POLICY BRIEF

AMERICAN ECONOMIC LIBERTIES PROJECT

The Google Search Trial: A New Era Beckons.

Will AI Produce a Startup Symphony or Startup Slaughter?

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"The realm of science and its application to technology is expanding at a startling pace, and its limits are beyond calculation. The advances of the future can be made to serve the common welfare by affording opportunities for initiative and enterprise. Or they can contribute increasingly to the growth of private monopoly."

—Leon Keyserling, Chair of the Council of Economic Advisors to President Harry Truman

On September 12, Google, one of the largest companies in the world, which has roughly 90% share in search and nine products with more than a billion users, will be put on trial by the United States government for monopolization of the internet search market. This case, which was filed in 2020 under the Trump administration, is the first major monopolization claim pursued by the Department of Justice against a tech firm in 25 years, and among the most important antitrust cases in a generation. The trial has taken on additional significance because its timing matches a technological inflection point: the deployment of generative artificial intelligence tools on a mass commercial scale.

The judge presiding over the trial, Amit Mehta, has a choice in whether to uphold antitrust law's prohibition of monopolization. Should he rule for the closed search ecosystem exemplified by the status quo Google monopoly, Judge Mehta will not only subvert the

intent of the antitrust laws, but he may also become a butcher of the would-be entrants hoping to break into various aspects of generative artificial intelligence. This case is not only critical for the future of search, open or closed, but how the courts rule could also determine how generative artificial intelligence develops. If the court rules poorly, it will be to uphold the most important monopoly in the world, entrenching its power into the next technological paradigm.

To understand the dangers to innovation of Google's continued monopoly, consider the experience of Neeva, a generative AI-infused search engine that had deep backing from experienced venture capitalists. Neeva's founder and CEO, Sridhar Ramaswamy, was no naif, having run Google's search ad business starting in 2007 and the entire ad business from 2013-2018. Ramaswamy had become disillusioned over the decline in Google search quality due of the relentless pressure to put more ads into the search feed, as well as the automated placement of "videos of scantily clad children on YouTube featuring ads from Deutsche Bank, Amazon, eBay and Adidas."[1] So he decided to create a rival that was not subject to the same conflicts of interest embedded in an ad-supported search engine.

Neeva's search engine was a subscription service that did not include ads, and according to users, was at a similar or higher quality to Google. According to David Pierce in The Verge, Neeva was "running an AI product, a full-stack search engine, and a privacy-first browser."[2] Neeva's executives had figured out a way to crawl the web and had created their own disruptive generative AI model. "If people went through all the bother of switching, they became converts," Pierce wrote. "The problem was that very few of them managed to make it past the thicket of default settings and redirections." Neeva went out of business in the spring of 2023. Had Google been prohibited from the tactics that blocked rivals from getting its product in front of customers, the tactics at issue in the upcoming antitrust trial, it's likely that Neeva, and other rivals with different approaches, would have been able to enter the market, as Google itself had in the late 1990s.[3]

1 Mark Sullivan, "Google's former ad chief is challenging its search engine monopoly," Fast Company, March 18, 2021, https://www.fastcompany.com/90616232/googles-former-ad-chief-is-challenging-its-search-engine-monopoly; Daisuke Wakabayashi, "A Former Google Executive Takes Aim at His Old Company With a Start-Up," The New York Times, June 19, 2020, https://www.nytimes.com/2020/06/19/technology/google-neeva-executive.html.
2 David Pierce, "The little search engine that couldn't," The Verge, July 26, 2023, https://www.theverge.com/23802382/search-engine-google-neeva-android.
3 Ibid.

WHAT IS GENERATIVE ARTIFICIAL INTELLIGENCE?

