AMERICAN ECONOMIC LIBERTIES PROJECT

GOOGLE BROKE INTERNET SEARCH. IT'S TIME TO BREAK UP GOOGLE. Remedies to Jump-Start Competition in the Google Search Antitrust Litigation

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I. INTRODUCTION

Google is one of the largest companies in the world, but that simple statement understates its power and reach. Through its flagship search engine, Google exercises extraordinary control over the flow of information across the internet and society. Over more than two decades, it expanded its business offerings, achieving dominance in not just search but also online ads and the distribution of smartphone apps. Almost all of us interact with Google every day, whether we realize it or not.

But Google did not achieve market dominance solely on its merits or through fair competition. Instead, the company engaged in various anti-competitive and exclusionary conduct, resulting in illegal monopolies in the markets for Android app distribution and in-app payments,[1] general internet search, and search text advertising.[2] In addition, multiple pending federal and state lawsuits allege that Google has illegally maintained a trifecta of monopolies in open web digital advertising.[3] The effect of Google's various illegal monopolies has been to diminish competition, restrict new market entry, and, ultimately, undermine innovation.

The landmark case against Google Search was initiated under the Trump administration in October 2020, joined by a bipartisan group of 38 state attorneys general, and diligently pursued under the Biden administration. Following a 10-week trial, the D.C. District Court ruled in favor of the United

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[1] *Epic v. Google*, N.D. Cal., Case No. 3:20-cv-05671 (jury verdict rendered on December 11, 2023).
[2] *United States et al. v. Google* ("Google Search"), D.D.C., Case No. 1:20-cv-03010 (opinion rendered on August 5, 2024).
[3] *United States et al. v. Google* ("Google Ad Tech"), E.D. Va., Case No. 1:23-cv-00108 (pending); *Texas et al. v. Google*, E.D. Tex., Case No. 4:20-cv-00957 (pending).

States on August 5, 2024, marking the first major win in a Section 2 illegal monopolization case in a quarter-century.

The Court now turns to the equally, if not *more*, significant question of how to remedy Google's illegal monopoly. An ineffective remedy would render the hard-fought liability finding toothless. Crafting an effective remedy is a creative policymaking endeavor as much as it is an exercise in applying legal precedent. The Court has broad discretion to pry open competition in relevant markets and prevent the reemergence of monopoly as the experience of internet search evolves. To that end, the Justice Department has provided a preliminary remedies framework that suggests a comprehensive approach to relieving the affected markets from Google's monopoly grip.[4]

Even the most principled remedy is no remedy at all if implementation is kept in limbo for years while the monopolist consolidates its power. Would-be rivals like Neeva and Branch have shut down or withered on the vine in the face of Google's monopoly grip. Several other potential rivals have created innovative alternatives to Google but have failed to achieve more than a nominal share of the market. Meanwhile, Google has indicated its intent to appeal the Court's ruling, which could result in a multi-year delay in the implementation of a final remedies order.[5] The Court can anticipate this multi-year delay by adopting interim relief, including by preventing Google from entering further exclusionary contracts, which were at the core of Google's liability. The Court may also order a moratorium on further acquisitions in the affected and related markets.

This brief explores many of the remedies available to the Court in the *Google Search* antitrust litigation. In doing so, this brief seeks to elevate the below principles:

- **Remedies must be structural to eliminate *incentives* to engage in anti-competitive conduct.** The most effective means of eliminating anti-competitive behavior is to remove incentives for that behavior to occur in the first place. For this reason, the Court should favor a structural breakup of Google, including both Android and Chrome, into separate business entities. Profit-maximizing corporations are likely to interpret behavioral orders strictly and narrowly, and courts should resist the imposition of remedies that are easily circumvented.
- **Remedies must include both structural *and* behavioral relief.** There is no silver bullet to address Google's anti-competitive conduct. An effective remedy will need to comprehensively address structural barriers to market entry as well as anti-competitive conduct that would risk the reemergence of monopoly in the affected and adjacent markets.
- **Remedies must jump-start competition *and* anticipate the future of search.** Existing and nascent rivals must be able to meaningfully differentiate and monetize their products while availing themselves of opportunities to distribute them. As the market for internet search

[4] *Supra*, note 2, Dkt. No. 1052 ("Notice of Plaintiffs' Proposed Remedy Framework").

[5] Anticipating the length of delay requires a great degree of speculation. Judge Mehta of the D.C. District Court anticipates arriving at a final remedies order in August 2025, at which point Google may file a Notice of Appeal to the D.C. Circuit Court of Appeals. The median time from Notice of Appeal to disposition in the D.C. Circuit is 12 months, or until Fall 2026. Either party may then file a Petition for Cert to the Supreme Court, which could delay implementation of a remedy until 2028.

evolves, including with the advent of artificial intelligence (AI), durable competition can be achieved by allowing rivals fair and reasonable access to search infrastructure, including Google's web index and AI language model.

- **Remedies must be easily administered and enforceable.** The Court can facilitate an administrable remedy, while minimizing costly, ongoing oversight, through the appointment of independent monitors with requisite experience in technology, structural separation, and workplace protocols. This brief provides an expansive view of compliance and enforcement remedies, including whistleblower anti-retaliation protections and a prohibition against Google's systematic destruction of records.

In Section II of this report, we outline relevant legal authority supporting a broad and flexible approach to thinking about remedies. In Section III, we provide a technological digest of Google Search and other relevant markets, to ground a remedies discussion in an understanding of how a general search engine works. In Section IV, we provide a cursory overview of the use of structural and behavioral remedies historically, and make an argument for a combination of both structural and behavioral remedies in the instant case. In Section V, we propose numerous structural and behavioral remedies aimed at prying open competition in existing and future related markets. Here, we also propose remedies that would end Google's systematic destruction of records, prevent retaliation and surveillance in the workplace, and minimize ongoing court supervision.

While the recommendations in this brief are specific to the Google Search case, this remedies framework nevertheless provides a methodology that is adaptable to the consideration of remedies in other antitrust litigation, for technology markets and beyond.

II. COURTS HAVE BROAD DISCRETION TO IMPOSE REMEDIES THAT INDUCE COMPETITION IN MARKETS

Courts have broad discretion to implement a range of remedies that (1) restore competition to markets that have been closed off by Google's illegal restraints, (2) prevent future violations of the law, including in markets that were not at issue in the case — especially in emerging markets, such as AI search, where Google is poised to leverage its monopoly power to choke competition — and (3) deprive Google of its ill-gotten gains. Below, we outline key legal authorities that support a broad and flexible approach to crafting effective remedies.

1) Courts have broad discretion to craft remedies that fit the particular case.

