APPENDIX B: Market Outcomes

B.1 This Appendix presents data on Google and other companies in traditional general search, search advertising and AI assistants. We first present data on the scale and composition of users of Google's general search products. This is followed by a presentation of shares of queries for various different groups of providers. These shares are designed to provide insight into the scale of other firms that might be alternatives to Google's general search services. The last section looks at Google's search advertising analysing trends over time and presents comparisons to Bing's advertising.

General search

Data and methodology

B.2 We received data submissions regarding the total number of queries and users across different device types per month for seven traditional general search providers.

(a) Bing:[1] Microsoft submitted monthly data from January 2020 to December 2024 for the number of UK queries and users broken down by browser and device type.

(b) Brave:[2] Brave submitted daily UK query data for device type from January 2021 to January 2025. Brave provided data on daily active UK users from June 2021 to January 2025.

(c) DuckDuckGo:[3] [✂].[4] DuckDuckGo does not track data on the number of unique users.

(d) Ecosia:[5] Ecosia submitted monthly data from January 2021 to December 2024 for the number of UK queries broken down by browser and device. Ecosia also provided monthly data on UK users from November 2021 to December 2024.

(e) Google:[6] Google submitted monthly data from March 2022 to December 2024 for the number of UK queries broken down by browser and device. Google provided data from January 2020 for UK users but only broken down

[1] Microsoft's response to the CMA's RFI.
[2] Brave's response to the CMA's RFI.
[3] DuckDuckGo's response to the CMA's RFI.
[4] [✂].
[5] Ecosia's response to the CMA's RFI.
[6] Google's consolidated response to the CMA's RFI.

by device type for logged in users. Google also provided monthly total queries from January 2020, split by device type.

(f) Mojeek:[7] Mojeek submitted monthly data from January 2020 to December 2024 for the number of UK queries and users broken down by browser and device.

(g) Yahoo:[8] Yahoo submitted monthly data from August 2023 to December 2024 for the number of UK queries and users broken down by browser and device.

B.3 To examine market outcomes over a longer period, we have used a subset of the data submitted by Google,[9] Microsoft and its syndication partners,[10] and DuckDuckGo[11] as part of our Online platforms and digital advertising market study (**DAMS**).[12]

B.4 We also received data submissions regarding total number of queries across different device types per month for AI features incorporated into Google and Microsoft's traditional general search products and for AI assistants.

(a) Anthropic for Claude:[13] Anthropic provided data on the number of queries from May 2023 to December 2024 and unique users from April 2024 to December 2024.[14] Anthropic provided this data for Claude.ai split by device type.

(b) Google and Gemini:[15] Google provided UK data on both Google AI Overviews and Gemini AI Assistant. Google provided data on the number of displayed AI Overviews from June 2024 to December 2024. The Gemini AI assistant data covered the number of queries and unique users from April 2024 to December 2024.[16]

(c) Meta:[17] Meta provided data on the number of UK queries and unique users from May to December 2024 for Meta AI.

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[7] Mojeek's response to the CMA's RFI.
[8] Yahoo's response to the CMA's RFI,
[9] Google's response to the CMA's RFI.
[10] Microsoft's response to the CMA's RFI; and Microsoft's response to the CMA's RFI.
[11] DuckDuckGo's response to the CMA's RFI and DuckDuckGo's submission to the CMA.
[12] DAMS, Appendix C, paragraph 18
[13] Anthropic's response to the CMA's RFI.
[14] Anthropic was only able to provide global data but provided an estimate of what percentage of global data the UK accounted for.
[15] Google's consolidated response to the CMA's RFI.
[16] We note that queries made on Google Search and AI assistants may not be directly comparable. Google refers to queries on Gemini as 'prompts' and defines a 'prompt' as 'a single statement, instruction or question that is given to Gemini AI assistant to guide it towards generating a specific response'. Google's consolidated response to the CMA's RFI.
[17] Meta's response to the CMA's RFI

(d) Microsoft and Copilot:[18] Microsoft provided UK data on both Bing Generative Search and Copilot AI assistant. Microsoft provided data on the number of Generative Queries displayed from January 2024 to December 2024. The Copilot AI assistant data covered number of queries and unique users from October 2024 to December 2024.

(e) OpenAI for ChatGPT:[19] OpenAI provided UK specific data on the number of sessions, queries, and unique users from October 2024 to December 2024. OpenAI provided this data for ChatGPT and ChatGPT Search split by device type.

(f) Perplexity:[20] Perplexity provided data on the number of UK queries from February 2023 to December 2024 and unique UK users from April 2024 to December 2024. Perplexity provided this data for Perplexity Answer Engine split by device type.

(g) [✂]:[21] [✂].

B.5 Regarding data submissions relating to AI assistants and AI summaries, we note that at the time of publishing the latest figures available are six months old. Given the usage growth we observe in the data for the last quarter of 2024, we expect these figures may have changed.

Google's general search product

B.6 In this section we present summary statistics for Google Search.

B.7 Table B.1 below shows the total queries and logged-in users for mobile and desktop devices for the UK in December 2024.[22] An individual can be logged into multiple accounts across both mobile and desktop, therefore logged-in users is not equivalent to the number of unique individuals using Google.[23]

Table B.1: Monthly queries and logged-in users on Google Search, December 2024

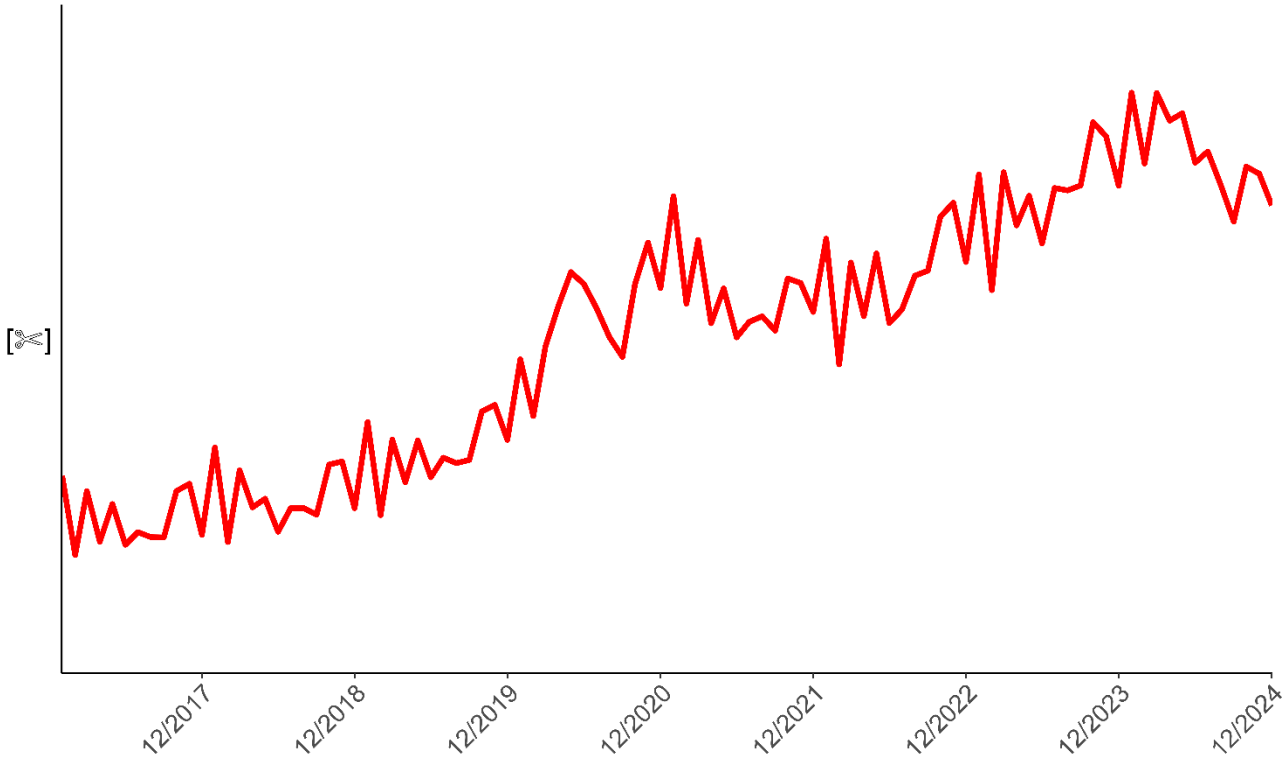
	Mobile	*Desktop*	*Total*
Queries	[10-15 billion]	[0-5 billion]	[15-20 billion]
Logged-in Users	[0-100 million]	[0-100 million]	

Source: Google's data as detailed in the data and methodology section.
Note: Adding mobile and desktop users to attain total users would result in the double counting of some users.

[18] Microsoft's responses to the CMA's RFI.
[19] OpenAI's response to the CMA's RFI.
[20] Perplexity's response to the CMA's RFI.
[21] [✂] response to the CMA's RFI.
[22] Google's consolidated response to the CMA's RFI
[23] Google's consolidated response to the CMA's RFI

B.8 The number of monthly queries to Google Search has increased over time. As shown in the figure below, usage has grown from an average of [5-20] billion a month in 2020 to [10-25] billion in 2024. This represents an approximately [50-60]% growth in the number of monthly queries in the UK from 2017 to 2024.[24]

Figure B.1: Google Search's monthly queries in the UK from January 2017 to December 2024

