/21 7030/6 7031/9 7031/11 7033/11 7033/14 7033/24 7035/6 7040/9 7042/14 7044/22 7045/2 7046/21 7047/13 7047/15 7047/24 7048/1 7048/11 7055/11 7057/20 7057/22 7058/22 7059/6 7059/9 7059/23 7060/7 7060/15 7061/8 7061/9 7061/12 7061/20 7062/4 7062/6 7062/22 7064/7 analyze [2] 7039/24 7042/3</p>	<p>analyzed [4] 7005/9 7005/10 7028/3 7052/1 answered [1] 7002/2 anti [1] 7065/15 anti-competitive [1] 7065/15 anticipate [2] 7027/19 7037/23 antitrust [12] 6999/3 7015/4 7015/13 7015/18 7016/7 7022/5 7022/6 7023/1 7023/6 7036/15 7036/17 7042/18 apologize [1] 7060/20 appear [11] 7033/16 7033/24 7037/25 7038/22 7051/14 7055/24 7057/8 7060/4 7061/10 7061/14 7062/9 appearance [1] 7039/18 appearances [4] 6998/12 6999/1 7062/24 7062/25 appeared [1] 7061/23 appearing [3] 7061/6 7061/21 7061/22 appears [2] 7021/19 7062/19 applied [5] 7023/3 7031/5 7031/9 7034/19 7042/9 apply [2] 7029/21 7036/18 approach [1] 7016/13 appropriate [5] 7020/22 7025/8 7036/17 7042/15 7042/17 appropriately [1] 7035/14 Approximately [1] 7003/23 area [2] 7019/8 7020/16 areas [2] 7014/6 7020/2 Arnold [1] 7016/7 around [2] 7008/7 7025/16 arrow [4] 7056/19 7056/21 7056/23 7056/24 art [1] 7009/16 articles [2] 7014/25 7015/2 arts [1] 7028/15</p>	<p>aspect [2] 7028/2 7030/2 Assistant [2] 7015/16 7015/17 attention [5] 7024/20 7024/22 7024/25 7025/1 7025/2 attorney [2] 7015/17 7015/19 attorney-advisor [1] 7015/19 attract [4] 7054/10 7066/20 7066/21 7067/9 attractive [1] 7044/1 attributable [1] 7040/23 attributed [1] 7051/3 auction [3] 7003/14 7005/17 7009/23 auction-time [3] 7003/14 7005/17 7009/23 avail [1] 7009/4 available [11] 7004/1 7004/2 7004/8 7004/9 7005/2 7005/12 7005/19 7006/24 7025/18 7027/7 7066/16 Avenue [4] 6998/23 6999/8 6999/11 6999/24 average [1] 7029/7 avoid [1] 7020/2 aware [4] 7008/5 7008/10 7013/25 7045/25 awareness [1] 7045/20 away [5] 7022/22 7023/3 7023/7 7040/7 7042/24</p>	<p>7016/10 7016/23 7017/16 7018/22 7019/2 7019/8 7019/18 7020/18 7020/18 7021/10 7021/14 7021/18 7023/2 7023/10 7025/7 7026/23 7028/1 7028/23 7029/14 7033/22 7034/20 7035/6 7036/4 7036/11 7037/2 7038/16 7045/9 7049/25 7054/4 7063/6 7063/8 7067/16 Baker's [2] 7012/19 7012/23 Bankruptcy [1] 6999/24 bar [5] 7029/22 7040/14 7040/15 7051/8 7051/9 bars [8] 7029/5 7040/13 7040/16 7051/17 7053/11 7053/12 7054/23 7054/24 based [5] 7030/6 7030/22 7031/7 7046/24 7055/4 basic [1] 7042/16 basis [4] 7043/12 7057/17 7059/8 7066/3 beginning [2] 7016/5 7044/6 behalf [1] 7001/5 behavior [4] 7024/14 7034/22 7049/11 7061/1 believing [1] 7057/17 Belknap [1] 6998/22 BELLSHAW [1] 6998/16 below [1] 7056/9 BENCH [1] 6998/10 benefit [2] 7030/3 7062/16 besides [1] 7026/15 bidding [3] 7003/14 7005/17 7009/23 big [1] 7066/16 billion [1] 7031/24 binder [1] 7002/4 Bing [5] 7007/12 7008/6 7008/20 7008/24 7009/2 bit [3] 7040/6 7055/1 7064/20 blog [1] 7008/13 blue [40] 7032/11 7051/13 7053/10</p>
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7056/22 7056/23	7022/21 7022/25	7053/4 7053/11	character [1]	7060/3 7060/14
7059/20 7062/8	7023/14 7024/12	7053/17 7053/24	7056/18	7061/1
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