- **"[District courts] are vested with large discretion to model their judgments to fit the exigencies of the particular case."** *Int'l Salt Co. v. United States*, 332 U.S. 392, 400–01 (1947) (citing *United States v. Crescent Amusement Co.*, 323 U.S. 173, 185 (1944) and *United States v. National Lead Co.*, 332 U.S. 319 (1947)).

- The court's authority "is **flexible and capable of nice 'adjustment** and reconciliation between the public interest and private needs as well as between competing private

claims.'" *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 131 (1969) (quoting *Hecht Co. v. Bowles*, 321 U.S. 321, 329–30 (1944)).

- The court enjoys "**large discretion** to model [its] judgment [] to fit the exigencies of the particular case," such as the importance of scale. *Int'l Salt Co. v. United States*, 332 U.S. 392, 400–01 (1947).

- "As a general matter, **a district court is afforded broad discretion to enter that relief it calculates will best remedy the conduct it has found to be unlawful.**" *United States v. Microsoft Corp.*, 253 F.3d 34, 105 (D.C. Cir. 2001).

2) <u>An effective remedy must restore competition in a market that has been closed off by illegal restraints.</u>

- "In an equity suit, the end to be served is not punishment of past transgression, nor is it merely to end specific illegal practices. A public interest served by such civil suits is that they effectively **pry open to competition a market that has been closed by defendants' illegal restraints. If this decree accomplishes less than that, the Government has won a lawsuit and lost a cause.**" *Int'l Salt Co. v. United States*, 332 U.S. 392, 401 (1947).

- "Antitrust relief should **unfetter a market from anticompetitive conduct** and '**pry open to competition** a market that has been closed by defendants' illegal restraints.'" *Ford Motor Co. v. United States*, 405 U.S. 562, 577–78 (1972).

3) <u>An effective remedy is forward-looking and must prevent future violations of the law.</u>

- Having established a violation of the antitrust laws, the Court has broad power to fashion a remedy that "**prevent[s] future violations and eradicate[s] existing evils**." *United States v. Microsoft Corp.*, 253 F.3d 34, 101 (D.C. Cir. 2001).

- The Court may "**restrain acts** … **whose commission in the future, unless enjoined, may fairly be anticipated** from the defendant's conduct in the past." *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 132 (1969).

- "[T]he Court is obliged not only to suppress the unlawful practice but to take such reasonable action as is calculated to **preclude the revival of the illegal practices**." *Fed. Trade Comm'n v. Nat'l Lead Co.*, 352 U.S. 419, 430 (1957).

- Injunctive relief for monopolization "**is not limited to prohibition of the proven means by which the evil was accomplished**, but **may range broadly through practices connected with acts actually found to be illegal**." *United States v. U.S. Gypsum Co.*, 340 U.S. 76, 88–89 (1950).

- "[I]t is well settled that **once the Government has successfully borne the considerable burden of establishing a violation of law, all doubts as to the remedy are to be resolved in its favor.**" *United States v. E. I. du Pont de Nemours & Co.*, 366 U.S. 316, 334 (1961).

4) <u>The remedy must deprive the monopolist of their ill-gotten gains.</u>

- "Adequate relief in a monopolization case should put an end to the combination and **deprive the defendants of any of the benefits of the illegal conduct**, and break up or render impotent the monopoly power found to be in violation of the Act." *United States v. Grinnell Corp.*, 384 U.S. 563, 577 (1966).

- "To require divestiture of theatres unlawfully acquired is not to add to the penalties that Congress has provided in the antitrust laws. Like restitution it merely **deprives a defendant of the gains from his wrongful conduct**. It is an equitable remedy designed in the public interest to **undo what could have been prevented** had the defendants not outdistanced the government in their unlawful project." *Schine Chain Theaters, Inc. v. United States*, 334 U.S. 110, 128 (1948).

- "To the extent that these acquisitions were **the fruits of monopolistic practices or restraints of trade**, they should be divested." *United States v. Paramount Pictures*, 334 U.S. 131, 152 (1948).

III. <u>A TECHNOLOGICAL ANATOMY OF GOOGLE SEARCH</u>

Crafting a remedy that rids the market of Google's monopoly and jump-starts competition where it is likely to exist requires a basic understanding of the technological infrastructure underlying Google's GSE and Search Text Ads products. Google's GSE includes distinct technologies that interact with each other to form a Search supply chain, or "stack." Included in that supply chain are the various agreements Google maintains to secure default distribution, which facilitates Google's significant scale advantage.

Google's General Search Engine (GSE)

- **Web Crawler:** The first step in developing a search engine is to crawl the web.[6] GSEs crawl the web using an automated program that starts with a list of websites, or "seed URLs," extracts content and metadata from those websites, then identifies new hyperlinks to iteratively scan the internet. Because websites are constantly changing and the web is constantly growing, a web crawler constantly recrawls the web to track web updates and index new content.[7] Some websites update more regularly than others, and Google programs

[6] *United States et al. v. Google LLC*, No. 1:20-cv-03101-APM, D.I. 1033, 14 (D.D.C. Aug. 5, 2024), https://www.courtlistener.com/docket/18552824/1033/united-states-of-america-v-google-llc/ ("Opinion").
[7] *Id.*, at 14-15.

the rate at which pages are recrawled based on estimates of how often various pages are updated. The bandwidth required to fetch documents comes at a "very significant cost."[8]

- **Web Index:** A web index is a database of the publicly available internet that can be returned if a user asks for it.[9] If a site is not in the index, it will not be presented to users in response to a query. Only Google and Bing create fulsome web indexes that generate accessible results, although DuckDuckGo indexes portions of the web, and Apple maintains a large index that it does not use to offer a search results page. According to the testimony heard at trial, as of 2020 Google maintained a web index of "hundreds of billions" of documents, after filtering trillions of pages for the "useful parts of the web."[10] Filters can be modified or adjusted over time to expand or exclude the documents contained in an index.

- **Query Data and Other Identifiers (e.g., QBST, Navboost):** Google relies on user data to decipher what a user means when a query is typed imprecisely. Google's immense scale provides access to petabytes of user data that are expensive to store.[11] The cost of processing data is another significant expense. It increases as the amount of data being processed increases, which presents a barrier to entry for competitors or would-be competitors, including Apple. Apple estimates that it would cost $6 billion annually, on top of what it already spends developing search capabilities, to run a GSE.

  For instance, Query-Based Salient Terms (QBST) is a Google signal that helps respond to queries by identifying words or pairs of words that should appear prominently on a web page relevant to the query (e.g., "1600 Pennsylvania Avenue" and "White House").[12] Navboost is another signal that pairs queries with documents by memorizing user click data.