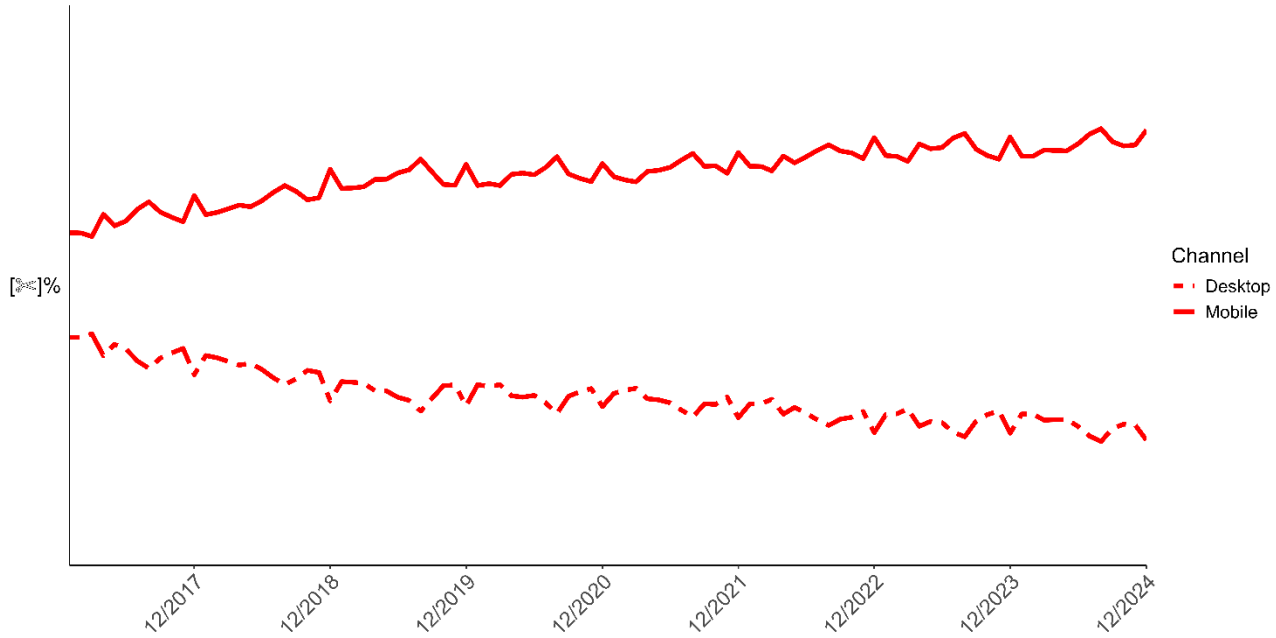


Source: CMA analysis of Google's data as detailed in the data and methodology section.

B.9 As shown in Figure B.2 below, mobile queries account for a high and growing proportion of Google's queries in the UK. Mobile queries accounted for around [50-60]% of all Google Search's queries in 2017 increasing to around [70-80]% at the end of 2024. The growth in total query volume is driven predominantly by a growth in mobile queries, whilst desktop query numbers have stayed relatively constant. Therefore, the proportion of queries on mobile in the UK has increased over time.[25]

[24] Google's consolidated response to the CMA's RFI and Google's response to the CMA's RFI.
[25] Google's consolidated response to the CMA's RFI and Google's response to the CMA's RFI.

Figure B.2: Split of desktop and mobile Google queries in the UK from January 2017 to December 2024



Source: CMA analysis of Google's data as detailed in the data and methodology section.

Shares of queries

Traditional general search providers

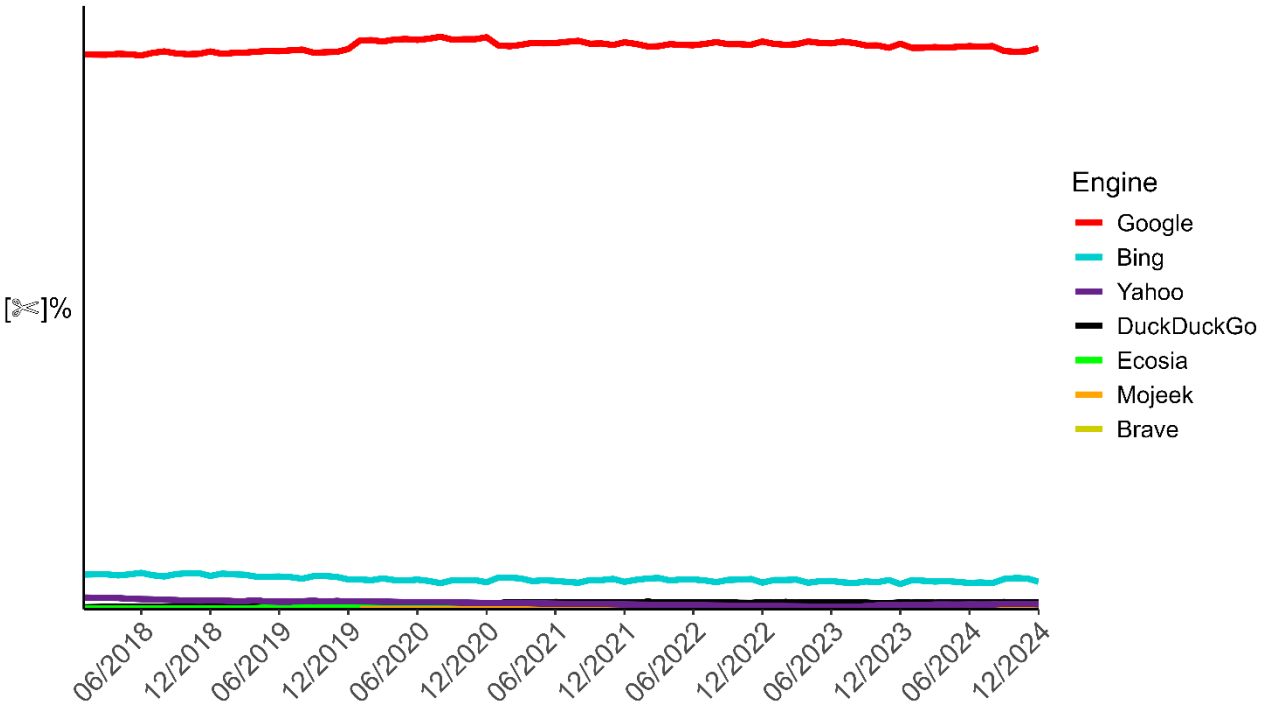
B.10 In this section we present shares of queries for traditional general search providers.[26]

B.11 There are multiple ways to measure usage of traditional general search providers. The metric we have used is query volume since this best indicates scale and frequency of use. Number of unique users is another measure of traditional general search provider usage, however [✂].[27]

B.12 As shown in Figure B.3 below Google Search has been the largest traditional general search provider by query volume, with over [90-100]% of annual queries in the UK between January 2018 and December 2024. Bing is the next largest traditional general search provider, with approximately [5-10]% of annual queries which is substantially smaller than Google Search. In 2024 Bing had an average of [500-1000] million queries a month, compared to Google Search's average of [10-25] billion. All other search engines have less than [0-5]% share of queries each.[28]

[26] Traditional general search providers include: Google Search, Bing, Yahoo, Ecosia, DuckDuckGo, Brave and Mojeek.
[27] Google's consolidated response to the CMA's RFI.
[28] CMA analysis of parties' data as detailed in the data and methodology section.

Figure B.3: Shares of total queries for traditional general search providers in the UK from January 2018 to December 2024



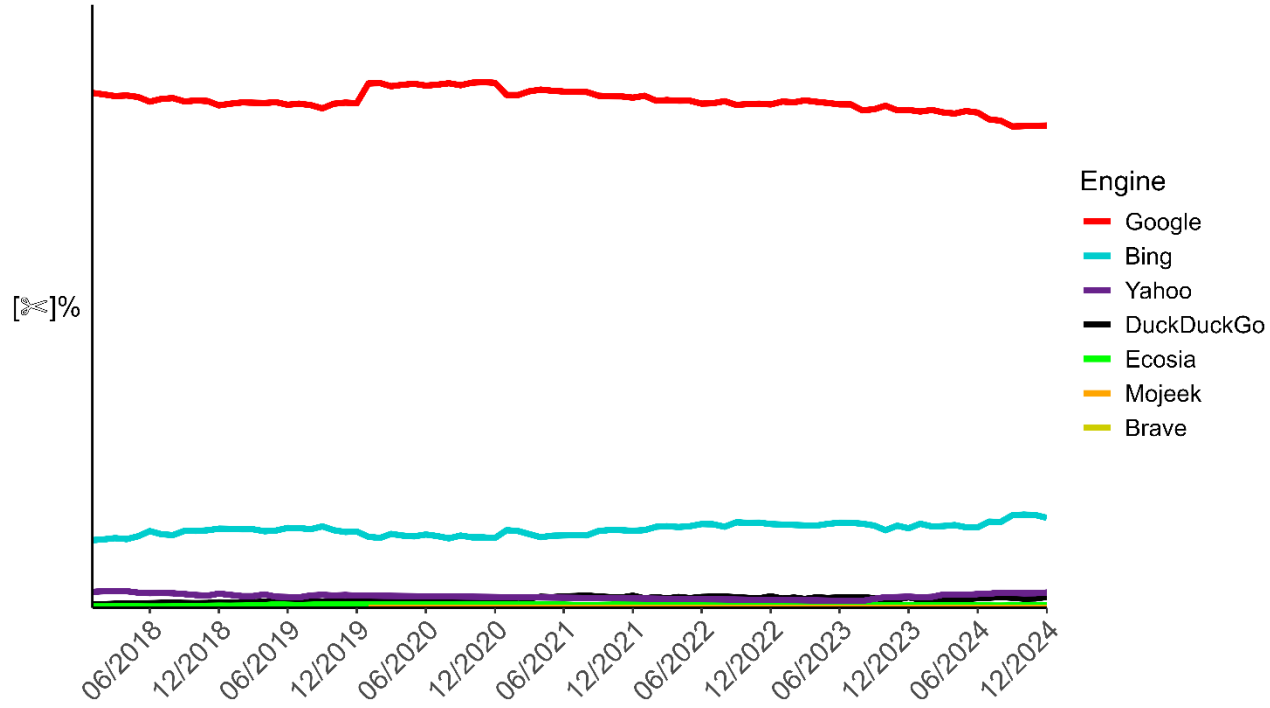
Source: CMA analysis of parties' data as detailed in the data and methodology section.

B.13 As shown in Figure B.2 above mobile queries make up approximately 70-80% of all Google's queries. Other traditional general search providers, specifically Bing, have a larger share of their queries on desktop.

B.14 Figure B.4 below shows the share of queries for traditional general search providers in the UK on desktop devices.[29] Google has maintained a share of [80-90]%-[80-90]% between 2018 and 2024, though this share has declined approximately [✂]pp since 2018.[30] Bing is the second largest traditional general search provider on desktop devices with shares between [10-20]%-[10-20]% in the same period. All other providers have shares below [0-5]% in the same period.[31]

[29] Desktop devices also include laptops.
[30] We note that some of this decline is due to not having data for certain search engine providers for 2020, therefore slightly inflating Google's share of queries in 2020.
[31] CMA analysis of parties' data as detailed in the data and methodology section.