Generative artificial intelligence is a broad method to pass large volumes of data through an algorithm to train a powerful pattern-recognition software program and "create" content, such as text or video. In early 2023, a bevy of product releases showed how these tools can be used to draft essays, poems, and computer programs, and are powerful tools to assist with complex scientific problems, such as modelling protein folding. Large language models (LLMs) such as ChatGPT, which are able to interact comprehensibly with natural human language, have proven particularly popular and promising. One of the first businesses to incorporate generative AI was internet search, with Microsoft releasing, to great fanfare, a new version of its Bing search engine. Indeed, in summary judgment hearings before Judge Mehta in the Google search case, arguments were made about how the infant generative artificial intelligence technology, best exemplified by OpenAI's ChatGPT, either proves or disproves the existence of Google's undue market power going forward.[4] Nor was that debate contained within the four walls of Judge Mehta's courtroom.

When ChatGPT was released to the public — garnering 233 million users by June 2023 — market analysts considered that the rise of generative AI may disrupt Google's monopoly on general search. Paul Buchheit, one of the creators of Gmail, tweeted last year, "Google may be only a year or two away from total disruption. AI will eliminate the Search Engine Result Page, which is where they make most of their money." Paul predicted that, "even if they catch up on AI, they can't fully deploy it without destroying the most valuable part of their business!"[5] CNN reported that "thorny issues are poised to determine Google's future on a potentially shorter timeframe: The rise of generative artificial intelligence and what appears to be an accelerating decline in Google's online ad marketshare."[6] As Melissa Schilling of New York University wrote, "[W]hereas Google appeared to have a nearly unassailable position in search just a few months ago, now it is abundantly clear that generative AI is going to be a game changer for search."[7] Kathleen Eisenhardt of Stanford University corroborated: "For years, Microsoft has been playing catch-up with Google in search. Generative AI may finally be the technology breakthrough that upsets the

4 Leah Nylan, "Google's Monopoly Delayed Innovations Like ChatGPT, DOJ Says," Bloomberg Law, April 13, 2023, https://news.bloomberglaw.com/antitrust/googles-monopoly-delayed-innovations-like-chatgpt-doj-says.
5 Paul Buchheit, Twitter, December 1, 2022, https://twitter.com/paultoo/status/1598434161332981760.
6 Brian Fung, "How Google's long period of online dominance could end," CNN Business, January 26, 2023, https://www.cnn.com/2023/01/26/tech/google-antitrust/index.html.
7 MIT Sloan Management Review, "Will Generative AI Create a New Era of Search Competition?," February 28, 2023, https://sloanreview.mit.edu/strategy-forum/will-generative-ai-create-a-new-era-of-search-competition/.

competitive order."[8] Even Cathy Edwards, a vice president leading Google search, admitted at Google I/O in May 2023 that "these new generative AI capabilities make search smarter and search simpler. ... It's a new organization of web results, giving you a helping jumping-off point."[9]

However, market analysts have taken a different view in the months since. As Search consultant Daniel Tunkelang sums up, the new Bing powered by OpenAI's Generative AI technology is "cute, but not a game changer."[10] *The Wall Street Journal* quantified that Bing, after an initial growth spurt, had just 3% market share, the same share it had in January, one month before the launch of the new Bing. Analytics firm Similarweb shows Bing had just "1% of Google's monthly visitors in July, around the same it had in January."[11] So far, AI challengers like Bing have failed to capture a meaningful slice of general search.

WILL GOOGLE CONTROL GENERATIVE AI?

As with technologies of the past, artificial intelligence has the potential to be transformative, but the terms of its commercialization will depend on the legal frameworks underpinning market structure. If firms can compete on a level playing field for customers, small rivals can create innovative products and take market share. If not, then such a technological inflection point will only entrench the incumbent's dominance. Courts and policymakers have long recognized that antitrust enforcement is vitally necessary in such moments.[12]

This is not a theoretical point. Repeatedly, from Standard Oil to AT&T to IBM, antitrust has played a key role in unleashing new technologies in America's most important, technologically advanced markets.[13] Business historian Alfred Chandler, writing on the development of electronics and computers, called antitrust enforcers the "Gods" of creation, forcing incumbent monopolists to allow rivals to unleash innovation they would