- **Search Engine Results Page (SERP):** Search engines produce information responsive to a query on a search engine results page (SERP). Most SERPs contain some mixture of advertisements, organic links, and "vertical offerings," or specialized information like information about flights, hotels, and restaurants. SERPs can be syndicated across different websites.

- **Knowledge Graphs and Other Modules:** Google's search engine results page contains more than just a list of responsive links. The SERP may also contain "knowledge graphs" and other information modules, depending on the type of query. Informational search queries, for instance, may trigger an AI-generated query response, or "AI Overview," at the top of the SERP, which typically summarizes information outlined in the below responsive links. Transactional queries may produce a module including products for sale, for booking flights,

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[8] Testimony of Pandurang Nayak, *United States et al. v. Google LLC*, No. 1:20-cv-03101-APM, 6304:24 (D.D.C. Aug. 5, 2024).
[9] Opinion, at 15.
[10] *Supra*, note 8, at 6332:4.
[11] Opinion, at 22.
[12] Opinion, at 15.

or integration with Google Maps to show nearby restaurants. Relevant to the market for search text advertisements, some queries will produce a module containing sponsored ads, which are triggered by monetizing keywords in a commercial query.

Distribution of Google's GSE and Access to Scale

- **Android OS and Google's Chrome Web Browser:** The Android operating system (OS) and Chrome are Google's subsidiary distribution mechanisms for its search engine. The Android OS is an open-source operating system that allows third-party developers to create new smart devices and technologies by customizing the Android system to the device or technology.[13] Although the codebase for the Android OS is open source, Google has also developed proprietary software to offer its own features.[14] Android is also a means by which Google distributes its Google Search widget, Chrome web browser, Google Play Store, and other preloaded apps, subject to agreements with mobile device manufacturers, called mobile application distribution agreements (MADAs). Chrome is a web browser that "serves as a crucial link between Google's advertising business and its other online services, particularly Google Search and YouTube."

- **Google Search Widget:** A search widget is another access point for Google's search engine, and it appears on Android devices as a fillable bar in the center of the device's home screen. The default placement of the Google Search widget on Android devices is secured by a MADA with device manufacturers.[15]

- **Mobile Application Distribution Agreements (MADAs):** MADAs are agreements between Google and Android original equipment manufacturers (OEMs). Google has entered into MADAs with all Android OEMs, including Sony, Motorola, and Samsung, among others.[16] The MADA requires Android OEMs to preload certain applications, including the Google Play Store, Google's Chrome browser, and the Google Search widget, and Google views the MADA as securing "baseline distribution of [its] apps on Android."[17]

- **Other Search Distribution Agreements:** Search distribution is how a search engine reaches consumers at various access points. Search providers have multiple channels to make accessible their search engine to users on mobile and desktop devices, including the search bar integrated into browsers, search widgets on Android device home screens, search applications, preset bookmarks within the default browser, alternative browsers, and direct web search. The **Google-Apple Internet Services Agreement (ISA)**, the **Mozilla Revenue Share Agreement (RSA)**, and the above **Mobile Application Distribution Agreements (MADAs)** between Google and device manufacturers are all examples of search distribution agreements. These distribution agreements are a critical source of the scale and data

[13] Opinion, at 8.
[14] *See*, e.g., David Ruddock, "What is AOSP?," esper.io, April 22, 2022, https://www.esper.io/blog/aosp-missing-features-google-gms.
[15] Opinion, at 120.
[16] Opinion, at 118.
[17] Opinion, at 118-120.

necessary to improve Google's search engine. Google monetizes its vast distribution through the sale of advertisements, generating revenue that Google then reinvests into securing exclusive distribution agreements.

Search Text Advertising

- **Text Ads:** There are two primary types of search ads sold on GSEs: general search text ads and shopping ads, or product listing ads (PLAs.) Text ads resemble the organic links on a SERP and typically appear toward the top of the SERP with a "sponsored" designation.[18] There is a direct relationship between a GSE's scale and its monetization of search advertising.[19] Text ads are the predominant form of advertising on Google, and they make up 80% of Google search ads by revenue;[20] 92.5% of Google's advertisers purchase only text ads.[21] Advertisers allocate their spending on general search text ads in proportion to the market share of a given GSE.[22] Text ads are purchased through keywords. A query that includes an advertiser's selected keywords might trigger an advertisement from that source.[23]

- **Text Ad Auctions:** Text ads are sold through an auction. Text ads are not sold on the same auction as PLAs. Google designs the auction and controls the underlying inputs that affect the ultimate price generated by the auction.[24]

- **Google Ads:** Google Ads refers to the network of advertisers that utilizes Google advertising tools to purchase display ads across the open web.[25] Google is able to maintain an unrivaled pool of network demand because of its control over publisher advertising inventory — via its publisher ad server — and because of the unrivaled scale of its GSE. Google used its dominance and monopoly power in general internet search and search text advertising to build a huge network of advertiser demand and data amassed through user surveillance on the open internet.[26]

The Future of Search: Artificial Intelligence

- **Large Language Models (MUM, LaMDA, PaLM, PaLM2):** Large language models (LLMs) are computational systems that capture patterns in language. LLMs begin with extremely large corpuses of text, requiring access to vast troves of data. Data can either be freely available or

[18] Opinion, at 60.
[19] Opinion, at 59.
[20] *Id.*, at 62.
[21] *Id.*
[22] *Id.*, at 79.
[23] *Id.*, at 63.
[24] Opinion, at 82.
[25] Plaintiffs' Proposed Findings of Fact and Conclusions of Law, *United States, et al. v. Google, Inc.*, E.D. VA., Case No. 1:23-cv-00108, Dkt. No. 1172, at 27.
[26] *Id.*, at 1.

very difficult and expensive to obtain.[27] Training an LLM is computationally intensive and hugely expensive, requiring substantial capital investment.[28] Google has developed multiple LLMs: MUM, LaMDA, PaLM, and PaLM2.

- **AI Overviews, Chatbots, and Other Downstream Applications:** Downstream from LLMs are developers who need access to foundational models, as well as the ability to tweak a model to create various consumer-facing applications. "AI Search" includes query-responsive chatbots, like Google's own Gemini chatbot (formerly known as Bard). Chatbots are capable of providing responses to search queries in the form of text or audio that approximates speech. Google's SERP now includes an AI-generated summary in a "knowledge graph." Chatbots may aggregate information that would otherwise appear in a SERP or require navigation to third-party websites.