Figure B.4: Shares of queries for traditional general search providers on desktop devices in the UK from January 2018 to December 2024

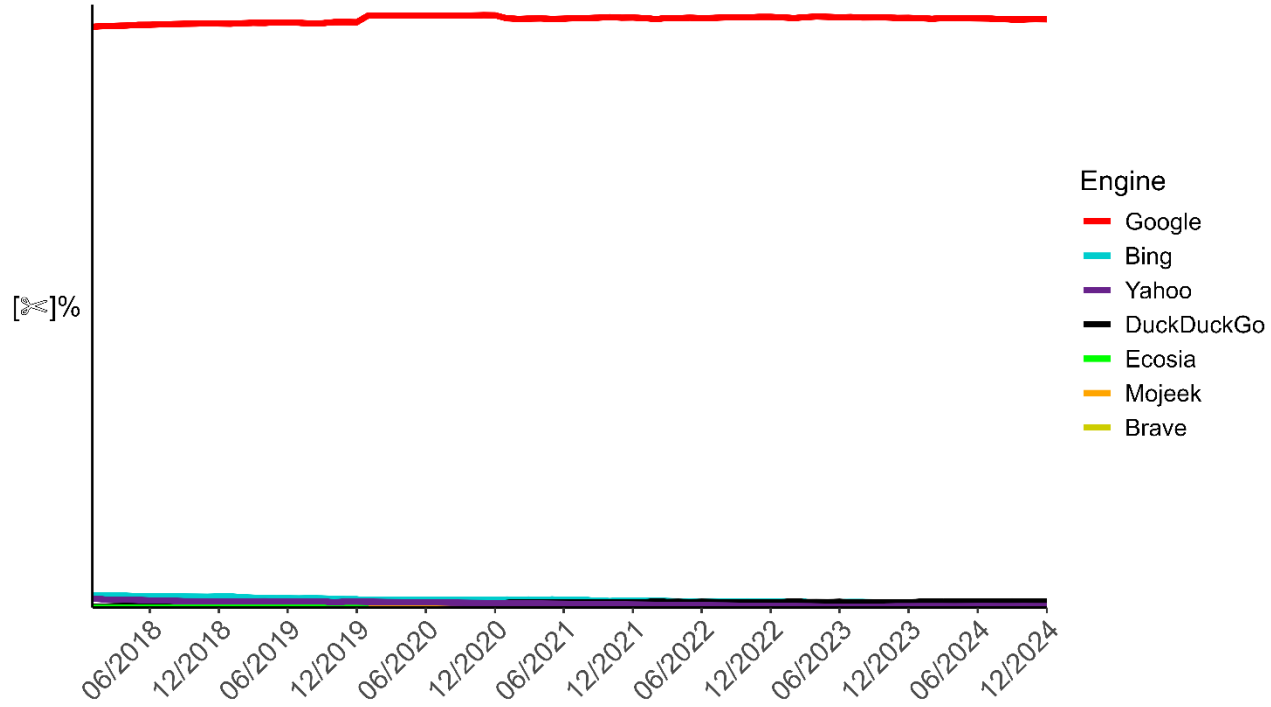


Source: CMA analysis of parties' data as detailed in the data and methodology section.

B.15 Figure B.5 below shows the share of queries for traditional general search providers in the UK on mobile devices between 2018 and 2024.[32] In this period Google has maintained a stable share of between [90-100]%-[90-100]%. All other traditional general search engines have had stable shares below [0-5]%.[33]

[32] Mobile devices include smartphones and tablets.
[33] CMA analysis of parties' data as detailed in the data and methodology section.

Figure B.5: Shares of queries for traditional general search providers on mobile devices in the UK from January 2018 to December 2024



Source: CMA analysis of parties' data as detailed in the data and methodology section.

AI assistants and Generative AI within search

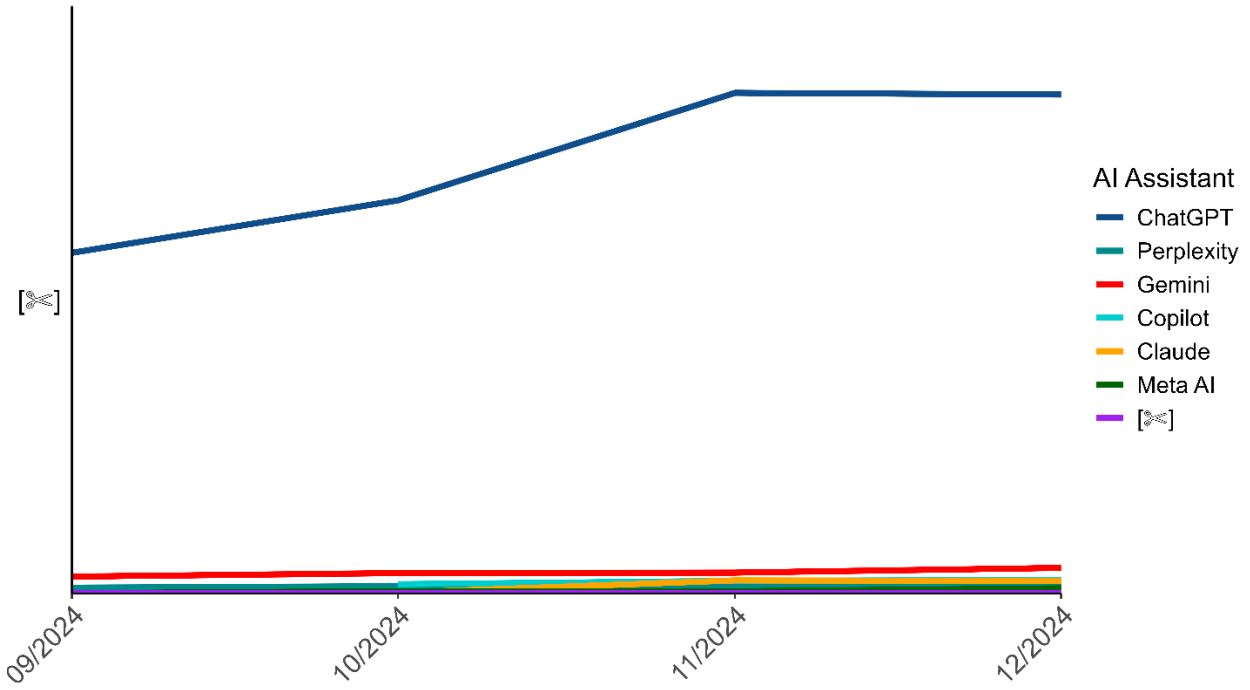
B.16 In this section we set out the landscape of AI assistant usage in the UK. Given the nascent nature of the technology, we were only able to collect data across these providers for a limited period.[34] Therefore, any new products or updates released in early 2025 are not included in this analysis.[35]

B.17 Figure B.6 below shows the number of AI assistant queries for each provider in the UK in the last quarter of 2024.[36] ChatGPT is the largest provider with nearly [500 – 1,000] million queries in December 2024,[37] with the rest of the AI assistants, including Gemini[38], having less than [0-500] million queries each month.[39] This results in ChatGPT having approximately [90-100]% of all queries to AI assistants in the UK for the period, with every other AI assistant having less than [0-5]% share.[40]

[34] Some providers were only able to provide query data for the last 3-4 months of 2024. This has limited the period over which we can calculate shares of supply.
[35] [✂].See [✂] response to the CMA's RFI.
[36] AI assistants included are ChatGPT, Gemini, Perplexity, Copilot, Claude.ai, Meta AI and [✂].
[37] OpenAI's response to the CMA's RFI
[38] Non-business users only.
[39] Google's consolidated response to the CMA's RFI. We note that queries made on Google Search and AI assistants are not directly comparable. Google refers to queries on Gemini as 'prompts' which they define as 'a single statement, instruction or question that is given to Gemini Assistant to guide it towards generating a specific response'. Google's consolidated response to the CMA's RFI. We also note that these queries are in relation to non-business users.
[40] CMA analysis of parties' data as detailed in the data and methodology section.

B.18 There has been increasing usage of AI assistants, most clearly demonstrated by ChatGPT's increasing queries. In the last quarter of 2024, there was an approximately [30-40]% increase in the number of queries on AI assistants in the UK.[41]

Figure B.6: Total queries for AI assistants in the UK from September 2024 to December 2024



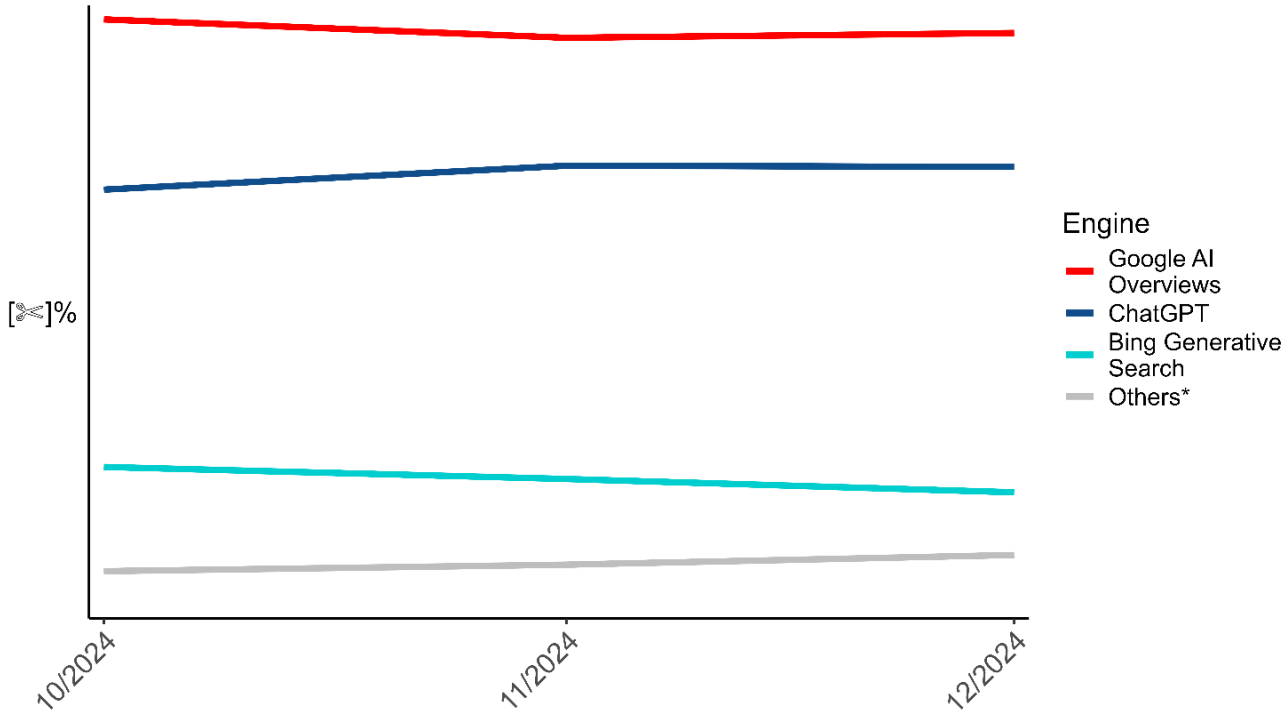
Source: CMA analysis of parties' data as detailed in the data and methodology section.