8 Ibid.
9 Stephen Shankland, "Google Reveals Its AI-Powered Search Engine to Answer Your Questions," CNET, May 10, 2023, https://www.cnet.com/tech/computing/google-reveals-its-ai-powered-search-engine-to-answer-your-questions/.
10 Tom Dotan, "Even AI Hasn't Helped Microsoft's Bing Chip Away at Google's Search Dominance," *The Wall Street Journal*, August 17, 2023, https://www.wsj.com/tech/ai/microsoft-bing-search-artificial-intelligence-google-competition-6e51ec04.
11 Ibid.
12 See *Greyhound Computer Corp. v. IBM Corp.*, 559 F.2d 488, 497 (9th Cir. 1977) ("Rapid technological progress may provide a climate favorable to increased concentration of market power rather than the opposite.").
13 Monika Schnitzer and Matin Watzinger, "How the AT&T Case Can Inform Big Tech Breakups," Promarket, February 20, 2023, https://www.promarket.org/2023/02/20/when-considering-breaking-up-big-tech-we-should-look-back-to-att/.

otherwise foreclose.[14] Google owes its very existence to this dynamic, in the form of the antitrust suit against Microsoft of the late 1990s. *The New York Times*'s Charles Duhigg reported:

> As Microsoft lived under government scrutiny, employees abandoned what had been nascent internal discussions about crushing a young, emerging competitor — Google. There had been informal conjectures about reprogramming Microsoft's web browser, the popular Internet Explorer, so that anytime people typed in "Google," they would be redirected to MSN Search, according to company insiders. Or, perhaps a warning message might pop up: "Did you know Google uses your data in ways you can't control?"
>
> Microsoft was so powerful, and Google so new, that the young search engine could have been killed off, some insiders at both companies believe. "But there was a new culture of compliance, and we didn't want to get in trouble again, so nothing happened," Burrus said. The myth that Google humbled Microsoft on its own is wrong. The government's antitrust lawsuit is one reason that Google was eventually able to break Microsoft's monopoly.[15]

Now that Google is dominant, it is exhibiting the behavior of previous generations of monopolists, with the emergence of generative AI as a good example. As with AT&T inventing but refusing to deploy the answering machine or electronic transistor, it was Google itself that controlled most generative machine learning technology, having first purchased Deep Mind in 2014. Yet it was a much smaller and nimbler firm stacked with Google alumni, OpenAI, that actually deployed the technology in a disruptive way. Google had used generative AI primarily to help fortify its ad monopoly, consistent with the behavior of monopolists who, when facing no competitive pressure, only innovate along narrow lines.

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14 One example is AT&T's refusal to deploy the answering machine for over 60 years after its invention. As Columbia Professor Tim Wu relates in his book *The Master Switch*, "In early 1934, Clarence Hickman, a Bell Labs engineer, had a secret machine, about six feet tall, standing in his office. It was a device without equal in the world, decades ahead of its time. If you called and there was no answer on the phone line to which Hickman's invention was connected, the machine would beep and a recording device would come on allowing the caller to leave a message. … But why would company management bury such an important and commercially valuable discovery? What were they afraid of? The answer, rather surreal, is evident in the corporate memoranda, also unearthed by Clark, imposing the research ban. AT&T firmly believed that the answering machine, and its magnetic tapes, would lead the public to abandon the telephone. More precisely, in Bell's imagination, the very knowledge that it was possible to record a conversation would 'greatly restrict the use of the telephone,' with catastrophic consequences for its business. Businessmen, for instance, the theory supposed, might fear the potential use of a recorded conversation to undo a written contract. Tape recorders would also inhibit discussing obscene or ethically dubious matters. In sum, the very possibility of magnetic recording, it was feared, would 'change the whole nature of telephone conversations' and 'render the telephone much less satisfactory and useful in the vast majority of cases in which it is employed.'"

15 Charles Duhigg, "The Case Against Google," *The New York Times*, February 20, 2018, https://www.nytimes.com/2018/02/20/magazine/the-case-against-google.html.