  For noncommercial queries, which make up 80% of the queries that take place on Google's search engine, the SERP may include a section that provides an AI-generated summary of content contained on third-party websites. This AI-generated summary may deter users from clicking links, as they may have done previously, and in turn may have the effect of keeping users within Google's walled garden.

IV. A PRIMER ON STRUCTURAL AND BEHAVORIAL REMEDIES

Remedies typically fall into two buckets: structural and behavioral.[29] Broadly speaking, structural remedies seek to eliminate incentives that would make anti-competitive conduct possible or likely in the first place, while behavioral remedies seek to prevent firms from engaging in specific forms of conduct.[30] Structural remedies like disgorgement or unbundling of technological properties may also seek to pry open competition by diminishing network effects and encouraging competition where it is likely to occur more immediately.

Although firm breakups have been characterized as extreme or difficult to administer, for long periods of antitrust history, courts have viewed structural remedies as the best way to address violations of the antitrust laws.[31] In *U.S. v. E.I. du Pont de Nemours & Co*, 366 U.S. 316 (1961) ("du Pont"), the Supreme Court opined, "divestiture has been called the most important of antitrust remedies. It is simple, relatively easy to administer, and sure. It should always be in the forefront of a

[27] Tejas Narechania and Ganesh Sitaraman, *An Antimonopoly Approach to Governing Artificial Intelligence*, Vanderbilt Policy Accelerator, October 2023.
[28] *Id.*
[29] Some remedies, like mandatory licensure of intellectual property, or open access to application programming interfaces (APIs), may fall into a gray area between contract-based behavioral remedies and quasi-structural divestiture of intellectual property rights.
[30] Lina Khan, "The Separation of Platforms and Commerce," 119 Columbia Law Review 973, 980 (2019).
[31] Rory Van Loo, "In Defense of Breakups: Administrating a 'Radical' Remedy," 105 Cornell L. Rev. 1955, 1962 (2020).

court's mind when [an anti-competitive merger] has been found."[32] So it was when the Supreme Court upheld a structural breakup of Standard Oil in 1911, despite Standard Oil's arguments that the breakup would destroy shareholder value and diminish economic performance.[33] No such calamities ensued. Instead, the value of Standard Oil's successor companies appreciated at an astonishing rate. The aggregate value of Standard Oil's successors' shares appreciated by 47% in the year following implementation of the breakup.[34] So too was this the case in the wake of the 1984 breakup of AT&T, where patenting in the affected sector grew by 19% more than comparable sectors in the wake of the breakup.[35]

As applied in the Google Search antitrust litigation, structural remedies may include the breakup and sale of business lines, like Google's Android operating system or Chrome browser, into standalone companies. As discussed below, breaking up business lines into separate corporate entities will pry open competition for placement in these key distribution channels while eliminating the incentives for Android or Chrome to maximize revenue for their parent corporation. Structural (or quasi-structural) remedies may also include mandatory interoperability and open access to the core technological infrastructure underlying the general search market — such as Google's web index or AI large language model — where barriers to independent entry are high but the potential for beneficial competition at the consumer-facing product level is robust.

On their own, behavioral remedies are less effective at curbing anti-competitive behavior and are further complicated by the need for ongoing monitoring and court supervision. As with the analysis of structural remedies, this has been true throughout the history of antitrust enforcement. A behavioral decree against the Aluminum Co. of America ("Alcoa") in 1912, for instance, failed to prevent Alcoa from illegally maintaining its alumina production monopoly, which grew its market share from 72% to 90% over the following quarter-century, until it faced renewed antitrust action.[36] Today, more than a century after Alcoa's failed behavioral order, the Justice Department is seeking to break up Live Nation,[37] 15 years after a consent decree failed to curb the entertainment conglomerate's anti-competitive conduct.[38]

Recent antitrust enforcement against Google and other tech platforms provides further evidence of the limits of behavioral remedies. For example, the implementation of search engine "choice screens" in the European Union has failed to meaningfully chip away at Google's durable 90% share

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[32] *United States v. E. I. du Pont de Nemours & Co.*, 366 U.S. 316, 334 (1961).
[33] *Supra*, note 31, at 1975 (Standard Oil had argued that its structure was comprised of "many parts, but each part has its place, and if a part is taken out, the whole structure is disintegrated.").
[34] William E. Kovacic, "Designing Antitrust Remedies for Dominant Firm Misconduct," 31 Conn. L. Rev. 1285, 1299 (1999).
[35] Martin Watzinger and Monika Schnitzer, "The Breakup of the Bell System and its Impact on US Innovation," CEPR Discussion Paper No. 17635, https://cepr.org/publications/dp17635.
[36] *United States v. Aluminum Co. of Am. (Alcoa)*, 148 F.2d 416, 423 (2d Cir. 1945).
[37] Complaint, *United States et al. v. Live Nation*, S.D.N.Y., Case No. 1:24-cv-03973 (May 24, 2024).
[38] Katherine Van Dyck and Lee Hepner, "The Case Against Live Nation-Ticketmaster," American Economic Liberties Project, January 2024, http://www.economicliberties.us/wp-content/uploads/2024/01/20240104-AELP-Livenation-Brief-FINAL.pdf.

of the search market.[39] Research has since shown that to have a meaningful effect on competition, the timing, display, and content of choice screen auctions must be designed with a level of specificity at odds with the court's reluctance to micromanage business decisions.[40] In a separate EU enforcement action against Google's dominance over comparison shopping services (the *Google Search (Shopping)* decision of 2017), disputes over Google's interpretation of that order have persisted — and Google's market position has grown stronger.[41] In *Epic v. Apple*, shortly after Apple's implementation of a federal order requiring it to allow developers to use other purchase mechanisms for in-app purchases, the parties found themselves back in court over Apple's alleged "bad faith compliance" with the behavioral order.[42]

Behavioral remedies are nevertheless essential components of a comprehensive remedy order and are best considered as a means of bootstrapping "surer" and "cleaner" structural relief. For instance, a breakup of Google and Android is futile if the firms simply replicate their monopoly with the same exclusionary agreements that led to the Court's finding of antitrust liability. Similarly, if the Court merely terminates Google's exclusionary distribution agreements, Google may still maintain its monopoly in the relevant market by self-preferencing its own products across its various business lines, which serve as distribution channels for search and search-related products.

V. PROPOSED REMEDIES FOR GOOGLE SEARCH

As described above, it is the obligation of the Court to deprive Google of the benefits of its illegal monopoly, restore competition to the markets for general search and search text ads, and prevent the re-formation of Google's monopoly power in another form. Here, we discuss a range of potential remedies, which are best considered in combination.