B.19 Another way users engage with generative AI is through viewing AI summaries on the search engine results pages (SERP) of traditional general search providers. Both Google and Microsoft display AI summaries in response to certain search queries. Google displayed AI Overviews on approximately [✂]% of Google Search queries in December 2024.[42] Microsoft displayed Bing Generative Search on approximately [✂]% of Bing queries in December 2024.[43]

B.20 In Figure B.7 below we compare use of AI assistants with the frequency with which AI summaries are presented.[44] This comparison shows that Google's AI Overviews are shown in response to more queries than ChatGPT receives.[45]

[41] CMA analysis of parties' data as detailed in the data and methodology section.
[42] Google's consolidated response to the CMA's RFI.
[43] Microsoft's response to the CMA's RFI.
[44] In December 2024, as a group, these AI assistants and AI summaries responded to approximately [✂] billion queries in the UK. This is approximately [10-20]% of the total UK queries for Google Search in that month.
[45] CMA analysis of parties' data as detailed in the data and methodology section.

Figure B.7: Share of queries for traditional general search providers including AI summaries and AI assistant in the UK from October 2024 to December 2024



Source: CMA analysis of parties' data as detailed in the data and methodology section.
**Others include: Gemini, Perplexity, Copilot, Claude.ai, Meta AI and [✂].*

Traditional general search providers and AI assistants

B.21 Finally, we consider the scale of AI assistants compared to traditional general search providers. The following limitations apply:

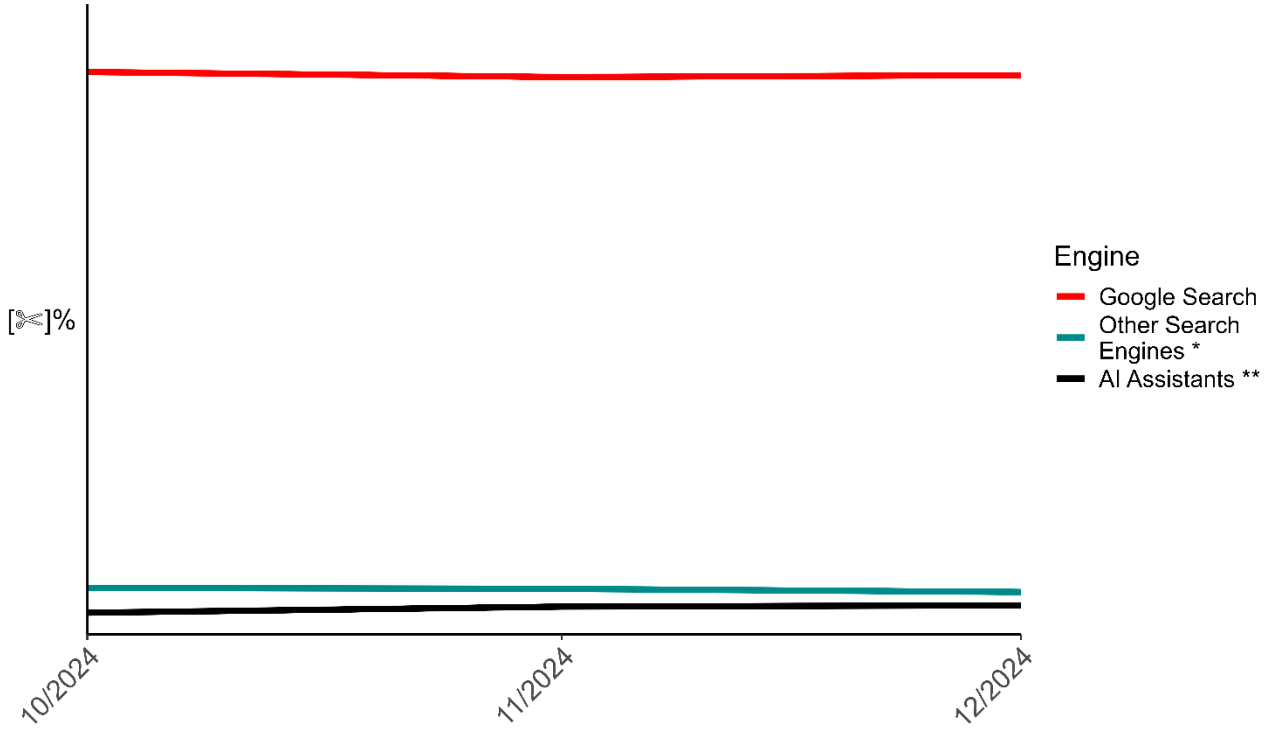
(a) This data is for all queries submitted to traditional general search providers and AI assistants.[46] However, AI assistants have a variety of use cases and only some of these may overlap with the use cases for traditional general search providers.

(b) AI assistants have the ability to answer more complicated queries which would typically have taken multiple queries on a traditional general search provider, albeit Google is incorporating such functionality directly into its general search products.[47]

[46] We note that queries made on Google Search and AI assistants may not be directly comparable. Google refers to queries on Gemini as 'prompts' and defines a 'prompt' as 'a single statement, instruction or question that is given to Gemini Assistant to guide it towards generating a specific response'. Google's consolidated response to the CMA's RFI.
[47] See Google, 'AI in Search: Going beyond information to intelligence', dated 20 May 2025, accessed by the CMA 12 June 2025, AI Mode in Google Search: Updates from Google I/O 2025, which states that 'there's been a profound shift in how people are using Google Search. People are coming to Google to ask more of their questions, including more complex, longer and multimodal questions'.

B.22 As shown in Figure B.8 below, AI assistants received significantly fewer queries than Google Search in the UK in the last quarter of 2024.[48] In December 2024 ChatGPT, the largest AI assistant by query volume, received less than [0-5]% of the queries received by Google Search. Other AI assistants, which are much smaller than ChatGPT, do not exceed [0-5]% of the volume of Google Search queries in the same period.[49]

Figure B.8: Share of UK queries for AI assistants and traditional general search providers in the UK (09/24 – 12/24)



Source: CMA analysis of parties' data as detailed in the data and methodology section.
** Other Search Engines include: Bing, Yahoo, Ecosia, DuckDuckGo, Brave and Mojeek*
***AI assistants include: ChatGPT, Gemini, Perplexity, Copilot, Claude.ai, Meta AI and [✂].*

Search advertising

Data and methodology

Data sources

B.23 Our primary source of data consists of the datasets we received from Google and Microsoft in response to our information requests.

B.24 For Google we used the following datasets:

[48] These calculations of shares of supply exclude AI summaries shown on traditional general search providers. Including these would result in double counting as, by definition, they appear in response to a query on either Google Search or Bing.
[49] CMA analysis of parties' data as detailed in the data and methodology section.

(a) Monthly data from January 2020 to December 2024 on its search advertising revenue, number of queries, number of queries with adverts, total number of adverts displayed and the number of advert clicks on Google Search. The variables were broken down by device type.[50]

(b) Monthly data from January 2020 to December 2024 on its search advertising revenue, total number of adverts displayed, and number of advert clicks for text adverts on Google Search. Google provided the same variables for its shopping adverts, covering the period from April 2022 to December 2024.[51]

(c) Monthly data from January 2017 to December 2019 on its search advertising revenue, number of queries, number of queries with adverts, total number of adverts displayed and the number of advert clicks on Google Search. The variables were broken down by device type[52]. This data was transferred from the Online platforms and digital advertising market study (DAMS)[53].

(d) Annual data from 2010 to 2019 on its search advertising revenue, number of queries, number of queries with adverts, total number of adverts displayed and the number of advert clicks on Google Search[54]. This data was transferred from DAMS.

B.25 For Microsoft we used the following datasets:

(a) Monthly data from February 2020 and December 2024 on its search advertising revenue, number of queries, number of queries with adverts, total number of adverts displayed and the number of advert clicks on Bing. The variables were broken down by device type.[55]

(b) Monthly data from February 2020 to December 2024 on its search advertising revenue, total number of adverts displayed, and number of advert clicks separately for text and shopping adverts on Bing.[56]

(c) Monthly data from January 2017 to December 2019 on its search advertising revenue, number of queries, number of queries with adverts, total number of adverts displayed and the number of advert clicks on Bing. The variables were broken down by device type[57]. This data was transferred from DAMS.

(d) Annual data from 2015 to 2019 on its search advertising revenue, number of queries, number of queries with adverts, total number of adverts displayed

[50] Google's consolidated response to the CMA's RFI.
[51] Google's consolidated response to the CMA's RFI.
[52] Google's response to the CMA's RFI.
[53] Online platforms and digital advertising market study, July 2020 (DAMS).
[54] Google's response to the CMA's RFI.
[55] Microsoft's response to the CMA's RFI.
[56] Microsoft's response to the CMA's RFI.
[57] Microsoft's response to the CMA's RFI.

and the number of advert clicks on Bing[58]. This data was transferred from DAMS.

B.26 Microsoft were unable to submit data for January 2020 due to their internal data retention policies.[59]

B.27 We also received at our request data from other traditional general search providers and specialised search providers.