Google's hesitance to innovatively deploy AI corresponds directly to the theories of Nobel Laureate economist Kenneth Arrow, who theorized that monopolists may fear technological disruption. As Gilbert and Sunshine explain, "[T]he intuition underlying Arrow's result is straightforward. An innovation benefits a monopolist only to the extent that it increases the ability of the monopolist to extract additional profits from consumers. What deters the monopolist from innovating then is the prospect that the innovation will 'cannibalize' the profits from its present monopoly or induce the obsolescence of its existing products. By contrast, a newcomer to the industry, or a firm that operates in a perfectly competitive industry, has no stream of profits that would be displaced by an innovation. The incentive of such firms to invest in innovative effort is the ability to receive the entire value of the innovation."[16]

Unfortunately, since the Microsoft trial, enforcers have given monopolists wide-ranging amnesty. When Google sought its own leveraging of an inflection point — the shift from desktop to mobile in the early 2010s — the Federal Trade Commission fumbled the future. "At a crucial moment when Washington's regulators might have had a chance to stem the growth of tech's biggest giants," noted Leah Nylan in Politico, on the FTC dropping an antitrust investigation in 2012, "preventing a handful of trillion-dollar corporations from dominating a rising share of the economy, they misread the evidence in front of them and left much of the digital future in Google's hands."[17]

HOW GOOGLE LOCKED UP GENERAL SEARCH

In making sense of the current technological inflection point, it helps to understand how Google has come to dominate the search market. Understanding potential threats from rivals early in the 2000s, Google adopted Microsoft's playbook of aggressive and likely unlawful tactics to deter competitors. For instance, as a wide-ranging congressional investigation into monopolization in digital markets found in 2020, "According to internal documents, Google executives recognized as early as 2005 that specialized—or 'vertical'—search engines could pose a threat to Google's long-term dominance. That year one program manager wrote: [W]hat is the real threat if we don't execute on verticals? (a) loss of traffic from **google.com** because folks search elsewhere for some queries (b) related revenue loss for high spend verticals like travel (c) missing [opportunity] if someone else creates

16 Richard J. Gilbert and Steven C. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets* (No. 2), Economic Analysis Group, Antitrust Division, U.S. Department of Justice, 1994.
17 Leah Nylan, "How Washington Fumbled the Future," Politico, March 16, 2021, https://www.politico.com/news/2021/03/16/google-files-ftc-antitrust-investigation-475573.

the platform to build verticals (d) if one of our big competitors builds a constellation of high-quality verticals, we are hurt badly."[18]

Despite many arguments that general search is a natural monopoly, it is a business where economies of scale are real, but not unlimited. For a business to develop a powerful search engine, it needs some critical mass of search queries, but it is not the case that ever more search queries necessarily improve search quality. Instead, there are diminishing returns that kick in after a certain point. As Maximilian Schaefer and Geza Sapi synthesized in 2020, "The handful of existing studies on the topic suggest that data are essentially like any other ordinary input: All of these studies report evidence for diminishing returns to scale from additional data."[19] Schaefer and Sapi themselves concluded that "our data are consistent with diminishing returns to scale in the total number of searches." Indeed, in both Russia and Turkey, a high-quality non-English language search engine, Yandex, competes vigorously with Google.[20]

Knowing that achieving a requisite amount of search queries is enough to field a competitive general search engine that approximates Google's own search engine in quality, Google's strategy has been to foreclose all channels through which an entrant can achieve scale. As the Department of Justice alleged in its 2020 complaint against Google, "For years, Google has entered into exclusionary agreements, including tying arrangements, and engaged in anticompetitive conduct to lock up distribution channels and block rivals. Google pays billions of dollars each year to distributors—including popular-device manufacturers such as Apple, LG, Motorola, and Samsung; major U.S. wireless carriers such as AT&T, T-Mobile, and Verizon; and browser developers such as Mozilla, Opera, and UCWeb—to secure default status for its general search engine and, in many cases, to specifically prohibit Google's counterparties from dealing with Google's competitors."