STRUCTURAL REMEDIES

Divestiture of Android Into a Standalone Business. In his Opinion, Judge Mehta found that Google's default search agreements, including through the Android OS, supplied Google with "unequalled query volume that is effectively unavailable to rivals."[43] At trial, evidence showed that on Android devices, 80% of all queries flowed through a search access point that defaulted to Google.[44] Over

[39] Tim Cowen, Sophia Yakhno, and Lara Greiff, "Learning from the EU's Mistakes: What To Do About Google's Dominance in Search," The Sling, June 14, 2024, https://www.thesling.org/learning-from-the-eus-mistakes-what-to-do-about-googles-dominance-in-search/.
[40] Jesper Akesson, Michael Luca, Gemma Petrie, and Kush Amlani, "Can browser choice screens be effective?," Mozilla, accessed November 2024, https://research.mozilla.org/files/2023/09/Can-browser-choice-screens-be-effective_-Mozilla-experiment-report.pdf.
[41] Thomas Höppner, "Google's (Non-) Compliance with the EU Shopping Decision," September 28, 2020, https://ssrn.com/abstract=3700748.
[42] Lauren Feiner, "Why Epic's lawsuit against Apple just won't quit," The Verge, May 28, 2024, https://www.theverge.com/2024/5/28/24158911/apple-v-epic-evidentiary-hearing-app-store-payments.
[43] Opinion, at 228.
[44] *Id.*

50% of all search revenue on Android devices flows through the Google Search widget alone.[45] Lacking evidence of a pro-competitive justification for Google's exclusionary default placement through this key distribution channel, the Court found that the government had established a violation of Section 2 of the Sherman Act based on Google's exclusive distribution agreements with Android device manufacturers (in addition to other exclusive default agreements referenced herein).

Google's control of Android limits innovation of the Android OS — and operating systems more broadly — to meet only the specifications required of Google's own proprietary app ecosystem. Upstream, Google's control of Android may restrict innovation among device manufacturers, which are currently bound in their design choices by an imperative to distribute the Android OS. Downstream, Google's control of Android has knock-on effects on competition at the app level. There is currently limited, if any, incentive for the Android OS to meet the technological needs required of potentially innovative products that would compete with Google's own proprietary apps.

To frame it differently, absent a divestiture of Android, there exists a natural and unavoidable incentive for Google to take actions that maximize its own profit, including by engaging in conduct that continues to exclude rivals from access to consumers and scale data via phones that are preloaded with the Android OS.[46]

Divestiture of Android, paired with the behavioral restrictions discussed below, eliminates Google's incentive to foreclose access to rival apps and creates potential competition in markets including the relevant markets in the underlying case.

As with any divestiture remedy, the Court will be concerned with ensuring that Android is capable of standing on its own as an independent business entity. But courts have also historically favored structural divestitures where there was a prior merger between the firms and where firms have maintained separate branding. Android meets both of these prerequisites: Android was acquired by Google in 2005 and maintains distinct branding under the Alphabet/Google umbrella. The Justice Department may seek additional discovery regarding the organizational structure of Android within Alphabet and its monetization or subsidization by other Google business lines, as well as delineating which aspects of Android are proprietary rather than open source, so that the Court may assess how best to sever Android while maintaining its viability as a standalone firm.

Android is, to some extent, customizable by third-party developers seeking to create new smart devices and technologies by customizing the Android system.[47] The Justice Department may nevertheless seek to discover further information regarding limits to the adaptability of Android that may hinder the development of third-party technologies.

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[45] *Id.*
[46] Steve Salop, "Why an Android Divestiture is a Necessary Google Search Remedy," ProMarket, September 20, 2024, https://www.promarket.org/2024/09/20/why-an-android-divestiture-is-a-necessary-google-search-remedy/.
[47] Opinion, at 8.

Divestiture of Chrome Web Browser. In addition to considering a structural divestiture of Android, the Justice Department may seek divestiture of Google's web browser, Chrome. The principal purpose of Chrome, as revealed during the underlying liability proceedings, is as a distribution mechanism for Google's search engine. One approach to rectifying Google's exclusive control of this distribution channel would be to mandate a choice screen or other neutral design that allows users to select a non-Google search engine. Because users of Google's web browser are more likely to exercise loyalty to Google products, any such choice screen option would be most effective if Google Search were not an available option.

Another option would be to structurally separate Chrome from Google, rendering Chrome a standalone entity. If paired with a restriction against Google placing its search engine on the newly formed Chrome's web browser, a structural separation could engender competition between other search engines for access to this distribution channel. An important area of inquiry is whether Chrome can stand on its own as a viable separate entity. The Justice Department may seek additional information regarding the extent to which Chrome is subsidized by other Google business lines, and whether Chrome would be able to replace that subsidy with sufficient self-generated revenue.

Divestiture of Properties Within Google's Digital Advertising Network. Google generates extraordinary amounts of revenue through its digital advertising business. The barriers to entry to the general search text advertising market are the same as the barriers to entering the market for general search but are compounded by the additional costs and resources required to build an ad platform to deliver text ads.[48] To some extent, addressing Google's illegal monopolization of the market for general search will address Google's monopolization of the market for search text ads. Distinct remedies pertaining to Google's alleged monopolization of various markets of open web display ads may flow from Google's potential liability in the parallel but separate Google Ad Tech antitrust litigation.[49]

The Court may nevertheless seek to structurally separate business lines within Google's advertising network that pertain specifically to the relevant market for general search text advertising. Any such remedy should seek to remove Google's unilateral control over key inputs to advertising auctions that influence the ultimate price that advertisers pay. The Court may also order divestiture of Google's ad network, Google Ads.

Compulsory, Nonexclusive Licenses to Google's Web Index, Ranking Algorithm, and Large Language Model. Separate and apart from a structural separation of business lines like Android OS or the Chrome web browser, the Justice Department may also seek divestiture of other technological assets in the form of a compulsory, nonexclusive license to Google's competitors or potential competitors. Any such license must include the ability for the licensee to make independent changes to relevant code, including to enhance data security, to alter the weight assigned to different signals that inform the ranking of search results, or other changes that seek to

[48] Opinion, at 190.
[49] *United States, et al. v. Google, Inc.*, E.D. Va., Case No. 1:23-cv-00108.

improve search engine quality.

Viewpoints may differ regarding the respective value to potential competitors of a web index, ranking algorithm, or database that flows from Google's significant scale advantages. Some competitors may find it easy to create a web index but very difficult to approximate Google's QBST or NavBoost, which rely on query data only accessible through Google's incomparable scale.