(a) Amazon provided monthly data from January 2020 to December 2024 on its advertising revenue, number of queries, number of queries with adverts, total number of adverts displayed and the number of advert clicks on the Amazon search results page. The variables were broken down by device type.[60]

(b) Ecosia provided monthly data from January 2020 to December 2024 on its net search advertising revenue, number of queries, number of queries with adverts and the number of advert clicks on the Ecosia search engine results page.[61] The variables were broken down by device type. Ecosia also provided annual gross search revenue data from 2020 to 2024.[62]

(c) Yahoo provided monthly data from January 2020 to December 2024 on its search advertising revenue, number of queries, number of queries with adverts, total number of adverts displayed and the number of advert clicks. The variables were broken down by device type and were provided for both Yahoo's own search engine and its syndication partners.[63]

(d) DuckDuckGo provided annual data from 2020 to 2024 on its search advertising revenue, number of queries, number of queries with adverts and the number of advert clicks on the DuckDuckGo search engine results page. The variables were broken down by device type.[64]

Methodology

B.28 Both Google and Microsoft provided their revenue data in US dollars. Annual revenue data has been converted from US$ to GBP using the Bank of England reported US$ into GBP annual average spot exchange rate (XUAAUSS).[65] Monthly revenue data has been converted from US$ to GBP using the Bank of

[58] Microsoft's response to the CMA's RFI.
[59] Microsoft's email to the CMA.
[60] Amazon's response to the CMA's RFI.
[61] Ecosia's response to the CMA's RFI.
[62] Ecosia's response to the CMA's RFI.
[63] Yahoo's response to the CMA's RFI.
[64] DuckDuckGo's response to the CMA's RFI.
[65] Bank of England, 'XUAAUSS database', undated, accessed by the CMA on 12 June 2025. XUAAUSS | Bank of England | Database

England reported US$ into GBP monthly average spot exchange rate (XUMAUSS).[66]

B.29 We also converted revenue data from nominal to real to observe revenue growth and search advertising price changes net of the changes in the general price levels of the UK economy. To do so, we use the ONS CPI All Items Index 00 as an indicator of general UK price levels.[67] We have used 2024 as the base period for annual revenue data and December 2024 for monthly revenue data.

Market size

B.30 Figure B.9 shows that Google's UK search advertising revenue far exceeded that generated by Bing each year of the period available. Google's share of UK search advertising revenue on traditional general search providers exceeds [90-100]%.[68]

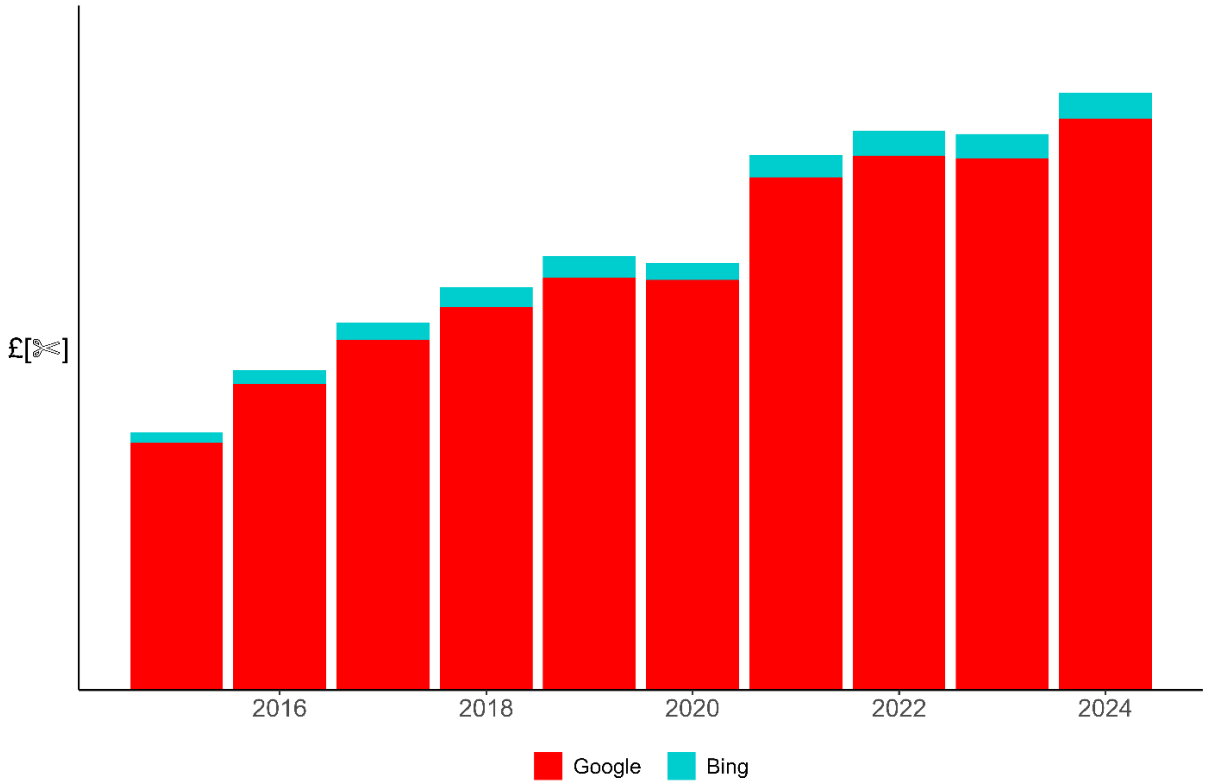
B.31 Figure B.9 also shows that both Google and Bing have increased their annual search revenues over time.

(a) Google's real UK search advertising revenue has increased from £[5-10] billion in 2015 to £[10-20] billion in 2024 - an increase of [130-140]%.[69]

(b) Bing's real UK search advertising revenue has increased from £[200–300] million in 2015 to £[500–600] million in 2024 - an increase of [140–150]%.[70]

[66] Bank of England, 'XUMAUSS database', undated, accessed by the CMA on 12 June 2025. XUMAUSS | Bank of England | Database
[67] Office of National Statistics, 'CPI Index', accessed by the CMA on 12 June 2025. ONS CPI Index
[68] CMA analysis of parties' data as detailed in the data and methodology section.
[69] CMA analysis of parties' data as detailed in the data and methodology section.
[70] CMA analysis of parties' data as detailed in the data and methodology section.

Figure B.9: Estimated Google and Bing real UK search advertising revenue by year (2015-2024)



Source: CMA analysis of parties' data as detailed in the data and methodology section.
Note:
(1) [✂]
(2) Bing's search advertising revenue only includes revenue generated from search adverts clicked on by users on Bing. It does not include revenue generated from syndicating search advertising.

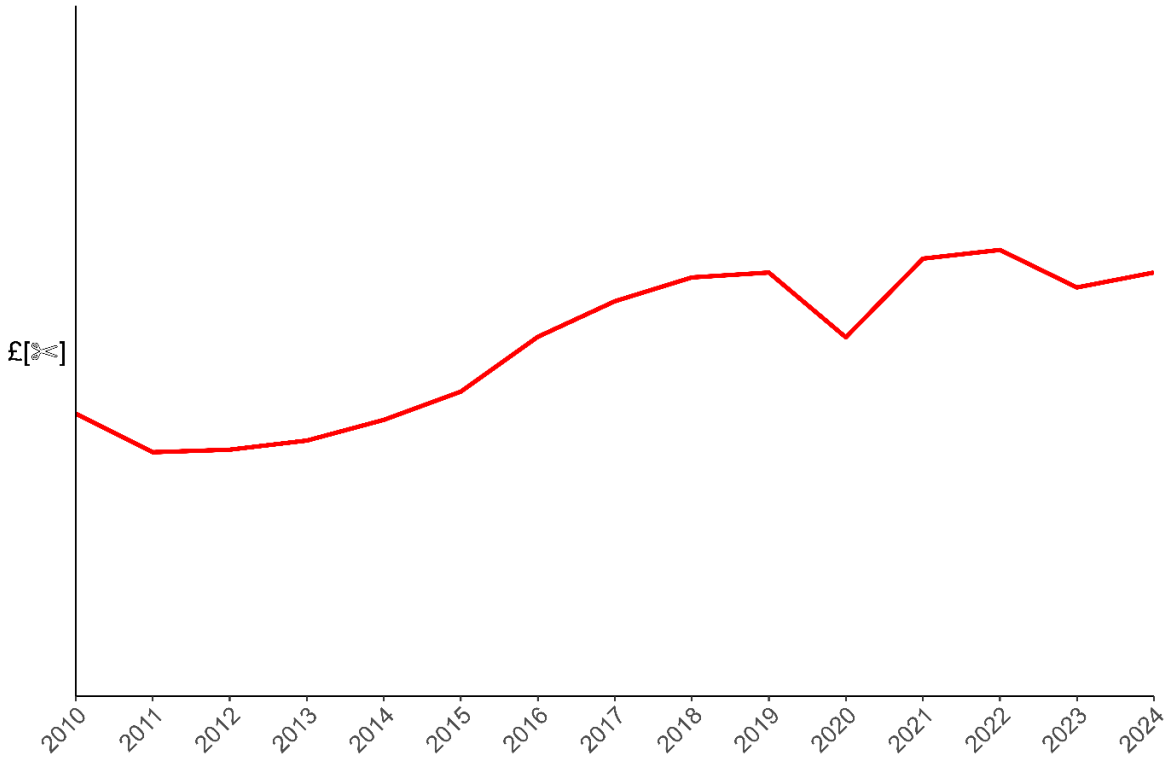
B.32 The analysis set out in the figure above only included revenue for Google and Bing generated on their own platform, excluding revenue generated from syndicating search advertising to other traditional general search providers.[71] We have limited the analysis to this due to data comparability issues with syndicating partners.[72] However, we note that the revenues of other providers are revenues are small compared to Google's and Bing's.[73]

Google Search trends

B.33 As illustrated in Figure B.10 below, Google's real UK revenue per search has increased in the last 10 years, increasing from £[0.030-0.040] to £[0.05-0.06] between 2015 and 2024. This shows that an increase in the number of queries is not the only driver of the increase in revenue.

[71] Bing's most notable general search engine customers active in the UK are [✂].
[72] Data submitted by syndication partners during this investigation was not comparable to the data submitted during our 'Online platforms and digital advertising market study' meaning we could not present revenue prior to 2020.
[73] Even when including the search advertising revenues of Ecosia, Yahoo and DuckDuckGo in the market, our analysis shows that Google has had a market share of more than [90-100]% every year since 2020.