As alleged in the complaint against Google, "Some of these agreements require distributors to take a bundle of Google apps, including its search apps, and feature them on devices in prime positions where consumers are most likely to start their internet searches." It continues, "Google's exclusionary agreements cover just under 60 percent of all general search queries. Nearly half the remaining queries are funneled through Google owned-

18 "Investigation of Competition in Digital Markets: Majority Staff Report and Recommendations," U.S. House of Representatives Committee on the Judiciary, Subcommittee on Antitrust, Commercial and Administrative Law, 2020, https://templatelab.com/competition-in-digital-markets/.
19 Geza Sapi and Maximilian Schaefer, "Learning from Data and Network Effects: The Example of Internet Search," DIW Berlin Discussion Paper No. 1894, 2020, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3688819.
20 Matt Stoller, "How Russian Antitrust Enforcers Defeated Google's Monopoly," BIG Newsletter, July 23, 2019, https://www.thebignewsletter.com/p/how-russian-antitrust-enforcers-defeated.

and-operated properties (e.g., Google's Chrome browser). Between its exclusionary contracts and owned-and-operated properties, Google effectively owns or controls search distribution channels accounting for roughly 80 percent of the general search queries in the United States. Largely as a result of Google's exclusionary agreements and anticompetitive conduct, Google in recent years has accounted for nearly 90 percent of all general-search-engine queries in the United States, and almost 95 percent of queries on mobile devices."[21] Essentially, Google has bought up all of the shelf space where search is placed in front of consumers, which is to say, browsers and phones.

Aside from its power in the distribution of search through defaults, Google exhibits power in other ways that are excluded from this particular case but which should be incorporated into a broader view of the policy problem of monopolization of search. One argument that the Department of Justice has not made in this case, but which the DOJ advanced in the Microsoft antitrust trial of the 2000s, is the charge of predatory pricing of an internet browser. Google's Chrome browser occupies the same position that Microsoft's Internet Explorer did in the 1990s. Google gives away the Chrome browser for free, presumably in the hopes that heavy usage of Chrome forecloses yet another distribution channel through which a general search competitor might emerge. This argument further emphasizes the myriad ways incumbents like Google can wield anticompetitive conduct to decelerate a vibrant competitor, even one armed with exciting artificial intelligence technology.

While the Department of Justice's allegations will be addressed at trial this year, they also serve as a warning. Google and Microsoft are already trying to lock up necessary inputs to compete in LLM-enabled search. Much as the 2001 Microsoft decision opened the path for new browsers and internet firms to succeed despite a platform dependency on Microsoft, antitrust enforcers have a unique opportunity in this moment to open up the generative artificial intelligence economy to develop in that traditionally American direction of vibrant competition.

WILL GENERATIVE AI FACILITATE COMPETITION WITH GOOGLE SEARCH?

Is an LLM chatbot a substitute or complement to Google's traditional search engines? The unsatisfying but crucially honest answer is that no one can know. It is too early, far

21 *United States v. Google*, No. 20-cv-03010-APM, Amended Complaint, Dkt. 94 (D.D.C. Jan. 15, 2021).

too early, for any conclusions about whether generative AI either is or isn't destined to remake the world of information technology. It is especially important not to assume that generative AI technology has any intrinsically predetermined destiny, when this trial itself is a factor in how it gets commercialized.

There are at least two narratives in the public domain about whether generative artificial intelligence tools are more likely to be complements or substitutes for Google's traditional product suite. The first narrative comes from Microsoft which has historically been an also-ran in internet search. In Microsoft's narrative, ChatGPT, as integrated with Bing, is a vigorous threat to Google's traditional search engine. As Microsoft CEO Satya Nadella announced when he launched the Bing Chatbot, "I want people to know that we made them dance."[22]

There may be reasons for Microsoft to overstate its ability to compete in internet search with its chatbot technology. Generative AI, and the underlying LLM technology, is still in its infancy. Public perception about who is winning is likely to be reflexive in terms of Microsoft's ability to recruit the best talent and ward off would-be entrants. Plausibly, overstating the market for Microsoft's new product is similar to the vaporware tactic it has previously employed to stifle competition, in which it would announce forthcoming products that did not exist in order to deter others from entering the space.[23]