The Court should also consider mandating a compulsory, nonexclusive license to Google's large language models. There are at least two legal bases for such a remedy. First, Google's LLMs were likely trained on vast stores of data derived from Google's expansive web index and other scale advantages, which were attained through illegal means. Compelling divestiture of Google's LLMs is therefore consistent with depriving Google of its ill-gotten gains. Second, because LLMs are very expensive to train and require significant capital investment that is not available to rivals, including downstream developers, compelling open access to Google's LLMs eliminates a significant barrier to entry for potential app-level competitors that may seek to compete with Google Gemini.

Fair, Reasonable, and Nondiscriminatory (FRAND) Access to Google Search, Including Underlying Technological Components. The Court may also require access to Google Search results via real-time APIs on fair, reasonable, and nondiscriminatory (FRAND) terms.[50] FRAND access to Google Search should also include the ability of competitors to access and modify Google's web index, ranking algorithm, LLM model parameters, and "triggers," which determine whether knowledge graphs appear on the SERP. To the extent that FRAND access may be accomplished without requiring access to any user data, this is an attractive remedy for privacy-sensitive rivals and their consumers. Providing access to Google Search results on FRAND terms is distinct from merely licensing or syndicating a copy of Google's SERP, as it would also allow potential competitors to re-rank and mix search results and allow other search engines[51] to differentiate their products based on qualitative metrics like enhanced privacy, improved design, and customization of the user interface and results page.[52]

Unbundle Search, Search Ads, and Other Knowledge Graphs to Allow Competitors to Customize and Monetize Their Own SERPs. Potential rivals may syndicate search results from either Google or Bing. But merely licensing a copy of the SERP of Google or Bing foregoes opportunities for beneficial competition and independent monetization of the SERP by rivals. Unbundling the components of a SERP would augment the locus of control over the user search experience from the Google SERP to alternative non-Google search input properties and allow competitors to create curated search

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[50] DuckDuckGo, "Creating Enduring Competition in the Search Market," September 12, 2024, https://spreadprivacy.com/creating-enduring-competition-in-the-search-market/.

[51] For this and other remedies that relate to access to data, the Court may choose to set limitations to safeguard national security, such as by disqualifying rivals controlled by adversarial nations from receiving licenses, based on standards already reflected in official U.S. policy. *See*, e.g., U.S. Department of the Treasury, "CFIUS Laws and Guidance," https://home.treasury.gov/policy-issues/international/the-committee-on-foreign-investment-in-the-united-states-cfius/cfius-laws-and-guidance.

[52] *Id.*

experiences for their users. For instance, if a user inputs a query for a restaurant, a rival search engine may want to include a knowledge graph other than Google Maps. Informational search queries may or may not trigger an AI Overview, and rival search engines can incorporate non-Google elements while deciding whether to provide an overview at all. Unbundling Google's search services product from its search text advertising product would unlock competition among advertisers and rival exchanges.

Cancellation or Mandatory Licensure of Google's Trademark. Among the ill-gotten gains of Google's monopoly in the relevant markets is the strength of Google's brand. The strength of Google's brand helps to explain why non-Google defaults are less effective when the alternative lacks Google's universally recognized brand recognition.[53] To maximize the efficacy of other remedies in this case, including FRAND access to upstream Google technologies by downstream GSE competitors, the Court should allow — but not require — rival GSEs to use the "Google" trademark, or some version of a "Powered by Google" designation.

BEHAVIORAL REMEDIES

Prohibit Revenue Share for Default or Priority Placement on All Search Access Points. At the core of Google's illegal monopoly are its various exclusive default agreements, which facilitate the distribution of its search engine and produce data and scale advantages inaccessible to any of its existing or potential rivals. The centrality of this conduct to Google's liability renders dissolution of these agreements — including the Google-Apple ISA, the Mozilla RSA, and Google's MADAs and RSAs with Android OEMs — the most obvious remedy.

To render this behavioral remedy maximally effective, the Court should prohibit Google from paying to be the default search engine on any device, browser, operating system, or other search distribution channel. That would also include barring Google from paying for the priority display of its Search widget on any device or operating system. Google currently has the resources to outbid any other search engine rival, with perhaps the lone exception of Microsoft.

The Court should likewise prohibit Google from setting its search engine as the default in its own Chrome web browser. This remedy will force a quasi-structural separation between Google's web browser and search engine. Doing so would create competition between rivals for default placement within Google Chrome and deprive Google of foreclosing access to this key distribution channel.

To the extent that AI chatbots hold the potential to revolutionize the market for internet search, including by becoming their own search access point, a remedy that prohibits exclusive default placement of Google's search engine should also apply to Google's Gemini chatbot. This would

[53] Opinion, at 208.

include prohibiting Google from entering into an agreement that exclusively integrates Google Gemini into Apple devices, something that is rumored to be in development this year.[54]

The Court may also consider barring Google from entering into any agreement with third-party websites or other data stores that would otherwise enhance Google's search engine or LLM to the exclusion of existing or potential rivals. For instance, earlier this year, reports emerged that Google had entered into an agreement with Reddit, giving Google potentially exclusive access to a valuable repository for user-generated content for purposes of enhancing search results and training Google's LLM.[55] Such deals foreclose access to important sources of data to Google's rivals and threaten to further inhibit competition in the relevant markets at issue in the Google Search case.

Prohibit Anti-Competitive Conduct Between Google Search and Any Divested Entity. If the Court determines that divestiture of Android and/or Google's Chrome web browser is an appropriate remedy, the Court must also restrict conduct that would allow for the reemergence of Google's anti-competitive conduct by contract or other means. To that end, the Court should also prohibit any form of tying, conditioning, self-preferencing, or other discrimination that favors Google Search in future dealings with any divested entity.

Moratorium on Acquisitions Related to General Search, Search Text Ads, or Future Search-Related Markets. Over the past quarter-century, Google has made well over 250 acquisitions, many of them in the fields of information technology, digital advertising, cloud storage, and artificial intelligence.[56] While the question of whether Google's market power was primarily built through acquisitions was not fully explored during the liability phase of this litigation, it is likely owed at least in part to major acquisitions, like its 2005 purchase of Android (which facilitated the transfer of Google's search dominance from desktop to mobile) and 2007 purchase of DoubleClick (which fueled Google's dominance over ad markets, including search ads).

The Supreme Court held in *Grinnell Corp.* that where a defendant's market power was achieved through acquisition, an injunction against repeat acquisitions "seems fully warranted."[57] The Justice

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[54] Wes Davis, "Apple could announce a Google Gemini deal this fall," The Verge, June 30, 2024, https://www.theverge.com/2024/6/30/24189262/apple-intelligence-google-gemini-deal-iphone-mac-ipad-openai-chatgpt.