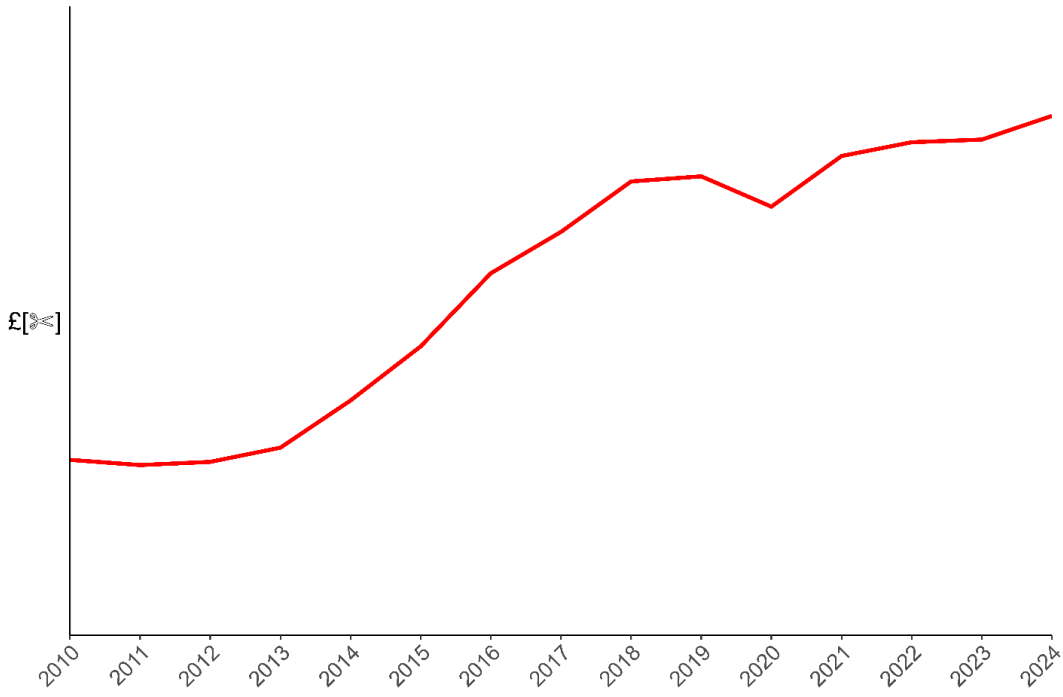
Figure B.10: Real revenue per search on Google Search in the UK (2010 – 2024)



Source: CMA analysis of parties' data as detailed in the data and methodology section.

B.34 Figure B.10 and Figure B.11 show that on Google Search the rate of growth of UK real revenue per search with adverts has outpaced the growth of UK real revenue per search. In 2024 the real revenue per search and real revenue per search with advert were [30-40]% and [80-90]% higher respectively compared to 2015.

Figure B.11: Real revenue per search with adverts on Google Search in the UK (2010 – 2024)

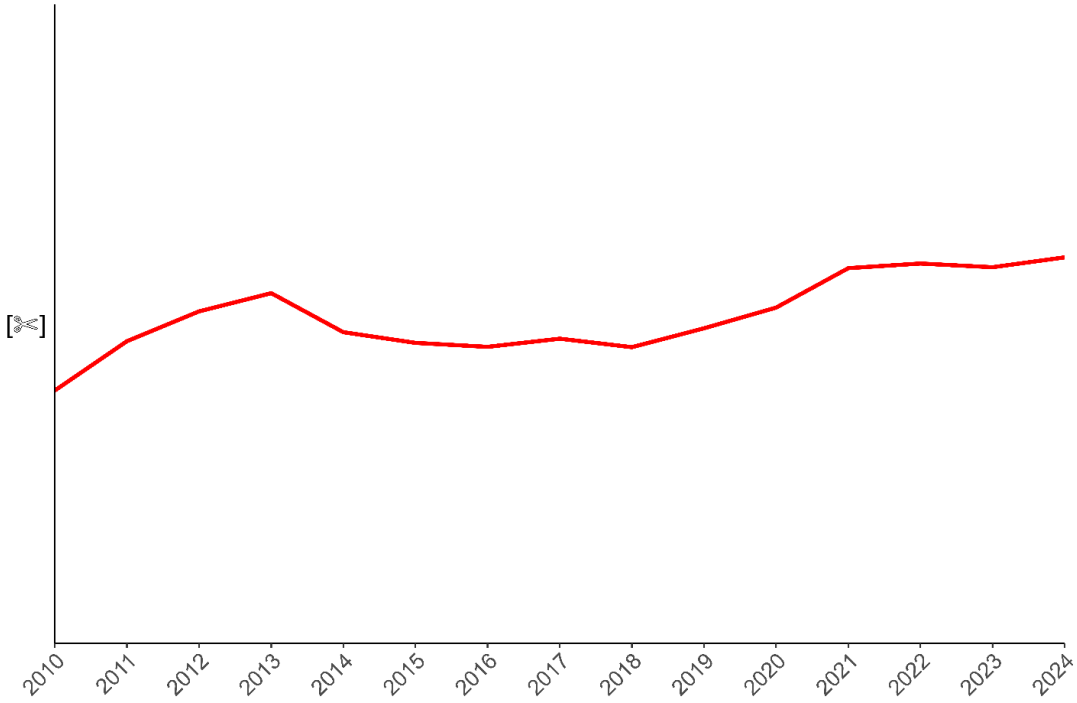


Source: CMA analysis of parties' data as detailed in the data and methodology section.

Ad load and engagement

B.35 Figure B.12 shows that the number of queries shown to UK users that display an advert from [30-40] billion in 2015 to [40-50] billion in 2024. The growth rate in the number of queries that display an advert is lower than the growth rate in the number of queries overall. As a result, the proportion of queries shown to UK users that display an advert on Google Search has fallen consistently over the previous decade.

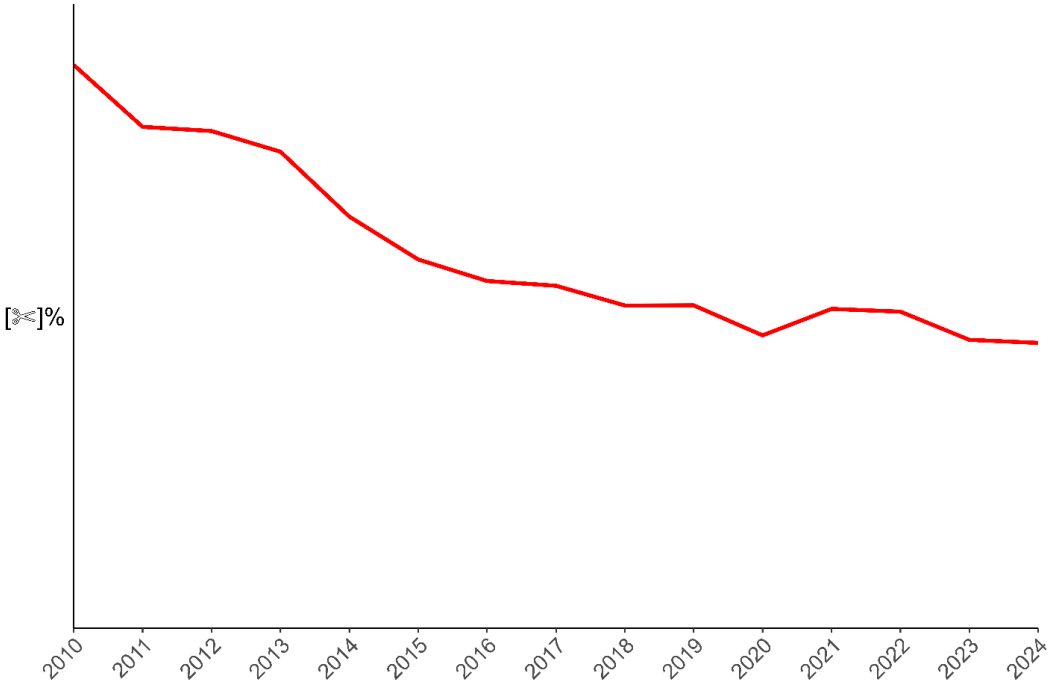
Figure B.12: Number of queries that display an advert on Google Search in the UK (2010 – 2024)



Source: CMA analysis of parties' data as detailed in the data and methodology section.

B.36 Figure B.13 below shows that other than a slight increase between 2020 and 2021, the proportion of queries shown to UK users that show an advert has consistently decreased since 2010. Between 2015 and 2024, this proportion decreased from [✂]% to [✂]%. Our analysis shows that whilst the proportion of Google Search queries that show an advert has decreased over this period, Google has been able to generate more revenue from these queries, as shown in Figure B.9.

Figure B.13: Proportion of queries showing at least one advert on Google Search in the UK (2010 – 2024)

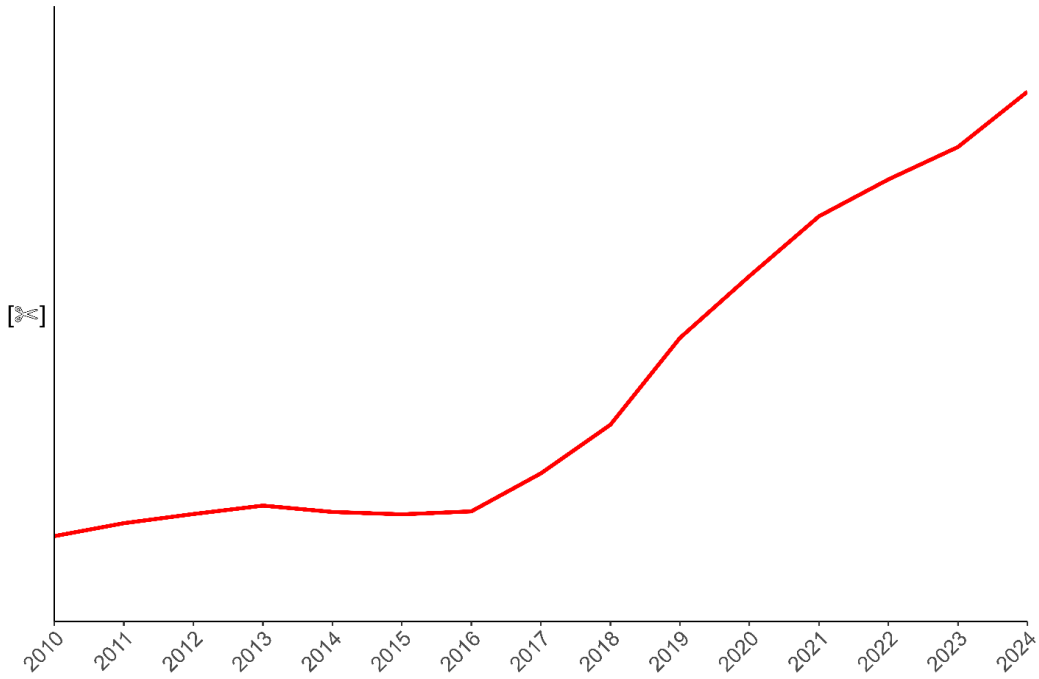


Source: CMA analysis of parties' data as detailed in the data and methodology section.