On the other hand, Google has espoused a different public view, largely in response to Wall Street's questioning whether Google's search monopoly position is secure. At first, Google executives panicked, declaring a "code red" following the public success of OpenAI's ChatGPT.[24] As CEO Sundar Pichai stated to The Wall Street Journal, "Will people be able to ask questions to Google and engage with LLMs in the context of search? Absolutely."[25] Google's public view is that generative artificial intelligence chatbots are a product extension to internet search. As recent reporting in The Verge explains, "'Bard is a complement to search.' That's how Google describes the relationship between Bard, the new chatbot entering into beta testing today, and its monolithic search engine."[26] Sissie Hsiao, a VP of product at Google and one of the Bard leads, "called Bard a 'creative

22 David Pierce, "Google says its Bard chatbot isn't a search engine — so what is it?," The Verge, March 21, 2023, https://www.theverge.com/23649897/google-bard-chatbot-search-engine.
23 Robert Prentice, *Vaporware: Imaginary High-Tech Products and Real Antitrust Liability in a Post-Chicago World*, Ohio St. LJ, 57, 1163, 1996, https://core.ac.uk/download/pdf/159595333.pdf.
24 Nico Grant, "Google Calls In Help From Larry Page and Sergey Brin for A.I. Fight," *The New York Times*, January 20, 2023, https://www.nytimes.com/2023/01/20/technology/google-chatgpt-artificial-intelligence.html.
25 Miles Kruppa, "Google CEO Sundar Pichai Says Search to Include Chat AI," *The Wall Street Journal*, April 6, 2023, https://www.wsj.com/articles/google-ceo-sundar-pichai-says-search-to-feature-chat-ai-2fa0f54c.
26 David Pierce, "Google says its Bard chatbot isn't a search engine — so what is it?," The Verge, March 21, 2023, https://www.theverge.com/23649897/google-bard-chatbot-search-engine.

collaborator' and didn't seem bothered when Bard got a newsy query wrong. 'There's Google search for that, right?'"

The same article continues:

> Someday, though, as Bard continues to progress, you are going to see it in Google search results. To some extent, you already are: the infamous "10 blue links" aren't gone yet, but Google has been using its AI models to summarize search results for the last couple of years and to help people find new things to search for. All Bard really changes is the UI. And heck, when Google first announced Bard in February, it even included a screenshot showing AI-generated answers at the top of search results. "LLM-based features directly in search are coming soon," Hsiao says. "And there we're using the application of the technologies but in a different fashion."

By self-preferencing its own AI technology on top of its search monopoly, Pichai has adequately responded to Wall Street's concerns.

WHY THE RULING MATTERS

Artificial intelligence has the potential to be a transformative technology. But, as with technologies of the past, the terms of its commercialization will depend on the amount of anticompetitive conduct Big Tech incumbents can get away with.

Neeva's experience is precisely why antitrust enforcement is vital in such moments. For instance, in Greyhound Computer Corp. v. IBM Corp., the court noted that "rapid technological progress may provide a climate favorable to increased concentration of market power rather than the opposite."[27] And as former Assistant Attorney General Anne Bingaman laid out in 1994, "By preserving an economic climate that allows efficient sources of innovation to prosper, be they small or large, antitrust promotes the economic and socio-political values that have been the backbone of the success of the American economy."[28]

27 *Greyhound Computer Corp. v. IBM Corp.*, 559 F.2d 488, 497 (9th Cir. 1977)
28 Anne Bingaman, "Antitrust and Innovation in a High Technology Society," Address at the Celebration of the 60th Anniversary of the Founding of the Antitrust Division, January 10, 1994, https://www.justice.gov/atr/speech/antitrust-and-innovation-high-technology-society.

Fortunately, the Antitrust Division, as well as multiple state attorneys general, have finally brought a case that could ensure that the realm of the future belongs to all of us, not just a few gatekeepers. Judges have a wide berth to fashion remedies in antitrust cases, historically using everything from forced interoperability to structural separation to patent divestments and licensing to data sharing to ending unlawful contractual obligations. There are ample tools to ensure that the search market, and the nascent generative AI space, are open and competitive in the future. The question is whether the judiciary will correctly interpret antitrust law and, if not, whether Congress will act.

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