[55] Emanual Maiberg, "Google is the Only Search Engine That Works on Reddit Now Thanks to AI Deal," 404Media, July 24, 2024, https://www.404media.co/google-is-the-only-search-engine-that-works-on-reddit-now-thanks-to-ai-deal/.

[56] Notably, even as the liability phase was pending, Google pursued its *largest-ever* acquisition. *See* Brian Contreras, "Google Is Chasing Its Largest-Ever Acquisition. Here's How It Compares to the Search Giant's Other Multibillion-Dollar Deals," Inc., July 17, 2024, https://www.inc.com/brian-contreras/google-is-chasing-its-largest-ever-acquisition-heres-how-it-compares-to-search-giants-other-multibillion-dollar-deals.html. Ultimately, Wiz rejected the offer and opted for an initial public offering instead, confirming that an acquisition moratorium is likely to lead to more competitive markets overall. Jess Weatherbed, "Wiz rejects Google's $23 billion takeover in favor of IPO," The Verge, July 23, 2024, https://www.theverge.com/2024/7/23/24204198/google-wiz-acquisition-called-off-23-billion-cloud-cybersecurity.

[57] *U.S. v. Grinnell Corp.*, 384 U.S. 563, 580 (1966).

Department may seek to further establish the nexus between Google's long history of serial acquisitions and its power in the relevant markets, and request that the Court impose a term-limited moratorium on further acquisitions that would only enhance Google's market power.

Interim Relief to Jump-Start Competition and Apprehend Imminent Risks of Harm in Nascent Markets. The Court ruled against Google on August 5, 2024.[58] A multi-week evidentiary hearing on remedies is scheduled to begin over seven months later, on April 22, 2025, and will be followed several weeks later by post-hearing briefs and closing arguments.[59]

Every day during this long interval, Google continues to reap ill-gotten gains and harm competition. Google's ongoing anti-competitive practices harm not only the markets for general search and search text advertising but also nascent and adjacent markets, especially those relating to artificial intelligence technologies. These markets are at critical inflection points. Google's ongoing violations threaten to foreclose crucial early opportunities for rivals to build market share and may force otherwise promising startups to exit the market entirely due to limited funding runways.

As the Justice Department itself has emphasized, "Sometimes the most meaningful intervention is when the intervention is in real time. … [T]he beauty of that is you can be less invasive."[60] Accordingly, the Justice Department should consider promptly seeking appropriate interim relief, including the aforementioned moratorium on acquisitions and a prohibition against Google's entry into additional exclusive deals (especially with Apple).

REMEDIES THAT ENSURE ADMINISTRABILITY, COMPLIANCE, ENFORCEABILITY, AND DETERRENCE.

Appoint Nonconflicted Monitors and Create a "Technical Committee" to Oversee the Implementation of Remedies, Field Complaints, and Coordinate Across Jurisdictions. The Court should appoint a monitor and a technical committee to oversee the implementation of remedies. There is much to learn from the practical experience shared by monitors in previous cases, especially *United States v. Microsoft Corp.*[61] Although the duration and amount of resources required for monitoring will vary depending on the remedy chosen, even with structural remedies, there

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[58] Opinion, at 1.
[59] *U.S.A. et al. v. Google LLC*, No. 1:20-cv-03101-APM, D.I. 1043, 3 (D.D.C. August 5, 2024), https://www.courtlistener.com/docket/18552824/1043/united-states-of-america-v-google-llc/.
[60] Stephen Morris et al., "Big Tech's AI dealmaking needs 'urgent' scrutiny, says US antitrust enforcer," Financial Times, June 6, 2024, https://www.ft.com/content/97b45759-36e0-4f5b-9c6a-ae0580f9a29b; *see also* Press Release, "FTC, DOJ, and International Enforcers Issue Joint Statement on AI Competition Issues," July 23, 2024, https://www.ftc.gov/news-events/news/press-releases/2024/07/ftc-doj-international-enforcers-issue-joint-statement-ai-competition-issues.
[61] *See*, e.g., Jay L. Himes et al., "Antitrust Enforcement and Big Tech: After the Remedy Is Ordered," Stanford Computational Antitrust, June 8, 2021, https://law.stanford.edu/wp-content/uploads/2021/06/himes-nieh-schnell-computational-antitrust.pdf; "Antitrust Case Studies: Microsoft," Stigler Center, April 24, 2024, https://youtu.be/2Qwmo7y3O0M?si=ikdvmA6Dtq4Spa1L&t=650.

would likely be a transition period requiring some degree of oversight. Anyone who serves as a monitor or on a technical committee should be rigorously vetted to avoid conflicts of interest. In anticipation of the risk that Google will attempt to avoid compliance, the Court should adopt a complaint mechanism so that adversely impacted rivals — and whistleblowers — can make confidential reports directly to the monitor.

In addition, given the multiple actions that are pending against Google in various stages, the court should empower the monitor and/or technical committee to coordinate and share information with monitors overseeing remedies imposed on Google in overlapping markets and across jurisdictions, including internationally. The need to do so is far from speculative, as, for example, Judge Donato has already stated in Court that his remedy order will provide for a "technical compliance and monitoring committee."[62]

Mandate "History-On" Chats and End Google's "Communicate With Care" Policy. Since at least 2008, Google executives, including longtime Chief Legal Counsel Kent Walker, created and enforced a corporate policy that caused Google to change the default history setting for all employee chats from "history on" to "history off," which permanently deleted messages after 24 hours.[63] The Federal Rules of Civil Procedure required Google to suspend its auto-delete practices in mid-2019, when it reasonably anticipated the Google Search litigation. Yet Google failed to do so.[64]

As a result, Google systematically destroyed an entire category of written communications every 24 hours during the Google Search litigation, resulting in the permanent destruction of "an untold volume of relevant chats, going back years."[65] Judge Mehta recognized that the practice undermined the government's enforcement efforts, writing that he was "taken aback by the lengths to which Google goes to avoid creating a paper trail for regulators and litigants," adding, "[i]t is no wonder then that this case has lacked the kind of nakedly anticompetitive communications seen in *Microsoft* and other Section 2 cases."[66]

An appropriate remedy would rectify Google's concerted effort to undermine antitrust efforts, and the enforcement of other laws, by requiring Google to retain all communications relevant to remedies, including chats, for the longer of 18 months or the duration of any monitoring or technical

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[62] Sean Hollister, "Epic judge says he'll 'tear the barriers' down on Google's app store monopoly," The Verge, August 14, 2024, https://www.theverge.com/2024/8/14/24220491/epic-google-android-app-store-monopoly-remedies-hearing; *see also* European Commission, "Commission opens non-compliance investigations against Alphabet, Apple and Meta under the Digital Markets Act," Press Release, March 25, 2024, https://digital-markets-act.ec.europa.eu/commission-opens-non-compliance-investigations-against-alphabet-apple-and-meta-under-digital-markets-2024-03-25_en.