B.37 Figure B.14 below shows that the number of adverts available to be seen by UK users on Google Search remained consistent between 2010 and the end of 2015. From 2016, the number of adverts available to be seen has grown considerably, from approximately [100-200] billion to [800-900] billion between 2016 and 2024. The increase in the number of adverts available to be seen since 2017 is primarily driven by an increase in shopping adverts.[74] Shopping adverts are displayed in a carousel format on the SERP, meaning a significant proportion of these shopping adverts are not immediately available to users without scrolling.[75] While not all shopping adverts are immediately viewable, they do increase the availability of advertising space on the SERP significantly.

[74] Online platforms and digital advertising market study, July 2020, paragraph 5.82.
[75] Google's consolidated response to the CMA's RFI.

Figure B.14: Total number of adverts displayed on Google Search (viewed and non-viewed) in the UK (2010 – 2024)



Source: CMA analysis of parties' data as detailed in the data and methodology section.

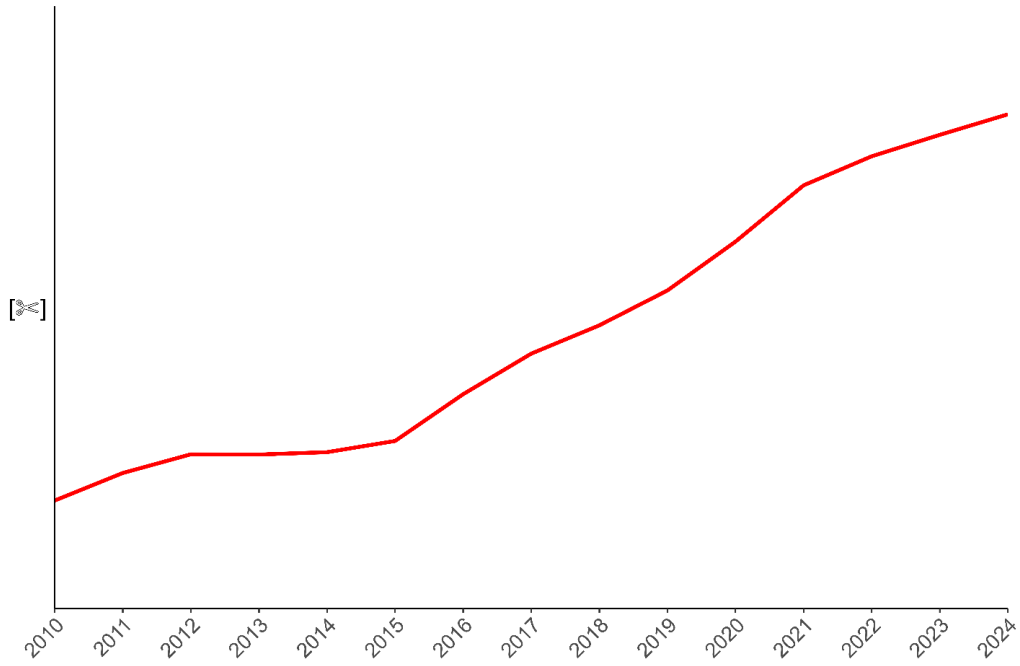
Advert clicks and engagement

B.38 As Google's search advertising is monetised only when a search advert is clicked by the user, a pricing mechanism called cost-per-click (**CPC**), an increase in the number of advert clicks is likely to translate into increased search advertising revenue.[76]

B.39 Figure B.15 below shows that there has been a large increase in the number of advert clicks on Google Search, increasing [150-200]% between 2015 and 2024.

[76] Online platforms and digital advertising market study, July 2020 (**DAMS**), paragraph 2.44

Figure B.15: Total number of advert clicks on Google Search in the UK (2010 – 2024)



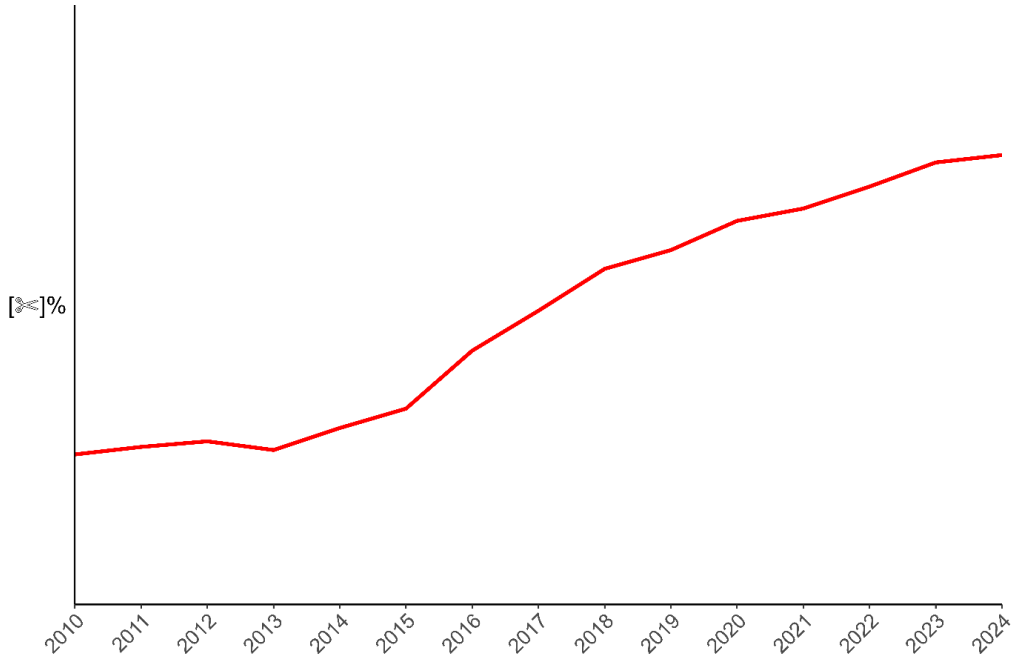
Source: CMA analysis of parties' data as detailed in the data and methodology section.

B.40 The increase in the volume of advert clicks on Google Search in the UK over time can partially be attributed to the fact that the number of queries that show an advert has increased by [20-30]% between 2015 and 2024, as shown by Figure B.12 above.

B.41 Figure B.16 below shows that Google appears likely to have become more effective at driving revenue from the set of queries that show adverts. The graph shows that since 2015 when the number of clicks was [10-20]% of the number of queries that displayed an advert, this has increased to [40-50]% in 2024.

B.42 One of the reasons for this increase over time is likely to be the fact that a given query that displays an advert shows on average far more adverts than in 2015. In 2024, the average number of adverts shown on Google's SERP in the UK showing at least one advert was [✂], compared to [✂] in 2015.

Figure B.16: Total advert clicks as a proportion of number of queries that display an advert on Google Search (2010 – 2024)



Source: CMA analysis of parties' data as detailed in the data and methodology section.

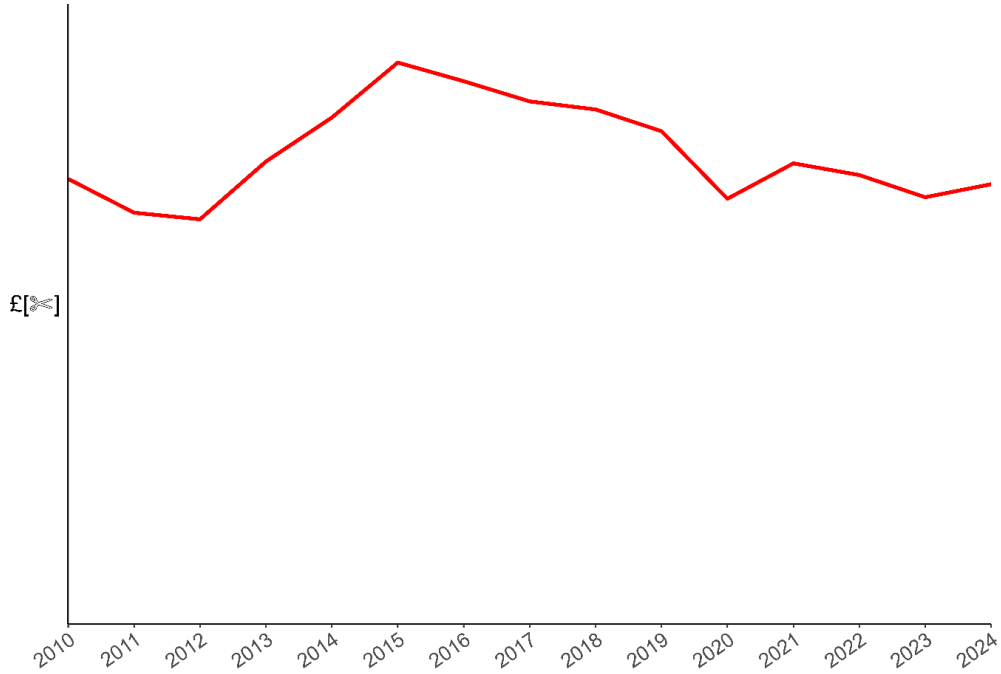
Advert prices

B.43 Measuring the average CPC[77] over time indicates how the price of search advertising has changed for advertisers.

B.44 Figure B.17 below shows that Google's real average CPC in the UK has stayed within a price band of £[✂] to £[✂] since 2010. CPC has generally declined since 2015 and remained relatively stable since 2020.[78]

[77] Average CPC for a given period is calculated as the total search advertising revenue earned in that period divided by the total number of advert clicks accrued in the period.
[78] Real average CPC in the UK increased by [5-10]% between 2020 and 2021. However, we can likely attribute part of this increase in average advert prices to an upturn in demand relative to 2020, in which demand for advertising was depressed by the economic impact of the onset of the Covid-19 pandemic.

Figure B.17: Real average CPC on Google Search in the UK (2010 – 2024)



Source: CMA analysis of parties' data as detailed in the data and methodology section.

Note: The data between 2010 and 2019 used to construct this graph is annual data. As such, average annual CPC for every year between 2010 and 2024 is calculated using annual revenue deflated using annual CPI price indices and converted using annual average USD:GBP spot rates, which is then divided by the number of clicks in that year.