[63] Memorandum of Law in Support of Plaintiffs' Motion for an Adverse Inference, *United States, et al. v. Google*, E.D. Va., Case No. 1:23-cv-00108, Dkt. No. 1116, at 5.

[64] Memorandum in Support of the United States' Motion for Sanctions Against Google, LLC, *United States, et al. v. Google*, D.D.C., Case No. 1:20-cv-03010, Dkt. No. 512-1, at 2.

[65] *Supra*, note 63, at 11.

[66] Opinion, at 275.

committee, consistent with Google's default policy for "history-on" chats,[67] and eliminate the ability for employees to move discussions to "history-off" mode.

Bar Google Officials From Further Employment by Google or Any Post-Divestiture Entity. The Supreme Court has held that barring employees from employment by the defendant in a monopolization case "may be appropriate where the predatory conduct is conspicuous."[68] Termination of employment of officials who were central to Google's illegal monopolization strategy is critical to reinstating a culture of compliance with the law and deterring other officials from engaging in similar predatory conduct.

At least one Google official, longtime chief legal counsel and current Vice President John Kent Walker Jr., engaged in predatory conduct that likely meets the standard set forth by the Supreme Court in *Grinnell Corp.* for barring individuals from future employment by the defendant. Walker was also central to Google's "systemic destruction of documents" and "flagrant misuse of the attorney-client privilege,"[69] which date back to the 2008 Walker Memo. In his Opinion, Judge Mehta found that Google employees "assiduously followed" the advice proffered by Walker concerning the deletion of records and misuse of attorney-client privilege,[70] and Walker may now be under investigation by the California State Bar for professional conduct violations.[71]

Walker is not named in Judge Mehta's rebuke of Google's systemic destruction of records over the course of over 15 years, and there are likely other executives whose predatory conduct contributed to Google's illegal maintenance of monopoly. Short of separation from employment, the Court should at minimum impose a "firewall" to ensure that Walker and other implicated officials do not influence or receive any nonpublic information about the remedies phase of this case or make any public statements on Google's behalf relating to such matters.

Prohibit Surveillance of Employee Communications. In addition to Google's systematic destruction of evidence and "flagrant misuse" of attorney-client privilege, Google has surveilled worker communications in a manner that chills workers from expressing concerns about potentially illegal business practices at Google.

During the relevant time period in the Google Search case, Google workers have raised concerns about Google's employee surveillance policy. In 2016, Google settled one case for $27 million — a record settlement of its kind — alleging that Google's confidentiality policies violated California labor law protecting the right of employees to speak about labor conditions.[72] In 2019, Google employees

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[67] *Supra*, note 64, at 1.
[68] *U.S. v. Grinnell Corp.*, 384 U.S. 563, 579 (1966)
[69] *Id.*
[70] Opinion, at 275.
[71] Lauren Feiner, "Tech critics want a Google exec punished for deleted chats," The Verge, October 22, 2024.
[72] Reed Albergotti, "Google reaches $27 million settlement in case that sparked employee activism in tech," Semafor, December 1, 2023, https://www.semafor.com/article/12/01/2023/google-reaches-27-million-employee-settlement.

protested Google's "attempt to silence workers," demanding the reinstatement of colleagues who were put on leave for allegedly violating company policies about accessing sensitive internal documents.[73]

In separate, ongoing antitrust litigation alleging Google's illegal monopolization of numerous markets related to digital advertising, one exhibit showed that Google monitors the "internal reaction" of its employees to antitrust-related issues.[74]

The Justice Department should use the remedies discovery process to request additional information regarding the extent to which it surveils its employees and to discover other corporate policies that may prevent them from voicing concern about potentially illegal business practices.

Prohibit Non-Cooperation and Non-Disclosure Agreements and Protect Whistleblowers From Retaliation. Non-cooperation and nondisclosure agreements in employer-employee contracts can have the effect of prohibiting voluntary communication between law enforcement and employees, who often possess the most direct knowledge of potentially illegal conduct. Recent disputes over contact with authorities have arisen out of the use or potential use of nondisclosure agreements at companies including OpenAI and J.P. Morgan Securities. In January 2024, the U.S. Securities and Exchange Commission settled an administrative proceeding against J.P. Morgan Securities for violating the SEC's whistleblower rule.[75] In July 2024, employees at OpenAI, a competitor and potential competitor with Google in various relevant markets, filed a complaint alleging similar violations of the SEC's whistleblower rule.[76]

Non-cooperation, nondisclosure, or other confidentiality agreements may hinder the enforcement of federal antitrust laws and compliance with a remedial injunction in the Google Search case. The Justice Department should seek to discover the extent to which Google relies on such agreements to undermine such enforcement, including prospective efforts to curb the reemergence of Google's anti-competitive conduct.

Regardless, as a prophylactic measure, the Court should prohibit Google from imposing any term of employment that restricts workers from cooperating with law enforcement efforts or from speaking publicly about potential illegal conduct. To that same end, the Court should provide enforceable prohibitions against whistleblower retaliation.

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[73] Shirin Ghaffary, "Google employees protest the company's 'attempt to silence workers,'" Vox, November 22, 2019, https://www.vox.com/recode/2019/11/22/20978537/google-workers-suspension-employee-activists-protest.

[74] *U.S v. Google*, E.D. Va., Case No. 1:23-cv-00108, Exh. PTX0997, https://www.justice.gov/atr/media/1369301/dl.

[75] Press Release, "J.P. Morgan to Pay $18 Million for Violating Whistleblower Protection Rule," U.S. Securities and Exchange Commission, January 16, 2024, https://www.sec.gov/newsroom/press-releases/2024-7.

[76] "OpenAI whistleblowers ask SEC to investigate the company's non-disclosure agreements with employees," Associated Press, July 15, 2024, https://apnews.com/article/openai-whistleblower-letter-sec-b075e9fe9887ac79bbc6087a2dd85337.

VI. CONCLUSION

Google did not come by its durable 90% share of the market for search and search text ads innocently. For antitrust liability to have practical effect, remedies must pry open competition where it is likely to occur today, while preventing the monopolist from engaging in anti-competitive conduct that risks the reemergence of monopoly in the market as it evolves. Federal district courts have broad discretion to craft remedies that serve this purpose, and appellate courts review remedies with deference to the lower court's findings of fact.

The remedies proposed in this document provide a framework for thinking about remedies not just in the *Google Search* antitrust litigation but in other antitrust litigation as well.

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