B.45 When interpreting this change in real CPC, it is important to consider the changing composition of clicks on Google's search advertising over time. The headline CPC presented above in Figure B.17 includes both advertising on desktop and mobile devices. The composition of Google's advert clicks between the two device types has changed significantly over time, resulting in a composition effect.

(a) The average CPC on Google Search is a weighted average of the average CPCs on desktop[79] and mobile[80] devices individually. The weights are equal to the proportion of total advert clicks on Google Search made on each device. As shown in Figure B.18, on Google Search the real average CPC in the UK was consistently [✂] to [✂] cheaper on mobile than desktop devices between 2017 and 2024.

(b) Over the same period, the proportion of total clicks in the UK on Google Search on mobile devices has increased from [✂]% to [✂]%.[81] The increase in the proportion of cheaper mobile clicks over time mechanically decreases the average CPC across both device types.

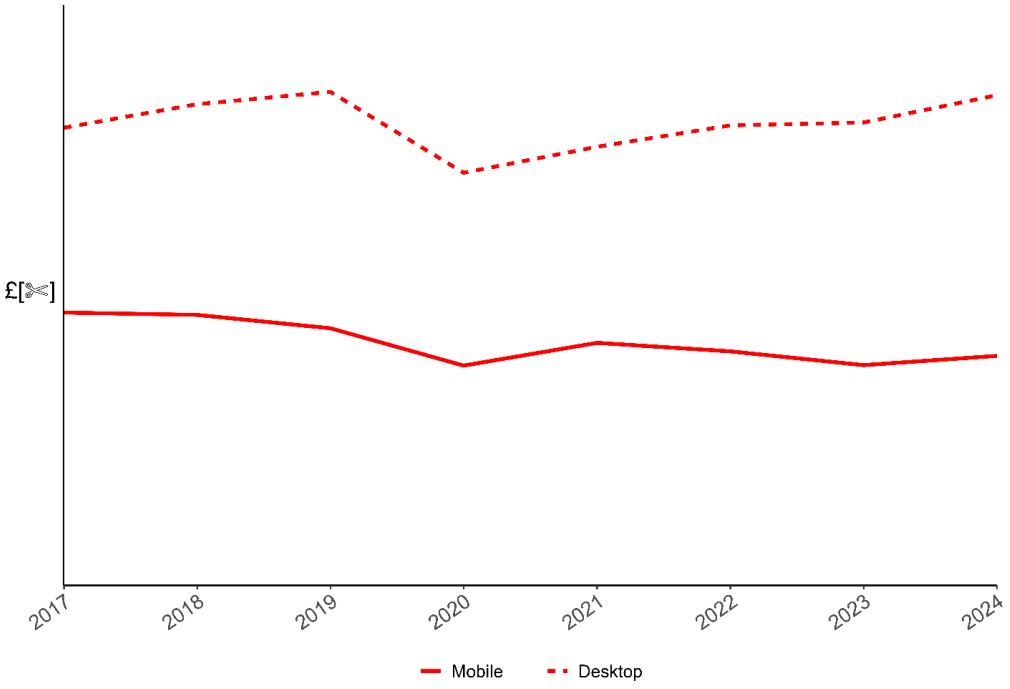
[79] Desktop devices include both desktop computers and laptops.
[80] Mobile devices include smartphones and tablets.
[81] CMA analysis of parties' data as detailed in the data and methodology section.

B.46 An additional composition effect is introduced by the fact that real average CPC displayed in Figure B.17 considers together both text adverts and shopping adverts. In recent years, the proportion of clicks on Google Search in the UK made on shopping adverts (which our analysis shows have been consistently cheaper than text adverts[82]) has increased from [✂]% to [✂]%.[83]

B.47 To understand these composition effects, we present CPCs separately across different device types, and then across the different advert formats (ie text compared to shopping adverts).

B.48 Figure B.18 shows that on Google Search whilst the real average CPC on mobile devices has fallen, the real average CPC in the UK on desktop devices has increased in recent years after a slump in 2020. 2024 UK CPC on mobile devices is [10-20]% lower than in 2017 (although has been relatively consistent since 2021) and 2024 UK CPC on desktop devices is [5-10]% higher than in 2017.

Figure B.18: Real average CPC by device type on Google Search in the UK (2017 – 2024)



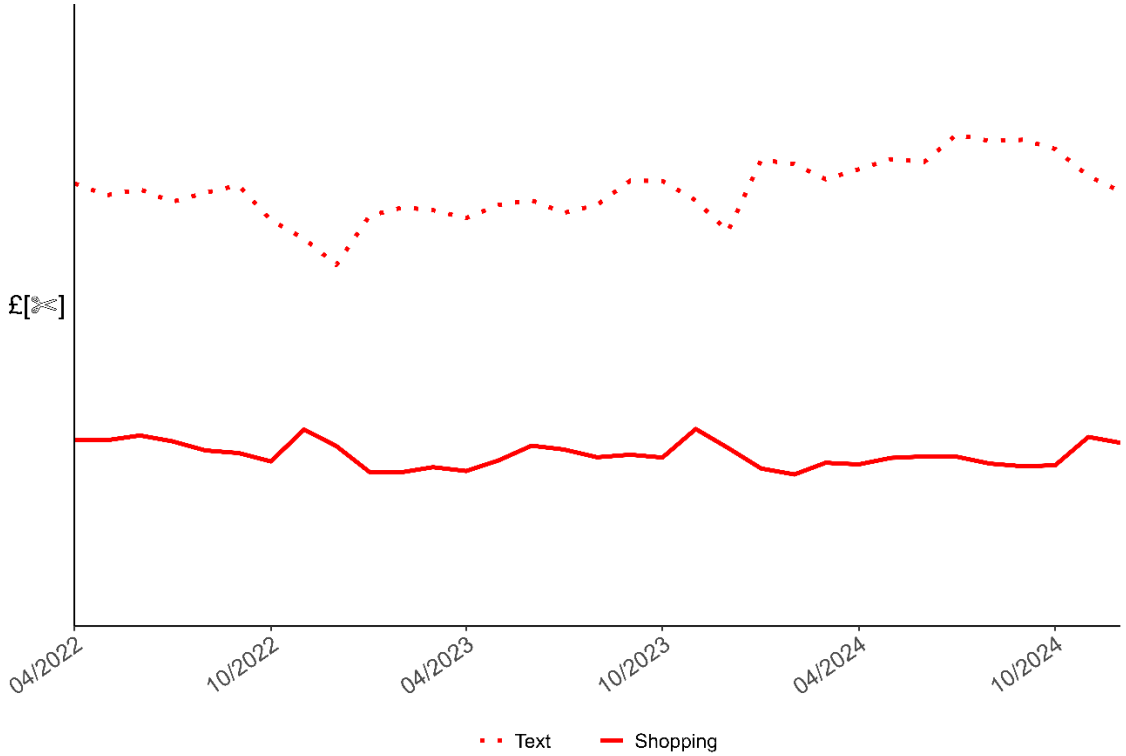
Source: CMA analysis of parties' data as detailed in the data and methodology section.
Note: The data used to construct this graph is monthly data. As such average annual CPC is calculated by first deflating each month's revenue by the corresponding monthly CPI price index and converting using the monthly average USD:GBP spot rate, then summing the resulting revenues over the year and then dividing by the number of clicks in that year.

B.49 Figure B.19 below shows that the real average UK CPC for Google's text and shopping adverts has stayed relatively constant (notwithstanding apparent

[82] Our analysis shows that monthly average CPC between April 2022 and December 2024 was [✂]-[✂] cheaper than text adverts.
[83] CMA analysis of parties' data as detailed in the data and methodology section.

seasonal trends in each) between April 2022 and December 2024 and that text adverts are more expensive than shopping adverts on average.

Figure B.19: Monthly real average CPC by advert format on Google Search in the UK from April 2022 to December 2024



Source: CMA analysis of parties' data as detailed in the data and methodology section.

Google and Bing comparative price trends

B.50 Like Google, Bing also predominantly prices its search advertising using a CPC mechanism.[84] In this section we compare the real monthly average CPC on Google Search and Bing in the UK between January 2017 and December 2024, split out by device type. We then compare across advert formats between January 2020 and December 2024.

B.51 Figure B.20 shows that over the previous two and a half years, Bing's real average CPC in the UK across both device types has been higher than Google's and that this has generally been the case since 2018.

B.52 Bing's higher CPC appears to be due to a device type composition effect. Bing has a greater proportion of advert clicks on more expensive desktop devices, when compared to Google. As such, the real average CPC across both device types is mechanically higher on Bing than on Google. For example, on Bing, [80–90]% of

[84] Online platforms and digital advertising market study, July 2020 (**DAMS**), paragraph 2.44

total clicks made in 2024 in the UK occurred on desktop devices, whereas only [✂] of clicks on Google Search in 2024 in the UK were on desktop devices.[85]

Figure B.20: Real monthly average CPC on Google and Bing in the UK from January 2020 to December 2024

Source: CMA analysis of parties' data as detailed in the data and methodology section

B.53 For this reason, we compare the monthly real average CPCs of Google and Bing on desktop and mobile devices separately. As shown in Figures B.21 and B.22 below, Google has had a higher monthly real average CPC than Bing since 2017 on desktop devices and on mobile devices since 2021.

[85] CMA analysis of parties' data as detailed in the data and methodology section.

Figure B.21: Real monthly average CPC on Google and Bing, desktop devices from January 2020 to December 2024

Source: CMA analysis of parties' data as detailed in the data and methodology section.

Figure B.22: Real monthly average CPC on Google and Bing, mobile devices from January 2020 to December 2024

Source: CMA analysis of parties' data as detailed in the data and methodology section.

B.54 The figures also show that since December 2021, the difference between Google and Bing's real CPC is larger on desktop devices than on mobile devices. For example, the real average desktop CPC for Google was [✂]% higher than on Bing in 2024. On mobile devices, Google's real average CPC was [✂]% higher than Bing's.[86]

B.55 We have also compared the average CPC for shopping and text adverts on Google and Bing. These ad-format-specific average CPCs also experience the same composition effect, due to the greater proportion of Bing's clicks being from desktop. When we compare Google and Bing's real average CPCs for text and shopping adverts on each device type, we find that Google's real average CPC on both shopping and text adverts is consistently more expensive than Bing's on desktop and mobile across our sample period.[87]

[86] CMA analysis of parties' data as detailed in the data and methodology section.
[87] CMA analysis of parties' data as detailed in the data and methodology section.